THE CITY OF KETCHIKAN, ALASKA

BY ORDINANCE 09-1638, TITLE 19- BUILDING REGULATIONS HAVE BEEN CHANGED TO REFLECT THE FOLLOWING ADOPTIONS, WITH REPEALS, DELETIONS, AMENDMENTS, AND ADDITIONS, AS ORDAINED BY THE COUNCIL OF THE CITY OF KETCHIKAN, WITH THE EFFECTIVE DATE ESTABLISHED AS OF DECEMBER 27, 2009.

Section 1: Repeal and Adoption. Existing Chapter 19.04 of the Ketchikan Municipal Code, entitled "Building Code," is hereby repealed in its entirety and a new Chapter 19.04 is adopted as follows:

"**Title 19**

BUILDING REGULATIONS

Chapter 19.04

BUILDING CODE

Sections:

19.04.010 *International Building Code* adopted. (a) The *International Building Code* (*I.B.C.*) Chapters 1-28, 30-35, and Appendices A and J (2006 Edition, Fourth Printing) published by the *International Code Council* (*I.C.C.*) is expressly referred to and adopted as the building code of the city, and by this reference and adoption made a part of this chapter as if fully set forth herein, save and except those specific deletions, amendments, and additions made in subsection (b) of this section.

One copy of said *International Building Code* and Appendices shall be filed and kept in the office of the city clerk.

(b) The following provisions designated "deletion" are deleted and excepted from the *International Building Code* chapters and appendices adopted in (a) above. The following provisions designated "addition" are added to the *International Building Code* chapters and appendices adopted in (a) above. The following provisions designated "amendment" are amendments to the *International Building Code* chapters and appendices adopted in (a) above.

(1) Chapter 1, Section 101.4.1, Electrical, of the *I.B.C.* is amended by deleting the reference to the "*ICC Electrical Code*" and replacing it with the "*National Electrical Code*."

(2) Chapter 1, Section 101.4.4, Plumbing, of the *I.B.C.* is amended by deleting the reference to the "*International Plumbing Code*" and replacing it with the "*Uniform Plumbing Code*, 2006 Edition, published by International Association of Plumbing and Mechanical Officials (IAPMO)."

(3) Chapter 1, Section 102.6, Existing Structures, of the *I.B.C.* is amended by deleting the reference to the "*International Property Maintenance Code*."

(4) Chapter 1, Section 105.5, Expiration, of the IBC is amended to provide that Building Permits shall expire twelve (12) months from the date of issuance or upon completion of the permitted project, whichever comes first. The public works director or his/her designee is authorized to grant, in writing, one or more extensions of time, for periods not more than 180 days each. The extension shall be requested in writing and justifiable cause demonstrated. New fees shall be charged commensurate to the amount of work left to perform.

(5) Chapter 1, Section 106.3.4.1, General, of the *I.B.C.* Is amended by adding a sentence as a third paragraph as follows: "Structural observation shall be as required by Section 1709."

(6) Chapter 1, Section 107.3, Temporary Power, of the *I.B.C.*, is amended by deleting the reference to the "*ICC Electrical Code*" and replacing it with the "*National Electrical Code*, 2008 Edition."

(7) Chapter 1, Section 108.2, Schedule of Permit Fees, of the *I.B.C.*, is amended as follows:

108.2 Schedule of Permit Fees. A fee for each permit shall be paid as required, in accordance with Table 108.2:

Table 108.2 Building Permit Fees

TOTAL VALUATION	FEE
$0.00 to $500.00	$23.50
$500.01 to $2,000.00	$23.50 for the first $500.00 plus $3.05 for each additional $100.00, or fraction thereof, to and including $2,000.00
$2,000.01 to $25,000.00	$69.25 for the first $2,000.00 plus $14.00 for each additional $1,000.00, or fraction thereof, to and including $25,000.00
$25,000.01 to $50,000.00	$391.25 for the first $25,000.00 plus $10.10 for each additional $1,000.00, or fraction thereof, to and including $50,000.00
$50,000.01 to $100,000.00	$643.75 for the first $50,000.00 plus $7,00 for each additional $1,000.00, or fraction thereof, to and including $100,000.00
$100,000.01 to $500,000.00	$993.75 for the first $100,000.00 plus $5.60 for each additional $1,000.00, or fraction thereof, to and including $500,000.00
$500,000.01 to $1,000,000.00	$3,233.75 for the first $500,000.00 plus $4.75 for each additional $1,000.00, or fraction thereof, to and including $1,000,000.00
$1,000,000.01 and up	$5,608.75 for the first $1,000,000.00 plus $3.65 for each additional $1,000.00, or fraction thereof
Other Inspections and Fees: 1. Inspections outside of normal business hours.....$57.00 per hour [1] (minimum charge – two (2) hours 2. Inspections for which no fee is specifically indicated.....$57.00 per hour [1] (minimum charge one-half hour) 3. Additional plan review required by changes, additions or revisions to plans.....$57.00 per hour [1] (minimum charge one-half hour) 4. For use of outside consultants for plan checking and inspections, or both.....Actual amount paid[2]	

1. Or the total hourly cost to the city, whichever is the greatest. This cost shall include supervision, overhead, equipment, hourly wages, and fringe benefits of the employee involved.
2. Actual costs include administrative and overhead costs.

(8) Chapter 1, Section 108.3, Building Permit Valuations, of the *I.B.C.*, is amended as follows:

> 108.3 Building Permit Valuations. The applicant for a building permit shall provide an estimated permit value at time of application. Permit valuations shall include total value of work, including materials and labor, for which the permit is being issued, such as electrical, gas, mechanical, and plumbing equipment and permanent systems. If, in the opinion of the city building official, the valuation is underestimated on the application, the permit shall be denied, unless the applicant can show detailed estimates to meet the approval of the building official. Final building permit valuation shall be set by the building official.

(9) Chapter 2, Section 201.3, Terms Defined in Other Codes, of the *I.B.C.*, is amended by deleting the reference to the "*International Plumbing Code*."

(10) Chapter 3, Section 305.2, Day Care, of the *I.B.C.*, is amended as follows:

> 305.2 Day Care. The use of a building or structure, or portion thereof, for educational, supervision, or personal care services for more than five children older than two and one-half years of age shall be classified as a Group E occupancy.

(11) Chapter 3, Section 305.2, Day Care, of the *I.B.C.*, is amended by adding a new Exception as follows:

> Exception:
> Family child care homes (Group R-3) operating between the hours of 6:00 a.m. and 10:00 p.m. may accommodate a total of 12

children of any age without conforming to the requirements of this regulation (Group E occupancy), except for smoke detectors and alarms as described in Section 907.2.10, carbon monoxide detectors and alarms as specified in Section 422, means of egress requirements of Section 1003, including emergency escape and rescue openings, as required by Section 1026, in napping or sleeping rooms, and fire extinguisher requirements as described in the *International Fire Code*.

(12) Chapter 3, Section 308.2, Group I-1, of the *I.B.C.*, is amended by adding a new paragraph between the first and second paragraphs as follows:

308.2 Group. The occupancy shall include buildings, structures, or parts thereof housing more than 16 persons on a 24-hour basis who, because of age, mental disability, or other reasons, live in a supervised residential environment that provides personal care services. The occupants are capable of responding to an emergency situation without physical assistance from staff. This group shall include, but not be limited to, the following:

Residential board and care facilities
Assisted living facilities
Halfway houses
Group homes
Congregate care facilities
Social rehabilitation facilities
Alcohol and drug centers
Convalescent facilities

Facilities within this occupancy classification that have occupants needing physical assistance to respond in emergency situations must comply with Section 419.

A facility such as the above with five or fewer persons shall be classified as a Group R-3 or shall comply with the

International Residential Code in accordance with Section 101.2. A facility such as above, housing at least six and not more than 16 persons, shall be classified as Group R-4.

(13) Chapter 3, Section 308.3, Group I-2, of the *I.B.C.*, is amended by changing the last sentence as follows:

A facility such as the above with five or fewer persons, including persons related to the staff, shall be classified as a Group R-3, or shall comply with the *International Residential Code*.

(14) Chapter 3, Section 308.3.1, Child Care Facility, of the *I.B.C.*, is amended as follows:

308.3.1 Child Care Facility. A child care facility that provides care on a 24-hour basis to more than five children of two and one-half years of age or less, including children related to the staff, shall be classified as Group I-2.

(15) Chapter 3, Section 308.5, Group I-4, Day Care Facilities, of the *I.B.C.*, is amended as follows:

This group shall include buildings and structures occupied by persons of any age who receive custodial care for less than 24 hours by individuals other than parents or guardians, relatives by blood, marriage or adoption, and in a place other than the home of the person cared for. A facility such as the above with five or fewer persons, including persons related to the staff, shall be classified as a Group R-3 or shall comply with the *International Residential Code* in accordance with Section 101.2. Places of worship during religious functions are not included.

(16) Chapter 3, Section 310.1, Residential Group R, of the *I.B.C.*, is amended by adding a new paragraph after the first paragraph as follows:

> For facilities within this occupancy classification that have occupants needing physical assistance to respond in emergency situation, see Section 419.

(17) Chapter 4, Section 406.1.4, Separation, of the *I.B.C.*, paragraph 1 is amended as follows:

> 1. The private garage shall be separated from the dwelling unit and its attic area by means of a minimum gypsum board 5/8-inch (15.875 mm) Type X gypsum board applied to the garage side.

(18) Chapter 4, Section 412.2.1, Exterior Walls, of the *I.B.C.*, is amended as follows:

> 412.2.1 Exterior Walls. Exterior walls located less than 20 feet (6,096 mm) from lot lines or a public way shall have a fire-resistance rating not less than 2 hours.

(19) Chapter 4, Section 415.6.4, Dry Cleaning Plants, of the *I.B.C.,* is amended by deleting the reference to the *"International Plumbing Code"* and replacing it with *"Uniform Plumbing Code*, 2006 Edition, published by IAPMO.

(20) Chapter 4, Special Detailed Requirements Based on Use and Occupancy, of the *I.B.C.,* is amended by adding the following new sections:

SECTION 421

SPECIAL SECURITY REQUIREMENTS
FOR ELEVATED BUILDINGS

> 421.1 All elevated buildings with the lower floor level above grade and open on the sides must be fenced around the building exterior or have skirting below the exterior walls to prevent unauthorized access.

Exceptions:
1. Normally unoccupied buildings;
2. Buildings with Groups F, H, S, and U classifications with respect to occupancies.

SECTION 422

CARBON MONOXIDE DETECTORS AND ALARMS

422.1 Carbon Monoxide Detectors and Alarms. The provisions of this section shall apply to Groups I-1, I-2, and all R classifications with respect to occupancies. At least one carbon monoxide detector or alarm shall be installed on each floor level. If a floor level contains bedrooms or sleeping rooms, at least one detector shall be located in the immediate vicinity of the sleeping area, outside of the bedrooms or sleeping rooms. Carbon monoxide detectors and alarms shall be installed in accordance with their listing. The alarm shall be clearly audible in all sleeping rooms, even if the intervening doors are closed.

Exceptions:
1. Carbon monoxide detectors and alarms are not required in dwelling units and structures that have no combustion appliances, attached garage, or other vehicle parking within 25 feet of any direct opening.
2. Carbon monoxide detectors and alarms are not required in dwelling units and structures that have only direct vent combustion appliances, and no attached garage or other vehicle parking within 25 feet of any direct opening.
3. Carbon monoxide detectors and alarms are not required if all combustion equipment is located within a mechanical room separated from the rest of the building by construction capable

of resisting the passage of smoke. If the structure has an attached and enclosed parking garage, the garage shall be ventilated by an approved automatic carbon monoxide exhaust system designed in accordance with the 2006 *International Mechanical Code (I.M.C.).*

422.2 Interconnection. In new construction, all carbon monoxide detectors and alarms located within a single dwelling unit shall be interconnected in such a manner that actuation of one alarm shall activate all of the alarms within the individual dwelling unit.

422.3 Power source. In new construction, carbon monoxide detectors and alarms shall receive their primary power from the building wiring if the wiring is served from a commercial source, and shall be equipped with a battery backup. Wiring shall be permanent and without a disconnecting switch other than what is required for overcurrent protection. In existing dwellings (or buildings/structures with Groups I-1, I-2, and/or R), carbon monoxide detectors and alarms may be powered by battery or a cord-and-plug with battery backup.

SECTION 423
OCCUPANTS NEEDING PHYSICAL ASSISTANCE

423.1 Applicability. The provisions of this section apply to all Groups I-1 and R-4 classifications relating to occupancies where the occupants need physical assistance to respond to emergencies.

423.2 Definitions. In this section: “Evacuation Capability” means the ability of occupants, residents, and staff as a group either to evacuate a building or to relocate from the point of occupancy to a point of safety.

"Point of Safety" means a location that (a) is exterior to and away from a building; or (b) is within a building of any type construction protected throughout by an approved automatic sprinkler system and that is either (1) within an exit enclosure meeting the requirements of Section 1020; or (2) within another portion of the building that is separated by smoke partitions meeting the requirements of Section 710, with not less than a one-half hour fire resistance rating, provided the location has access to a means of escape or exit that conforms to the requirements of this code and does not require return to the area of the fire.

423.3 Fire Drills And Evacuation Capability Determination. The initial determination of evacuation capability will be determined by a fire drill conducted by a fire code official or by an employee of the Department of Health and Social Services responsible for licensing the facility. Changes to the evacuation capability will be made by a fire code official, based on a record of fire drills conducted by the facility staff. The drills will be conducted six times a year on a bimonthly basis, with at least two drills conducted during the night when residents are sleeping. Records must indicate the time taken to reach a point of safety, date and time of the drill, location of simulated fire origin, escape paths used, and comments relating to residents who resisted or failed to participate in the drills.

423.4 Evacuation Capability and Fire Protection Requirements. Fire protection requirements of a facility under this section are as follows:

423.4.1 Prompt Evacuation Capability. Evacuation capability of three minutes or less indicates prompt evacuation capability. In facilities maintaining prompt evacuation

capability, the requirements of the code for Groups I-1 or R-4 classifications related to occupancies must be followed.

423.4.2 Slow Evacuation Capability. Evacuation capability of more than three but less than 14 minutes indicates slow evacuation capability. In facilities maintaining slow evacuation capability, the facility must be protected by (a) an automatic smoke detection system, using addressable smoke detectors, designed and installed in accordance with the provisions of this code and *N.F.P.A.* 72-2007; and (b) an automatic sprinkler system, with quick-response or residential sprinklers, installed in accordance with sections 903.3.1.2 or 903.3.1.3 Sprinkler Systems.

423.4.3 Impractical Evacuation Capability. Evacuation capability of 14 minutes or more indicates impractical evacuation capability. In facilities maintaining impractical evacuation capability, the facility must be protected by (a) the protections for a facility with slow evacuation capability under Section 423.4.2; (b) one-half hour fire-resistive construction throughout the facility; and (c) direct egress from sleeping rooms for occupants needing evacuation assistance either (i) to the exterior at grade level, to an exterior porch or landing via a 3 feet X 60 inches wide door; or (ii) provided the sleeping rooms are separated from the rest of the building by smoke partitions installed in accordance with Section 710, by egress windows conforming to the provisions of Section 1026.

(21) Chapter 5, General Building Heights and Areas, of the *I.B.C.*, is amended by adding a new Section 501.3 as follows:

501.3 General Building. Location on Property. Buildings must adjoin, or have access to a permanent public way or yard, on

not less than one side. Yards required by this section must be permanently maintained.

(22) Chapter 5, Section 504, Height, of the *I.B.C.,* is amended by adding a new Section 504.4 as follows:

504.4 Day Care Facilities. Facilities that are operated in a primary residence (Group R-3) between the hours of 6:00 a.m. and 10:00 p.m., and accommodating up to a total of 12 minors, including children of staff, may use the second story of the building without providing an automatic sprinkler system, or complying with Table 602, and the Type of Construction requirements set out in Table 503, if all other applicable provisions for a Group E classification relative to occupancy are met.

(23) Chapter 5, Table 508.2, Incidental Use Areas, of the *I.B.C.,* is amended by changing the wording in the first block under the left column as follows:

Furnace rooms in Group E, I, and R-1, R-2 and R-4 classifications relative to occupancy, regardless of Btu input, and furnace rooms of all other classifications where the largest piece of equipment is more than 400,000 Btu per hour input.

(23) The first full paragraph of Chapter 7, Section 717.4.2 Groups R-1 and R-2, of the *I.B.C.*, is amended as follows:

717.4.2 Groups R-1 and R-2. Draftstopping shall be provided in attics, mansards, overhangs, or other concealed roof spaces of Group R-2 buildings with three or more dwelling units and in all Group R-1 buildings. The intervening space between any two draftstops or walls must be designed for adequate cross ventilation as described in Section 1203.2. Draftstopping must be installed above, and in line with, tenant and dwelling unit separation walls that do

not extend to the underside of the roof sheathing above.

(24) The fourth paragraph of Chapter 8, Section 806.1, General requirements, of the *I.B.C.*, is amended as follows:

In Group B and M occupancies, fabric partitions suspended from the ceiling and not supported by the floor shall meet the flame propagation performance criteria in accordance with Section 806.2 and *N.F.P.A.* 701 or shall be noncombustible or treated by a method approved by the building official.

(25) The Exception to Chapter 9, Section 903.2.2, Group E. of the *I.B.C.*, is amended as follows:

Exception: An automatic sprinkler system must be provided throughout all buildings with Group E occupancies. An automatic sprinkler system must also be provided for every portion of educational buildings below the level of exit discharge.

(26) Chapter 9, Section 903.2.7, Group R, of the *I.B.C.*, is amended as follows:

903.2.7 Group R. An automatic sprinkler system must be installed in Group R occupancies as required in 903.2.7.1 through 903.2.7.3.

(27) Chapter 9, of the *I.B.C.* is amended by adding a new Subsection 903.2.7.1 as follows:

903.2.7.1 Group R-1. An automatic sprinkler system or a residential sprinkler system installed in accordance with Section 903.3.1.2 must be provided throughout all buildings with a Group R-1 fire area.

(28) Chapter 9, of the *I.B.C.*, is amended by adding a new Subsection 903.2.7.2 as follows:

903.2.7.2 Group R-2. An automatic sprinkler system or a residential sprinkler

system installed in accordance with Section 903.3.1.2 must be provided throughout all buildings with a Group R-2 fire area that are more than two stories in height, including basements, or that have more than sixteen dwelling units or sleep rooms.

(29) Chapter 9, of the *I.B.C.*, is amended by adding a new Subsection 903.2.7.3 as follows:

903.2.7.3 Group R-4. An automatic sprinkler system or a residential sprinkler system installed in accordance with Section 903.3.1.2 must be provided throughout all buildings with a Group R-4 fire area.

(30) Chapter 9, Section 903.3.1.1 of the *I.B.C.*, is amended by adding a new Subsection 903.3.1.1.2 as follows:

903.3.1.1.2 Elevator Hoist Ways and Machine Rooms. When the provisions of this code require the installation of automatic sprinkler systems, the installation in elevator hoist ways and machine rooms must occur as described in *N.F.P.A*. 13-2007, (Elevator hoist ways and machine rooms) and adopted by reference, and the American Society for Mechanical Engineers (A.S.M.E.) A17.1 *Safety Code for Elevators and Escalators* as adopted by 8 AAC 77.005, as amended as of June 14, 2006 and as amended from time to time.

Exception:

Sprinklers are not required in an elevator machine room where the machine room is:

(1) separated from the remainder of the building as described in *I.B.C.* Section 3006.4; and

(2) smoke detection is provided in accordance with *N.F.P.A*. 72-2007, and adopted by reference; and

(31) notification of alarm activation is received at a constantly monitored location.

(32) Chapter 9, Section 903.3.5, Water Supplies, of the *I.B.C.*, is amended by deleting the reference to the "*International Plumbing Code*" and replacing it with the "*Uniform Plumbing Code,* 2006 Edition, published by IAPMO."

(33) Chapter 9, Section 904.3.1, Electrical Wiring, of the *I.B.C.*, is amended by deleting the reference to the "*ICC Electrical Code*" and replacing it with "*National Electrical Code*."

(34) Chapter 9, Section 907.1.1, Construction Documents, of the *I.B.C.*, is amended by adding the following required construction documents for plan review:

12. System riser diagrams.

(35) Chapter 9, Section 907.2.3, Group E, of the *I.B.C.*, is amended by adding a second paragraph as follows:

> Rooms used for sleeping or napping purposes within a day care use of a Group E occupancy must be provided with smoke alarms that comply with Section 907.2.10.1.2.

(36) Chapter 9, Section 907.2.3, Group E, of the *I.B.C.,* is amended by deleting Exception 3.

(37) Chapter 9, Section 907.2.6.1, Group I-1, of the *I.B.C.*, is amended by deleting Exception 1.

(38) Chapter 9, Section 907.2.10, Single- and Multiple-Station Smoke Alarms, of the *I.B.C.*, is amended by adding a second paragraph as follows:

> When a plan review is required for an existing Group R occupancy, smoke alarms must be installed as described in Section 907.2.10.1.

(39) Chapter 9, Section 907.2.10.1.3, Group I-1, of the *I.B.C.,* is amended by deleting the Exception.

(40) Chapter 9, Section 907.5, Wiring, of the *I.B.C.*, is amended by deleting the reference to the "*ICC Electrical Code*" and replacing it with the "*National Electrical Code.*"

(41) Chapter 9, Section 907.17, Record of Completion, of the *I.B.C.*, is amended by adding a new sentence as follows:

> A copy of the acceptance test certificate verifying completion in accordance with *N.F.P.A* 72-2007, as adopted by reference, must be forwarded by the firm conducting the test to the fire marshal or building official, within 30 days of the completion of the installation.

(42) Chapter 9, Section 909.11, Power Systems, of the *I.B.C.*, is amended by deleting the references to the "*ICC Electrical Code*" and replacing them with the "*National Electrical Code.*"

(43) Chapter 9, Section 909.12.1, Wiring, of the *I.B.C.*, is amended by deleting the reference to the "*ICC Electrical Code*" and replacing it with the "*National Electrical Code*."

(44) Chapter 9, Section 909.16.3, Control Action and Priorities, of the *I.B.C.*, is amended by deleting the reference in the Exception to the "*ICC Electrical Code*" and replacing it with the "*National Electrical Code*."

(45) Chapter 9, Section 910.1, General, of the *I.B.C.,* is amended by deleting Exception 2.

(46) Chapter 10, Section 1009.1, Stairway Width, of the *I.B.C.*, is amended by adding the following new paragraph 5 to the Exceptions:

> 5. Stairs or ladders used only to attend to equipment are exempt from the requirements of this section.

(47) Chapter 10, Section 1009.5.2, Outdoor Conditions, of the *I.B.C.*, is amended by adding a sentence as follows:

In occupancies other than Groups R-3, and Group U occupancies that are accessory to Group R-3 occupancies, surfaces and landings which are part of exterior stairs shall be designed to minimize the accumulation of the snow or ice.

(48) Chapter 10, Section 1010.7.2, Outdoor Conditions, of the *I.B.C.*, is amended by adding a sentence as follows:

In occupancies other than Group R-3, and Group U occupancies that are accessory to Group R-3 occupancies, surfaces and landings which are part of exterior ramps shall be designed to minimize the accumulation of the snow or ice.

(49) Chapter 10, Section 1014.5, Egress Balconies, of the *I.B.C.*, is amended by adding a sentence as follows:

Exterior balconies shall be designed to minimize accumulation of snow or ice that impedes the means of egress.

(50) Chapter 10, Section 1015.2.2, Three or More Exits or Exit Access Doorways, of the *I.B.C.*, is amended by adding an Exception as follows:

Exception: Where access to three or more exits is required, the separation distance of the third exit door or exit access doorway shall not be less than one-third of the length of the maximum overall diagonal dimension of the area served.

(51) Chapter 10, Section 1017.1, Construction, of the *I.B.C.*, is amended by adding a new Exception 5 as follows:

5. R occupancies shall be allowed to have a one-hour rated corridor without a sprinkler system when the corridor: (i) serves any occupant load greater than 10; (ii) serves less than 17 dwelling

units; and (iii) is less than three stories in height.

(52) Chapter 10, Section 1019.1, Minimum Number of Exits, of the *I.B.C.*, is amended by adding an Exception as follows:

Exception: Basements or the first level below the first story in all occupancies except Group R-3 occupancies, used exclusively for the service of the building, may have access to only one exit. Any other use of the basement or first level below the first story must have at least two exits arranged as described in Section 1014.2. For purposes of this Exception, storage rooms, laundry rooms, maintenance offices, and similar uses may not be considered as providing service to the building.

(53) Chapter 10, Section 1026.1, General, of the *I.B.C.*, is amended by deleting Exceptions 1, 2, 3, 4, and 7.

(54) Chapter 11, Section 1101.1, Scope, of the *I.B.C.*, is amended as follows:

1101.1 Scope. Compliance review by the Building Official's office is limited to the review of the accessible route, means of egress requirements of the code, and at least one accessible toilet room along the accessible route. Compliance with the requirements of this chapter and other provisions within this code for accessibility of physically disabled persons is the exclusive responsibility of the owner of the structure or design professional of record. An advisory plan review may be obtained regarding the design for accessibility of a structure from the office of the state coordinator for Americans with Disabilities Act at 801 West 10th Avenue, Suite A, Juneau, Alaska 99801; Telephone (907) 465-6929.

(55) Chapter 12, Section 1205.4.1, Controls, of the *I.B.C.*, is amended by deleting the reference to the "*ICC Electrical Code*" and replacing it with the "*National Electrical Code*."

(56) Chapter 12, Section 1206.3.3, Court Drainage, of the *I.B.C.*, is amended by deleting the reference to the "*International Plumbing Code*" and replacing it with "*Uniform Plumbing Code*, 2006 Edition, published by IAPMO."

(57) Chapter 14, Section 1405.10.4, Grounding, of the *I.B.C.*, is amended by deleting the reference to the "*ICC Electrical Code*" and replacing it with the "*National Electrical Code.*"

(58) Chapter 15, Section 1503.4, Roof Drainage, of the *I.B.C.*, is amended by deleting the reference to the "*International Plumbing Code*" and replacing it with the "*Uniform Plumbing Code*, 2006 Edition, published by IAPMO."

(59) Chapter 17, Section 1701.1, Scope, of the *I.B.C.*, is amended by adding a second paragraph as follows:

> The provisions of this chapter are adopted as criteria to guide the owner and the registered design professional in meeting the tests and special inspections necessary to assure conformance with the applicable standards adopted under this code. Tests and inspections required by this code are not performed by the office of the building official, but are the responsibility of the building owner or design professional of record. The findings of these tests and inspections must be kept for the life of the building.

(60) Chapter 27, Section 2701.1, Scope, of the *I.B.C.*, is amended by deleting the reference to the "*ICC Electrical Code*" and replacing it with the "*National Electrical Code*."

(61) The first sentence of Chapter 31, Section 3103.1, General, of the *I.B.C.*, is amended as follows:

> The provisions of this section apply to structures other than tents and membrane structures, erected for a period of less than 180 days.

(62) Chapter 31 of the *I.B.C.*, is amended by deleting Section 3107, Signs, and Section 3109, Swimming Pool Enclosures and Safety Devices.

(63) Chapter 33, Section 3305.1, Facilities Required, of the *I.B.C.,* is amended by deleting the reference to the "*International Plumbing Code*" and replacing it with the "*Uniform Plumbing Code,* 2006 Edition, published by IAPMO."

(64) Chapter 34, Section 3401.3, Compliance With Other Codes, of the *I.B.C.*, is amended as follows:

> 3401.3 Compliance With Other Codes. Alterations, repairs, additions, and changes of occupancy to existing structures must comply with the provisions for alterations, repairs, additions, and changes of occupancy in the *International Fire Code*, (2006 Edition) as adopted by reference; the Plumbing Code as adopted by 8 AAC 63.010, as amended as of December 6, 2003 and as amended from time to time; the *International Mechanical Code* as adopted by reference; and the Electrical Code as adopted by 8 AAC 70.025, as amended as of June 14, 2006 and as amended from time to time.

(65) Chapter 34, Section 3406, Change Of Occupancy, of the *I.B.C.*, is amended by deleting Section 3406.2, Certificate of Occupancy.

(66) Chapter 34, Section 3409.1, Scope, of the *I.B.C.*, is amended by adding a sentence at the end of the first paragraph as follows:

> 3409.1 Scope. The provisions of Sections 3409.1 through 3409.9 apply to maintenance,

change of occupancy, additions and alterations to existing buildings, including those identified as historic buildings. This Section 3409 is adopted as a guidance for accessibility.

(67) Chapter 34, Section 3410.2 of the *I.B.C.*, is amended as follows:

3410.2 Applicability. Structures meeting the definition of "existing structure" under Section 202 of this code in which there is work involving additions, alterations, or changes of occupancy must conform to the requirements of this section or the provisions of Sections 3403-3407 of this code.

(68) Chapter 34, Section 3410.3.2, Compliance With Other Codes, of the *I.B.C.*, is amended by deleting the words "and *International Property Maintenance Code*."

(69) Chapter 35, Referenced Standards, of the *I.B.C.*, is amended by changing or adding the referenced standards from the publication date listed to the following edition, and the standards are adopted by reference:

N.F.P.A. 12-2007 *Portable Fire Extinguishers*;
N.F.P.A. 13-2007 *Installation of Sprinkler Systems*;
N.F.P.A. 13D-2007 *Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes*;
N.F.P.A. 13R-2007 Installation *of Sprinkler Systems in Residential Occupancies Up to and Including Four Stories in Height*;
N.F.P.A. 14-2007 Standpipe *and Hose System*;
N.F.P.A. 20-2007 Installation *of Stationary Pumps for Fire Protection*;
N.F.P.A. 72-2007 National *Fire Alarm Code*;
N.F.P.A. 750-2006 Standards *on Water Mist Fire Protection Systems.*

Section 19.04.020 Climatic and Geographic Design Criteria. (a) The area within the city shall be considered Seismic Design Category B: Ss=0.261 (0.2 second), S1=0.167 (1.0 second).

(b) The Frost line within the City is 32 inches below undisturbed soil where frost susceptible materials are present. Where footings are to be placed on compacted drainage materials that extend below 32 inches, the minimum depth of bury to the top of the footing shall be 12 inches.

(c) The ground snow load within the city is 55 pounds per square foot. The design snow load for roofs equal to or greater than a four twelve pitch and not subject to snow drifting shall be 40 pounds per square foot.

(d) The Wind Loads for the area within the city are as follows:

(1) Structures constructed within 300 feet from the waterfront shall be 120 mph, 3 second gusts exposure D.

(2) Structures constructed between 300 feet and 600 feet from the waterfront shall be designed to 120 mph, 3-second gusts, exposure D or C. Exposure C must meet criteria as established in Section 1609.4.2 (surface roughness categories) and Section 1609.4.3 (exposure categories) of the 2006 (*I.B.C.*).

(3) Any structure constructed further than 600 feet from the waterfront shall be designed to 110 mph, 3-second gusts, exposure D or C. Exposure C must meet criteria as established in Section 1609.4.2 (surface roughness categories) and Section 1609.4.3 (exposure categories) of the 2006 (*I.B.C.*).

Exception: Lesser exposure categories may be granted by the city senior project engineer for site specific construction locations where the characteristics of the ground surface roughness that arise from natural topography and vegetation as well as from construction features, provide adequate buffering.

(4) Other miscellaneous climatic designs within the city are as follows: the Weathering Factor is moderate; Termites are not indigenous to the area; The Decay factor from mold and the marine environment

is severe; the Winter Design Temperature is 14 degrees; Ice Shielding is not required; The Air Freezing Index is 550; The Mean Annual Temperature is 45 degrees; and the Flood Hazard map (FEMA) is designated from the April 16, 1990 Firm.

19.04.030 Site development. Appendix J, Grading, and provisions of Chapter 18, Soils and Foundations, of the *International Building Code (I.B.C.),* as amended herein, shall govern site development.

(1) Section J103.1, Permits Required, is amended as follows:

> J103.1 Permits Required. Except as exempted in Section J103.2, no grading shall be performed without first having obtained a site development permit from the public works director or his/her designee.
>
> Exemptions. A site development permit shall not be required for the following:
>
> 1. Grading in an isolated, self-contained area, provided there is no danger to the public, and that such grading will not adversely affect adjoining properties.
> 2. Excavation for construction of a structure permitted under this code.
> 3. Cemetery graves.
> 4. Refuse disposal sites controlled by other regulations.
> 5. Excavations for wells, or trenches for utilities.
> 6. Mining, quarrying, excavating, processing, or stockpiling rock, sand, gravel, aggregate, or clay controlled by other regulations, provided such operations do not affect the lateral support of, or significantly increase stresses in, soil on adjoining properties.

7. Exploratory excavations performed under the direction of a registered design professional.

Exemption from the permit requirements of this appendix shall not be deemed to grant authorization for any work to be done in any manner in violation of the provisions of this code or any other laws or ordinances of this jurisdiction.

(2) New Section J103.3, Permit Expiration, is added as follows:

Site Development Permits shall expire twelve (12) months from the date of issuance or upon completion of the permitted project, whichever comes first. The public works director or his/her designee is authorized to grant, in writing, one or more extensions of time, for periods not more than 180 days each. The extension shall be requested in writing and justifiable cause demonstrated. New fees shall be charged commensurate to the amount of work left to perform.

(3) Section J104.2, Site Plan Requirements, is amended as follows:

In addition to the provisions of Section 106, a site development plan shall show the existing grade and finished grade in contour intervals of sufficient clarity to indicate the nature and extent of the work and show in detail that it complies with the requirements of this code. The plans shall show the existing grade on adjoining properties in sufficient detail to identify how grade changes will conform to the requirements of this code to include the set-back from adjoining property line of any soil retainage system that will impact the adjoining property.

(4) Section J104.3, Soils Report, Exception is amended as follows:

Exception: A soils report is not required where the public works director or his/her designee determines that the nature of the work applied for is such that a report is not necessary.

(5) Section J104.4, Liquefaction Study, Exception is amended as follows:

Exception: A liquefaction study is not required where the public works director or his/her designee determines from established local data that the liquefaction potential is low.

(6) Section J105.2, Special Inspections, is amended as follows:

The special inspections requirements of Section 1704.7 shall apply to work performed under a site development permit where required by the public works director or his/her designee.

(7) Section J106.1, Maximum Slope, is amended as follows:

The slope of cut surfaces shall be no steeper than is safe for the intended use, and shall be no steeper than 2 horizontal to 1 vertical (50 percent) unless the applicant furnishes a soils report justifying a steeper slope.

Exception:

1. A cut surface may be at a slope of 1.5 horizontal to 1 vertical (67 percent) provided that all the following are met:
   - 1.1 It is not intended to support structures or surcharges.
   - 1.2 It is adequately protected against erosion.
   - 1.3 It is no more than 8 feet (2438 mm) in height.

1.4 It is approved by the public works director or his/her designee.

2. A cut surface in bedrock shall be permitted to be at a slope of 1 horizontal to 1 vertical (100 percent).

(8) Section J108.3, Slope Protection, is amended as follows:

Where required to protect adjacent properties at the toe of a slope from adverse effects of the grading, additional protection, approved by the public works director or his/her designee, shall be included. Such protection may include but shall not be limited to:

1. Setbacks greater than those required by Figure J108.1.
2. Provisions for retaining walls or similar construction.
3. Erosion protection of the fill slopes.
4. Provision for the control of surface waters.

(9) New Section J108.4, Retaining Walls and other Soil Retaining Systems, is added as follows:

Engineered zero lot line, reinforced concrete retaining walls, may be built to property lines. Other engineered systems built to property lines must be approved by the public works director or his/hers designee.

Stacked rock or stacked block walls shall meet the set-back provisions of J108.1 and Figure J108.1. Stacked Rock walls shall meet the minimum provisions of the standard Rock Wall Construction guidelines published by the Associated Rockery Contractors, PO Box 1794, Woodinville, Washington, 98072. Printed guidelines may be obtained from the City Public Works Department.

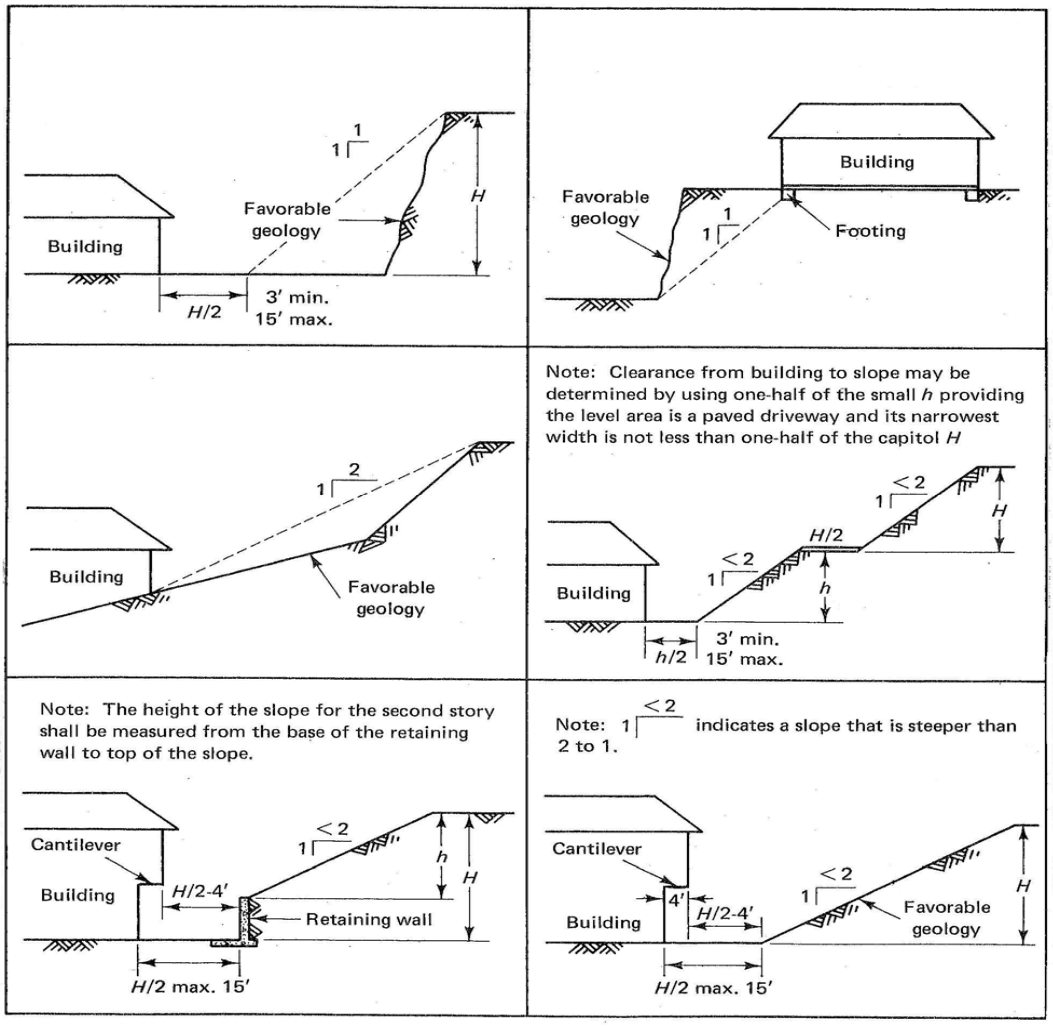
Construction plans that include any additional bearing weight behind a stacked wall, such as a building or other surcharge, will be required to meet the following criteria:

1. The toe of the slope shall be assumed to be at the intersection of a horizontal plane drawn from the bottom of the stacked wall keyway and a perpendicular plane at the rear of the stack rock wall base course.

2. The bottom of the load bearing footing is required to be set-back from the toe of the slope a minimum of one unit horizontal to one unit vertical. (100% slope/45 degree angle).

(10) Section J109.3, Interceptor drains, is amended as follows:

CONSTRUCTION SET-BACK REQUIREMENTS



Interceptor drains shall be installed along the top of cut slopes receiving drainage from a tributary width greater than 40 feet (12 192 mm), measured horizontally. They shall have a minimum depth of 1 foot (305 mm) and a minimum width of 3 feet (915 mm). The slope shall be approved by the public works director or his/her designee, but shall not be less than 50 horizontal to 1 vertical (2 percent). The drain shall be paved with concrete not less than 3 inches (76 mm) in thickness, or by other materials suitable to the application. Discharge from the drain shall be accomplished in a manner to prevent erosion and shall be approved by the public works director or his/her designee.

19.04.060 Board of appeals—Term of office. (a) Each of the five members of the Board of Appeals shall be appointed by the city council for a term of three years; provided, members first appointed shall determine by lot the length of the first terms of office so that the term of one member shall be for one year, the terms of two members shall be for two years, and the terms of two members shall be for three years, resulting in staggered terms for members subsequently appointed. A person appointed to a term of office shall serve until a successor is appointed.

(b) Appointments to fill vacancies occurring on the board of appeals shall be for the unexpired term.

19.04.090 Building permits—Expiration. Unless otherwise exempt as provided in *International Building Code* Section 105.2, all building permits shall expire one year after date of issue or upon completion of work, whichever date shall first occur; provided, however, upon written application submitted prior to expiration of the permit, the public works director or his/her designee shall have authority to grant one or more extensions in time, in writing, for all periods not more than 180 days each. The extension shall be requested in writing and justifiable cause demonstrated.

19.04.100 Demolition permit fee. The fee for a permit to demolish any building or structure shall be twenty-five dollars. The provisions of this section shall supersede and control over any other provision adopted and incorporated by reference as part of this code."

Section 2: **Amendment**. Subsections 19.12.010(a) and (b) of the Ketchikan Municipal Code, entitled "National Electrical Code adopted," are hereby amended to read as follows:

"**19.12.010 National Electrical Code adopted**. (a) The National Electrical Code, 2008 Edition, published by the National Fire Protection Association, is expressly referred to and adopted as the electrical code of the city, and by this reference and adoption made a part of this chapter as if fully set forth herein, save and except the following portions hereinafter expressly deleted therefrom, and those specific deletions, amendments, and additions made in Subsection (b) of this Section. One copy of said National Electrical Code shall be filed and kept in the office of the city clerk.

(b) The following provisions designated "deletion" are deleted and excepted from, and the following provisions designated "addition" are added to, and the following provisions designated "amendment" are amendments to, the provisions of the National Electrical Code, 2008 Edition, adopted by reference as part of the Ketchikan Municipal Code so as to be and become part of the electrical code of the city as so amended:

(1) Addition. The following subsection (c) is added to Section 110.12, Mechanical Execution of Work:

"c) All abandoned electrical wiring not terminated in accessible junction boxes must be removed."

(2) Addition. The following sentences are added to Section 230.28, Service Masts as Supports:

"All service masts used for support of service drop conductors shall be a minimum of 2" galvanized rigid conduit. The use of LB's on riser pipes shall not be permitted."

(3) Addition. The following sentences are added to Section 230.32, Protection Against Damage:

"Underground installations from KPU's facility to the customer's metering point must be installed in conduit. Conduit must be inspected prior to covering."

(4) Addition. The following sentences are added to Section 230.70(A), Service Equipment - Disconnecting Means - Location:

> "Inside nearest point of entrance of the service conductors shall mean nor more than 2' from the outside of building and/or 2' of raceway (ref. 230.6). A combination meter base/main disconnect type service entrance equipment to facilitate de-energizing the wiring from outside in an emergency shall be installed. Service Equipment must not be under a roof or overhang of greater than 30". Weatherhead may not be installed under the eaves where the potential exists for the snow to slide off the roof and on to the service or its drops. Meter bases must be mounted on a pole or exterior of the building so that the center of the socket is 6' above finished grade, plus or minus 6", with the exception of underground location as to be readily accessible for inspection, reading, and testing. Any service over 200 Amp will require CT metering. Five-jaw "network" meter bases will be required for 120/208 - Volt single-phase service. 100 Amp is the minimum service size."

(5) Addition. The following sentence is added to Section 230.72(A), Grouping of Disconnects General:

> "Marking shall be with a permanent label."

Section 3: **Amendment**. Section 19.12.050 of the Ketchikan Municipal Code, entitled "Cost of permits," is hereby amended to read as follows:

"For each permit issued a charge shall be made based upon the total value of the work to be performed, the fee to be determined according to the table of fees set out in the *International Building Code* at Table No.

108-2, Building Permit Fees, Chapter 1, of the *International Building Code*, 2006 Edition with the deletions and amendments set forth in Section 19.04.010(b)(4)."

Section 4: Amendment. Section 19.12.100 of the Ketchikan Municipal Code, entitled "Right of entry into public buildings," is hereby amended to read as follows:

"The building official, building inspector, and the chief of the fire department, or an officer of the fire department designated by him, shall be permitted to enter at any time any theater, public building, or business premises for the purpose of inspection of wiring and electrical installations, and shall cause to be corrected any condition in violation of this chapter or which may be determined as a hazard to public safety."

Section 5: Amendment. Section 19.14.010 of the Ketchikan Municipal Code, entitled "Plumbing Code," is hereby amended to read as follows:

"19.14.010 Uniform Plumbing Code adopted. (a) The *Uniform Plumbing Code,* Chapter 1 2006 Edition, published by the International Association of Plumbing and Mechanical Officials (IAPMO), is expressly referred to and adopted as the plumbing code of the city, and by this reference and adoption made a part of this chapter as if fully set forth herein, save and except those specific deletions, amendments, and additions make in Subsection (b) of this Section. One copy of said *Uniform Plumbing Code* shall be filed and kept in the office of the city clerk.

(b) The following provisions designated "deletion" are deleted and excepted from, and the following provisions designated "addition" are added to, and the following provisions designated "amendment" are amendments to, the provisions of the *Uniform Plumbing Code* so as to be and become part of the plumbing code of the city as so amended:

(1) Amendment. Section 103.4.1, Permit Fees is amended to read as follows:

"Permit Fees. The fee for each permit shall be as set forth in Table 108.2 Fee Table of Chapter 1,

of the *International Building Code*, 2006 Edition with the deletions and amendments set forth in Section 19.04.010(b)(4)."

(2) Deletion. Section 103.4.2 Plan Review Fees, and 503.0 Permits are deleted.

(3) Deletion. Table 1-1 Fee Table of Chapter 1 is deleted.

(4) Amendment. Section 313.5 of the *U.P.C.* is amended in its entirety as follows:
"Water, soil, and waste pipes shall not be installed outside of a building, in attics or crawl spaces, concealed in outside walls, or in any other place subjected to freezing temperature unless adequate provisions are made to protect such pipes from freezing by insulation or heat or both.

Exterior water supply system piping installed in trenches on private property shall be installed at a minimum of 6 inches below the frost line established at 32 inches (38 inches to top of pipe). A 48-inch bury is recommended for worst-case conditions and will meet Ketchikan Public Utilities Water Division (KPU) standards for installation in the right of way and the installation of fire hydrants on private property.

Exceptions:
1. Less than 36-inch bury will require 2-inch thick by 24-inch wide ridged Dow Styrofoam Hi-60 extruded polystyrene, Owens Corning Foamular 600 extruded polystyrene insulation, or equal.
2. Less than 28-inch bury will require two layers of 2-inch ridged foam with lapped seams.
3. Less than 18-inch bury will require two layers of 2-inch ridged

foam with self-regulating heating cable with waterproof jacket such as Raychem 6-watt/ft. Winterguard Wet, or equal. It is further required that two inch bedding material be placed between the ridged foam and heat cabled pipe. Article 426 and 427 of the 2008 edition of the National Electrical Code requires the self-regulating heating cable must be ground fault equipment protected on each heating cable branch circuit.

4. Overland, rock face surface, or under dock installations are allowed under the following conditions: The pipe must be heat traced with Raychem or equal heating cable to the KPU demark. The pipe must be insulated with a minimum 1-1/8 inch OD closed cell urethane such as Armstrong AP Armaflex 2000 pipe insulation, or equal, with weather resistant protective finish.

5. If other than type K, annealed copper tubing will be used, the tubing or pipe must be approved for use, be installed to the manufacturer's specifications, and be equal to the requirements as stated in exceptions 1, 2, 3, and 4. Specifications must be provided and approved by the building official or Ketchikan Public Utilities Engineering Department.

Installation details are available at the KPU Water Division Engineering Department located at 2930 Tongass Avenue, Ketchikan, Alaska 99901.

Section 6: Repeal and Adoption. Existing Chapter 19.16 of the Ketchikan Municipal Code, entitled "Housing Code," is hereby repealed in its entirety and a new Chapter 19.16 is adopted as follows:

"Title 19

BUILDING REGULATIONS

Chapter 19.16
HOUSING CODE

Sections:

19.16.010 *International Residential Code* adopted.

19.16.010 *International Residential Code, 2006 Edition* adopted. (a) The *International Residential Code (I.R.C)* Chapters 1-24, 33-43, and Appendix A, B, C, G, and J, are expressly referred to and adopted as the housing code of the city, and by this reference and adoption made a part of this chapter as if fully set forth herein, save and except those specific deletions, amendments, and additions made in subsection (b) of this Section.

Chapters 25 -- 32, of the *International Residential Code,* Sections P2501 – P3201 are replaced with the *Uniform Plumbing Code* (2006 Edition).

One copy of said *Uniform Residential Code* and Appendices shall be filed and kept in the office of the city clerk.

(b) The following provisions designated "deletion" are deleted and excepted from the *International Residential Code* chapters and appendices adopted in (a) above. The following provisions designated "addition" are added to the *International Building Code* chapters and appendices adopted in (a) above. The following provisions designated "amendment" are amendments to the *International Residential Code* chapters and appendices adopted in (a) above.

(b) R301.2(1) Climatic and Geographic Design Criteria.

TABLE NO. R301.2(1)

Climatic and Geographic Design Criteria.

TABLE AMENDED TO READ AS FOLLOWS:

GROUND SNOW LOAD[k]	WIND SPEED [d] (MPH)	SEISMIC DESIGN CATEGORY	SUBJECT TO DAMAGE FROM			WINTER DESIGN TEMP	ICE BARRIER UNDER-LAYMENT REQUIRED	FLOOD HAZARDS	AIR FREEZING INDEX	MEAN ANNUAL TEMP
			Weathering	Frost line Depth [b]	Termite					
55 PSI	120/110	B	MODERATE	32″	NO	14°	NO	4-16-1990 FIRM MAP	550	45°F

b. The frost line within the city is 32 inches below undisturbed soil where frost susceptible materials are present. Where footings are to be placed on compacted drainage materials that extend below 32 inches, the minimum depth of bury to the top of the footing shall be 12 inches.

d. The wind loads for the area within the city are as follows:

1) Structures constructed within 300 feet from the waterfront shall be 120 mph, 3-second gust, exposure D.

2) Structures constructed between 300 feet and 600 from the waterfront shall be designed to 120 mph, 3-second gusts, exposed D or C. Exposure C must meet criteria as established in Section R301.2.1.4 Exposure category.

3) Any structure constructed further than 600 feet from the waterfront shall be designed to 110 mph, 3-second gusts, exposure D or C. Exposure C must meet criteria as established in Section R301.2.1.4 Exposure category.

Exceptions:
Lesser exposure categories may be granted by the city senior project engineer for site specific construction locations where the characteristics of the ground surface roughness that arise from natural topography and vegetation as well as from construction features, provide adequate buffering. The designated exposure by the city senior project engineer must be forwarded to the building official in writing.

k. The ground snow load within the city is 55 pounds per square foot. The design snow load for roofs equal to or greater than a four-twelve pitch and not subject to snow drifting shall be 40 pounds per square foot.

(2) Section R301.2.1.1, Design Criteria, is amended by adding an Exception as follows:

Exception:
Outbuildings 120 square feet or less.

(3) Section R307.1, Space Required, is amended as follows:

On Figure R307.1, Minimum Fixture Clearances:

See *Uniform Plumbing Code*, 2006 Edition, Section 411.7 for shower dimension requirements." (below).

All shower compartments, regardless of shape, shall have a minimum finished

interior of one thousand twenty-four (1,024) square inches (0.66m^2) and shall also be capable of encompassing a thirty (30) inch (750 mm) circle. The minimum required area and dimensions shall be measured at a height equal to the top of the threshold and at a point tangent to its centerline. The minimum area and dimensions shall be maintained to a point seventy (70) inches (1779 mm) above the shower drain outlet with no protrusions other than the fixture valve or valves, shower head, soap dishes, shelves, and safety grab bars or rails. Fold-down seats in accessible shower stalls shall be permitted to protrude into he thirty (30) inch (750 mm) circle.

Exception No. 1:
Showers that are designed to comply with *I.C.C./ANSI* A117.1

Exception No. 2:
The minimum required area and dimension shall not apply where an existing bathtub is replaced by a shower receptor having minimum overall dimensions of 30 inches (750 mm) in width and 60 inches (1,500 mm) in length.

(4) Section R308.6.9,Testing and Labeling, is amended by adding the following sentence to the end of the paragraph:

Will accept literature provided on site to show skylights meet criteria of section, in lieu of label adhered to skylight.

(5) Section R309.1, Opening Protection For Fire Rating For Attached Garages, is amended by adding a third sentence as follows:

Doors shall be self-closing and have smoke gaskets at top and sides of doors and adjustable threshold or sweep.

(6) Section R309.2, Separation Required, is amended as follows:

A. The garage shall be separated from the residence and its attic area by not less than 5/8-inch (15.9mm) Type X gypsum board applied to the garage side. Garages beneath habitable rooms shall be separated from all habitable rooms above by not less than 5/8-inch (15.9mm) Type X gypsum board or equivalent. Where the separation is a floor-ceiling assembly, the structure supporting the separation shall also be protected by not less than 5/8-inch (15.9mm) Type X gypsum board or equivalent. Garages located less than 3 feet (914mm) from a dwelling unit on the same lot shall be protected with not less than ½-inch (12.7mm) gypsum board applied to the interior side of exterior walls that are within this area. Openings in these walls shall be regulated by Section R309.1. This provision does not apply to garage walls that are perpendicular to the adjacent dwelling unit wall.

B. Access to a crawlspace from a garage shall meet minimum requirements of self-closing, tight fitting, solid wood door measuring 1-3/8 inches (34.9 mm) or greater in thickness, or equivalent laminated plywood or combination plywood and properly secured 5/8-inch (15.9 mm) Type X gypsum board or equivalent or 20 minute fire-rated approved door assembly.

C. All joints and penetrations shall be sealed by methods approved for one hour fire resistant construction.

(7) Section R313.4, Carbon Monoxide Detectors, is amended by adding a new section as follows:

A. At least one carbon monoxide detector shall be installed on each floor level. If a floor level contains bedrooms, at least one (1) detector shall be located in the immediate vicinity but outside of the bedrooms. Carbon monoxide detectors shall be

listed and installed in accordance with their listing. Combination carbon monoxide/smoke detectors are acceptable as long as they meet all requirements.

Exceptions:
1. Carbon monoxide detectors are not required in dwelling units with no combustion appliances and without an attached garage.
2. Carbon monoxide detectors are not required in dwelling units with only direct vent combustion appliances and without an attached garage.

(8) Section R313.3, Power Source, is amended as follows:

In new construction, carbon monoxide detectors shall receive their primary power from the building wiring where such wiring is served from a commercial source and shall be equipped with a battery back up. Wiring shall be permanent and without disconnecting switch other than those required for overcurrent protection. In existing construction, carbon monoxide detectors shall be permitted to be battery powered or cord-and-plug type with battery back up.

(9) Section R313.4, Interconnections, is amended by adding a new section as follows:

In new construction, carbon monoxide detectors shall be interconnected in such a manner that actuation of one alarm shall activate all of the alarms in the individual dwelling unit.

(10) Section R319.1, Protection Against Decay; Location Required, is amended by deleting remainder of sentence after “exterior foundation walls” in Item 2, only.

(11) Section R321.1, Premises Identification, is amended by adding the following sentence to the end of the paragraph as follows:

The numbers on each building or structure must be of a uniform size and style and must be a minimum of four (4) inches (101.6 mm) high with a minimum stroke width of 0.5 inch (12.7 mm).

(12) Section R324.1.6, Protection of Water Supply and Sanitary Sewage Systems, is amended by deleting "in accordance with the plumbing provisions of this code and Chapter 3 of the *International Private Sewage Disposal Code.*"

(13) Section R403.1.3 , Seismic Reinforcing, is amended as follows:

Concrete footings located in Seismic Design Category B, as established in Table R301.2(1), shall have a minimum reinforcement of two (2) No. 5 bar or three (3) No. 4 bar located a minimum of 3 inches (76mm) clear from the bottom of the footing.

In Seismic Design Category B between a concrete footing and stem wall, a minimum of one (1) No. 4 bar shall be installed at not more than 32 inches (812.5mm) on center. The vertical bar shall extend to 3 inches (76mm) clear of the bottom of the footing, have a standard bend and extend to 3 inches (76mm) clear of the top of the stem wall.

In Seismic Design Category B where a grouted masonry stem wall is supported on a concrete footing and stem wall, a minimum of one No. 4 bar shall be installed at not more than 32 inches (812.5mm) on center. The vertical bar shall extend to 3 inches (76mm) clear of the bottom of the footing and have a standard bend.

In Seismic Design Category B masonry stem walls without solid grout and vertical reinforcing are prohibited.

(14) Section R403.1.3.1, Foundations With Stem Walls, is amended as follows:

Foundations with stem walls shall have installed a minimum of one No. 4 bar within 6 inches (152.5mm) of the footing and one No. 4 bar 12 inches (305mm) on center thereafter.

(15) Section R404.3, Wood Sill Plates, is amended as follows:

Wood sill plates shall be minimum 2-inch nominal X 6-inch nominal (38.1 mm X 139.7 mm) and shall be bolted to the foundation or foundation wall with not less than ten (10) inch by one half (½) inch nominal diameter steel bolts embedded at least seven (7) inches into the concrete or in fully grouted cells of reinforced masonry and spaced not more than four (4) feet zero (0) inches apart and by following the prescriptive design of the Wood Frame Construction Manual (WFCM) 2001 Edition, Chapter 3 and as required in R301.2.1.1 of the *I.R.C*. There shall be a minimum of two bolts per board with one bolt located within twelve (12) inches of each end of each board. Wood sill plates must be treated material specified in section R319.1. of the *I.R.C*.

(16) Section R702.3.5, Application, is amended by deleting the last sentence of the paragraph and adding the following sentence:

Gypsum wallboard, gypsum lath or gypsum plaster shall not be installed until weather protection for the installation is provided.

(17) Section R703.2, Water-resistive Barrier, is amended by deleting Exceptions 2 and 3.

(18) Section R703.3.2, Horizontal Siding, is amended by adding a sentence as follows:

Exterior type plywood siding with a grooved pattern shall not be installed horizontally as the weather resistant siding.

(19) Section R802.10.2, Design, is amended by adding a sentence as follows:

> The minimum depth from roof sheathing to wall plate at exterior walls to be twelve (12) inches (304.8mm) for habitable spaces.

(20) Section R802.11.1, Uplift Resistance, is amended by adding the following sentence to the second paragraph:

> Such ties shall be spaced no farther than 48 inches (121.9 mm) apart.

(21) Section R807.1, Attic Access, is amended by adding the following sentence:

> Attic access shall not be located in a room containing bathing facilities. Access may be located in closets with minimum depth of twenty-three (23) inches (584 mm) and minimum width of forty-eight (48) inches (121.9 mm).

(22) Section R903.4, Roof Drainage, is amended by adding the following sentence to the end of the paragraph:

> Roof and gutter downspouts shall not create a water flow that damages neighboring properties.

(23) Chapter 11, Energy Efficiency, is amended as follows:

> Section N1102.1, Scope. All one- and two-family dwellings and townhouses shall comply with the following insulation standards or show compliance with the 2006 *International Energy Conservation Code* as amended by Chapter 19.26 of the Ketchikan Municipal Code.

(24) Section N1101.2, Compliance is amended as follows:

Section N1101.2, Compliance. Compliance shall be demonstrated by either meeting the requirements of Alaska Housing Finance Corporation's amendments to the *International Energy Conservation Code (I.E.C.C.)*, 2006 Edition, Third Printing: March 2007, or by meeting the requirement of this chapter. Climate zones from Table 1101.2 shall be used in determining the applicable requirements from this chapter.

(25) Table N1101.2 is amended as follows:

Alaska Climate Zones

Region 1	Glacier Bay	Moose Valley
Alder Cove	Gull Cove	Ocean Cape
Angoon	Haines	Petersburg
Annette	Hollis	Port Alexander
Annex Creek	Hoonah	Port Baker
Auke Bay	Hydaburg	Port Alexander
Baranof	Hyder	Saxman
Beaver Falls	Juneau	Seclusion Hbr.
Bell Island	Kake	Sitka
Canyon Island	Kasaan	Skagway
Chenega	Ketchikan	Smuggler Cove
Chichagof	Klawock	Snettisham
Coffman Cove	Klukwan	Tenakee Spgs.
Craig	Kupreanof	Thorne Bay
Edna Bay	Metlakatla	View Cove
Eldred Rock	Myers Chuck	Wrangell
Elfin Cove	Lincoln Rock	Yakutat
Five Finger Lt.	Litl Port Walter	

(26) Section N1102.1, Insulation and Fenestration Criteria is amended as follows.

Section N102.1, Insulation and Fenestration Criteria. Compliance shall be demonstrated by meeting the requirements of Alaska Housing Finance Corporation's amendments to the *I.E.C.C.*, 2006 Edition. The insulation and fenestration requirements by components

Table N1102.1 shall be used in determining the applicable requirements from this chapter.

(27) Table N1102.1 is amended as follows:

Table N1102.1
Insulation and Glazing Minimum R-values by Component

Climate Zone	Window & Skylights	Ceiling[a]	Exterior Frame Wall	Floor	Below Grade Wall[b]	Slab[c] & Depth	Crawl Space Wall[b]
6	3	49 or 38	20	30	15/19	15, 4ft	15/19

(a) The smaller value may be used with a properly sized, energy-heel truss.
(b) The first R-value applies to continuous insulation, the second to framing cavity insulation; either meets the replacement.
(c) R-5 shall be added to the required slab edge R-values for heated slabs.

(28) Section G2406.4, Appliance Location; Liquefied Petroleum Gas Facilities, is amended by adding a new subsection as follows:

G2406.4, Liquefied Petroleum Gas Facilities. Liquefied petroleum gas facilities shall not be located in any pit, basement, crawlspace, or interior stairways, in boiler, heater, or electric meter rooms. LPG facilities means appliances, tanks, containers, container values, regulating equipment, meters, and/or appurtenances for the storage and supply of LPG for any building structure or premises.

(29) Section R2407.11, Combustion Air Ducts, is amended by deleting the exception in item #1 in its entirety and adding items #9 and #10 as follows:

#9. Heating appliances using LPG shall have two combustion air openings. The lower opening shall be at floor level or below and shall be sloped down toward the exterior.

These systems shall be continuously ducted to outside the building.

#10. Use of under floor areas for supply of combustion air to LPG burning appliances is prohibited.

(30) Section G2445, Unvented Room Heaters, is amended as follows:

G2445 Unvented Room Heaters. Unvented room heaters shall not be used."

Section 7: Amendment. Subsection 19.20.030 of the Ketchikan Municipal Code, entitled "Size and style of numbers," is hereby amended to read as follows:

"**19.20.030 Size and style of numbers.** The numbers on each building or structure must be of a uniform size and style, and must not be less than four inches (101.6 mm) in height with a minimum stroke width of 0.5 inch (12.7 mm)."

Section 8: Repeal and Adoption. Existing Chapter 19.24 of the Ketchikan Municipal Code, entitled "Mechanical Code," is hereby repealed in its entirety and a new Chapter 19.24 is adopted as follows:

"Title 19

BUILDING REGULATIONS

Chapter 19.24

MECHANICAL CODE

Sections:

19.24.010 *Uniform Mechanical Code* adopted.

19.24.010 *International Mechanical Code* adopted. (a) The *International Mechanical Code, 2006 Edition (I.M.C,)* Chapters 1-15 and Appendix A is expressly referred to and adopted as the mechanical code of the city, and by this reference and adoption made a part of this chapter as if fully set forth herein, save and

except those specific deletions, amendments, and additions made in subsection (b) of this Section. One copy of said *International Mechanical Code,* 2006 Edition, and Appendices shall be filed and kept in the office of the city clerk.

(b) The following provisions designated "deletion" are deleted and excepted from the *International Mechanical Code,* 2006 Edition, chapters and appendices adopted in (a) above. The following provisions designated "addition" are added to the *International Mechanical Code,* 2006 Edition, chapters, and appendices adopted in (a) above. The following provisions designated "amendment" are amendments to the *International Mechanical Code,* 2006 Edition, chapters and appendices adopted in (a) above.

(1) Chapter 2, Section 201.3, Terms defined in other codes, of the *I.M.C.*, is amended by deleting the reference to the "*ICC Electrical Code*" and replacing it with the "*National Electrical Code*, *2008 Edition*, published by *N.F.P.A.*"

(2) Chapter 2, Section 201.3, Terms defined in other codes, of the *I.M.C.*, is further amended by deleting the reference to the "*International Plumbing Code*" and replacing it with the "*Uniform Plumbing Code*, 2006 Edition, published by IAPMO."

(3) Chapter 3, Section 301.3, Fuel gas appliances and equipment, of the *I.M.C.*, is amended by deleting the words "fuel gas distribution piping and equipment" and "fuel gas fired appliance venting systems."

(4) Chapter 3, Section 301.7, Electrical, of the *I.M.C.*, is amended by deleting the reference to the "*ICC Electrical Code*" and replacing it with the "*National Electrical Code,* 2008 Edition, published by the *N.F.P.A.*"

(5) Chapter 3, Section 301.8, Plumbing connections, of the *I.M.C.*, is amended by deleting the reference to the "*International Plumbing Code*" and replacing it with the "*Uniform Plumbing Code*, 2006 Edition, published by IAPMO."

(6) Chapter 3, Section 304.8, Clearances to combustible construction, of the *I.M.C.*, is amended as follows:

> Section 304.8, Clearances to combustible construction. Heat-producing equipment and appliances must be installed to maintain the required clearances to combustible construction as specified in the listing and manufacturer's instructions. These clearances may be reduced only in accordance with Section 308 of the *I.M.C.* Certain unlisted, heat-producing equipment shall be allowed if the equipment is installed in a manner so as to maintain the clearances to combustible construction specified in Table 304.7 of the *I.M.C*. Clearances to combustibles must include considerations such as door swing, drawer pull, overhead projections or shelving and window swing, shutters, coverings, and drapes. Devices such as doorstops or limits, closers, drapery ties, or guards, may not be used to provide the required clearances.

(8) Chapter 3, Section 304.7 of the *I.M.C.*, is revised by adding Table 304.7 and 304.8 as follows:

Table 304.7 STANDARD INSTALLATION CLEARANCES, IN INCHES, FOR CERTAIN UNLISTED HEAT-PRODUCING APPLIANCES

Appliance	Fuel	Distance Above Top Of Casing Or Appliance (in inches)	Distance From Top and sides of Warm-air Bonnet or Plenum (in inches)	Distance From Front [1] (in inches)	Distance From Back (in inches)	Distance From Sides (in inches)
Residential – Type						
Furnaces - Floor For mounting on Combustible floors.	Solid	18[2; 6]	18[2]	48	18[6]	18[6]
	Automatic Oil or comb. Gas-oil	36		12	12	12
Room Heaters[3] Circulating type.	Oil or Solid	36		24	12	12
Radiant or Other type	Oil or Solid	36		36	36	36
Fireplace Stove	Solid	48[4]		54	48[4]	48[4]
Incinerators Domestic types		36[5]		48	36	36
Commercial – Type Low Heat Appliances						
Unit Heaters Floor mounted Any size.	All fuels	18[6]		48	18[6]	18[6]
Other low-heat industrial appliances. Floor mounted Or suspended.	All fuels	18[6]	18	48	18[6]	18[6]
Commercial Industrial – Type Medium Heat Appliances						
Incinerators All sizes		48		96	36	36

Footnotes:

(1) The minimum dimension shall be that necessary for servicing the appliance, including access for cleaning and normal care, tube removal, and similar items.

(2) The dimension may be six inches (152 mm) for an automatically stoker-fired forced-warm-air furnace equipped with 250 degree Fahrenheit limit control and with barometric draft control operated by draft intensity and permanently set to limit draft to a maximum intensity of 0.13-inch water gauge (32 Pa).

(3) Approved appliances must be installed on non-combustible floors and may be installed on protected combustible floors. Heating appliances approved for installation on protected combustible flooring shall be so constructed that flame and hot gases do not come in contact with the appliance base. Protection for combustible floors shall consist of four inch (102 mm) hollow masonry covered with sheet metal at least 0.021 inch (0.5 mm) thick No. 24 manufacturer’s standard gauge). Masonry must be permanently fastened in place in an approved manner with ends unsealed and joints matched so as to provide free circulation of air through the masonry. Floor protection shall extend 12 inches (305 mm) at the sides and rear of the appliance, except that at least 18 inches (457 mm) shall be required on the appliance-opening.

(4) The 48-inch (1,219 mm) clearance may be reduced to 36 inches (914 mm) when protection equivalent to that provided by items 1 through 6 of Table 304.8 (see below) is applied to the combustible construction.

(5) Clearances above the charging door must be at least 48 inches (1,219 mm).

(6) If the appliance is encased in brick, the 18-inch (457 mm) clearance above and at sides and rear may be reduced to 12 inches (305 mm).

ECTION	WHERE THE STANDARD CLEARANCE IN TABLE 304.7 WITH NO PROTECTION IS:											
ne ess Otherwise l Covering within the cified as the arance with)	36 Inches			18 Inches			12 Inches			6 Inches		
e Minimum)	X25.4 for mm											
for mm	Above	Sides and Rear	Chimney or Vent Connector	Above	Sides and Rear	Chimney or Vent Connecto r	Above	Sides and Rear	Chimney or Vent Connecto r	Above	Sides and Rear	Chimney or Vent Connecto r
nsulating paced out one	30	18	30	15	9	12	9	6	6	3	2	3
nch (No. 28 s standard sheet on ¼ ng millboard	24	18	24	12	9	12	9	6	4	3	2	2
ch (No. 28 s standard sheet spaced	18	12	18	9	6	9	6	4	4	2	2	2
nch (No. 28 s standard sheet on 1/8 ng mill out one inch[3]	18	12	18	9	6	9	6	4	4	2	2	2

Table 304.8 – CLEARANCES, IN INCHES, WITH SPECIFIED FORMS OF PROTECTION [1, 2]

1. For appliances complying with sections 304.2 and 304.3.
2. Except for the protection described in Item 5, all clearances shall be measured from the outer surface of the appliance to the combustible material, disregarding any intervening protection applied to the combustible material.
3. Spacers shall be of noncombustible material.

NOTE: Insulating millboard is a factory-made product formed of noncombustible materials, normally fibers and having a thermal conductivity of 1Btu-inches per square foot per degree Fahrenheit (1.73W/(mK) or less.

(9) Chapter 4, Section 403.3, Ventilation rate, of the *I.M.C.*, the first sentence is amended as follows:

> Ventilation systems must be designed to have the capacity to supply the minimum outdoor airflow rate required in Table 403.3 based on the occupancy of the space and the occupant load or other parameter as stated herein, or in accordance with the *American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE) Standard* 62 (2007 Edition) as adopted by reference.

(10) Chapter 5, Section 513, Smoke Control Systems, of the *I.M.C.*, is amended by deleting all references to the "*ICC Electrical Code*" and replacing them with the "*National Electrical Code*, 2008 Edition, published by *N.F.P.A.*"

(11) Chapter 7, Section 701.1, Scope, of the *I.M.C.*, is amended by deleting the last sentence.

(12) Chapter 7, Section 709.1, General, of the *I.M.C.*, is amended by adding a sentence immediately following the first sentence as follows: "Combustion-air openings must be covered with corrosion-resistant screen of no greater than one-inch (13 mm) mesh."

(13) Chapter 8, Section 801.1, Scope, of the *I.M.C*., is amended by deleting the last sentence.

(14) Chapter 9, Section 901.1, Scope, of the *I.M.C*., is amended by deleting the last sentence.

(15) Chapter 9, Section 906.1, General, of the *I.M.C*, is amended by adding "Chapter 6" to the list of chapters of the *International Fuel Gas Code*.

(16) Chapter 9, Section 908.5, Water supply, of the *I.M.C.*, is amended by deleting the reference to the "*International Plumbing Code*" and replacing it with "*Uniform Plumbing Code,* 2006 Edition, published by IAPMO, as adopted by 8 AAC 63.010, as amended as of December 6, 2003, and as amended from time to time."

(17) Chapter 9, Specific Appliances, Fireplaces and Solid Fuel-Burning Equipment, of the *I.M.C.*, is amended by adding new Section 927 as follows:

SECTION 927 UNVENTED ROOM HEATERS

927.1 General. Unvented room heaters shall be tested in accordance with American National Standards Institute (ANSI) Z21.11.2 (2002 Edition), adopted by reference and may be installed in accordance with the conditions of the listing and the manufacturer's installation instructions.

927.2 Prohibited use. One or more unvented room heaters may not be used as the sole source of comfort heating in a dwelling unit.

927.3 Input rating. Unvented room heaters may not have an input rating in excess of 40,000 Btu/h (11.7 kW).

927.4 Prohibited locations. Unvented room heaters may not be installed within Group A, E, or I Occupancies. These appliances may not be located in, or obtain combustion air from, any of the following rooms or spaces:

1. Sleeping rooms;
2. Bathrooms;
3. Toilet rooms;
4. Storage closets; and
5. Surgical rooms.

Exceptions:

1. A single wall-mounted unvented room heater equipped with an oxygen depletion safety shutoff system and installed in a bathroom provided the input rating does not exceed 6,000 Btu per hour (1.76 kW) and the bathroom is not a confined space.

2. A single wall-mounted unvented room heater equipped with an oxygen depletion safety shutoff system and

installed in a bedroom if the input rating does not exceed 10,000 Btu per hour (2.93 kW) and the bedroom is not a confined space.

927.5 Room or space volume. The aggregate input rating of all unvented appliances installed in a room or space may not exceed 20 Btu/h per cubic foot of volume of the room or space. Where the room or space in which the equipment is installed is directly connected to another room or space by a doorway, archway, or other opening of comparable size that cannot be closed, the volume of such adjacent room or space may be permitted to be included in the calculations.

927.6 Oxygen-depletion safety system. Unvented room heaters shall be equipped with an oxygen-depletion-sensitive safety shutoff system. The system shall shut off the gas supply to the main and pilot burners when the oxygen in the surrounding atmosphere is depleted to the percent concentration specified by the manufacturer, but not lower than 18 percent. The system may not incorporate field adjustment means capable of changing the set point at which the system acts to shut off the gas supply to room heater.

927.7 Unvented log heaters. An unvented log heater may not be installed in a factory-built fireplace unless the fireplace system has been specifically tested, listed, and labeled for the use in accordance with Underwriters Laboratories (UL) 127.

(18) Chapter 10, Boilers, Water Heaters and Pressure Vessels, of the *I.M.C.*, is amended by deleting all references to the "*International Plumbing Code*" and replacing them with "*Uniform Plumbing Code,* 2006 Edition, published by IAPMO."

(19) Chapter 10, Section 1001.1, Scope, of the *I.M.C.*, is amended, with the exceptions remaining, as follows:

> 1001.1 Scope. This chapter governs the installation, alteration, and repair of boilers, water heaters, and pressure vessels not subject to the provisions of the Department of Labor and Workforce Development under AS 18.60.180 – 18.60.395.

(20) Chapter 10, Boilers, Water Heaters, and Pressure Vessels, of the *I.M.C.* is amended by deleting Section 1011 in its entirety.

(21) Chapter 11, Section 1101.4, Water connection, of the *I.M.C.*, is revised by deleting all references to the "*International Plumbing Code*" and replacing them with "*Uniform Plumbing Code*, 2006 Edition, published by IAPMO."

(22) Chapter 11, Section 1101.5, Fuel gas connection, of the *I.M.C*., is amended by adding to the end of the sentence as follows:

> Chapter 7, and the *Uniform Plumbing Code* as adopted by 8 AAC 63.010, as amended as of December 6, 2003 and as amended from time to time.

(23) Chapter 12, Section 1201.1, Scope, Section 1206.2, System drain down, and Section 1206.3, Protection of potable water, of the *I.M.C.*, are amended by deleting all references to the "*International Plumbing Code*" and replacing them with "*Uniform Plumbing Code*, 2006 Edition, published by IAPMO."

(24) Chapter 12, Section 1204.1, Insulation characteristics, of the *I.M.C.*, is revised by deleting from the first sentence the words "shall conform to the requirements of the *International Energy Conservation Code*."

(25) Chapter 14, Solar Systems, of the *I.M.C.*, is amended by deleting the entire chapter and inserting a new Section 1401 as follows:

1401. General. Solar energy equipment and appliances must be installed in compliance with the *Solar Energy Code* as adopted by 8 AAC 63.010, as amended as of December 6, 2003, and as amended from time to time.

(26) Chapter 15, Referenced Standards, of the *I.M.C.*, is amended by adding or changing the referenced standards from the publication date listed to the following edition, and these standards are adopted by reference:

N.F.P.A. 13-2007 *Installation of Sprinkler Systems*;
N.F.P.A. 72-2007 *National Fire Alarm Code*;
N.F.P.A. 96-2004 *Ventilation Control and Fire Protection of Commercial Cooking*

Section 9: **New Chapter.** A new chapter, to be numbered 19.26, entitled "*International Energy Conservation Code*," is added to Title 19, Building Regulations, of the Ketchikan Municipal Code, to read as follows:

"**Title 19**

BUILDING REGULATIONS

Chapter 19.26

INTERNATIONAL ENERGY CONSERVATION CODE

Sections:

19.26.010 *Energy Conservation Code* adopted.

19.26.010 *Energy Conservation Code* adopted. (a) *The International Energy Conservation Code (I.E.C.C)* Chapters 1-5, (2006 Edition, Third Printing) published by the *International Code Council* (*I.C.C*), is expressly referred to and adopted as the energy code of the city, and by this reference and adoption made a part of this chapter as if fully set forth herein, save and except those specific deletions, amendments, revisions and additions made in subsection (b) of this Section.

One copy of The *International Energy Conservation Code* shall be filed and kept in the office of the city clerk.

(b) The following provisions designated "deletion" are deleted and excepted from the chapters adopted in (a) above. The following provisions designated "addition" are added to the chapters in (a) above. The following provisions designated "amendment" are amendments to the chapters in (a) above.

(1) Section 202, General Definitions, Vapor Retarder, of the *I.E.C.C.*, is amended as follows:

> VAPOR RETARDER. A vapor resistant material, membrane or covering such as foil, plastic sheeting, or insulation facing having a performance rating of 1 perm with 0.6 or less when tested in accordance with the desiccant method using Procedure A of ASTM E 96. Vapor retarders limit the amount of moisture vapor that passes through a material or wall assembly.

(2) Chapter 3, Section 301.1, General, of the *I.E.C.C.*, Climate Zones, is amended as follows:

> 301.1, General. Climate zone from Table 301.1 shall be used in determining the applicable requirements from Chapters 4 and 5 of the *I.E.C.C.*

Table 301.1 – Climate Zones for Ketchikan, Alaska

IECC zones for Ketchikan	HDD Range (a) (IECC)	BEES Climate Regions	HDD Range (BEES)
Zone 6	7200-9000	Region 1	7000-10,700

(a) HDD = Heating Degree Day

Climate Region List

For consistency, these are the same regional lists as in the previous standard (BEES). In cases where the HDD for a community is significantly outside of the HDD range for the assigned *I.E.C.C.* zone, the community may request to be placed in a more appropriate zone.

Region 1	Glacier Bay	Moose Valley
Southeast	Gull Cove	Ocean Cape
Alder Cove	Gustavus	Pelican
Angoon	Haines	Petersburg
Annette	Hollis	Port Alexander
Annex Creek	Hoonah	Port Baker
Auke Bay	Hyderburg	Port Protection
Baranof	Hyder	Saxman
Beaver Falls	Juneau	Seclusion Harbor
Bell Island	Kake	Sitka
Canyon Island	Kasaan	Skagway
Chenega	Ketchikan	Smuggler Cove
Chichagof	Klawock	Snettisham
Coffman Cove	Klukwan	Tenakee Springs
Craig	Kupreanof	Thorne Bay
Edna Bay	Metlakatla	View Cove
Eldred Rock	Myers Chuck	Wrangell
Elfin Cove	Lincoln Rock	Yakutat
Five Finger Lt	Litl Port Walter	

(3) Section 402.1.1, Insulation and fenestration criteria, of the *I.E.C.C.*, is amended by replacing Table 402.1.1 with the following:

Table 402.1.1 Insulation & Fenestration Minimum R-Values by Component

Climate Zone	Windows & Skylights	(a) Ceiling	Exterior Frame Wall	Floor	Below Grade Wall (b)	Slab & Depth (c)	Crawl Space Wall (b)
6	3	49 or 38	20	30	15/19	15, 4ft	15/19

(a) The smaller value may be used with a properly sized, energy-heel truss.

(b) The first R-value applies to continuous insulation, the second to framing cavity insulation, either meets the requirement.

(c) R-5 shall be added to the required slab edge R-values for heated slab.

(4) Section 402.1.3, *U*-factor alternative, of the *I.E.C.C.*, is amended by replacing Table 402.1.3 with the following:

Table 402.1.3 Insulation & Glazing Maximum U-Factors by Component (d)							
Climate Zone	Windows & Skylights	(a) Ceiling	Exterior Wall Frame	Floor	Below Grade Wall (b)	Slab	Crawl Space Wall (c)
6	0.33	0.020	0.053	0.033	0.067/0.053	0.067	(c)

(a) The larger factor of 0.0263 may be used with a properly sized, energy-heel truss.
(b) The first U-factor applies to continuous insulation, the second to framing cavity insulation; either meet the requirement.
(c) See below grade wall factors.
(d) Nonglazing U-factors shall be obtained from measurement, calculation or an approved source.

(5) Section 402.2.1, Ceilings with attic spaces, of the *I.E.C.C.*, is amended by adding the following Exception:

> Exception: R-38 fiberglass blanket insulation may be compressed at the eave to provide a 1.5-inch air space when installed between wood trusses having a minimum heel height of 12.0 inches (304.8 mm).

(6) Section 402.2.3, Mass Walls, is deleted in its entirety.

(7) Section 402.2.8, Crawl Space walls, of the *I.E.C.C.*, is amended by replacing the second sentence as follows:

> Crawl space wall insulation shall be permanently fastened to the wall and extend downward from the floor to the finished grade level and then either (a) vertically down to the top of the footer, or (b) vertically down and/or horizontally outward for a total of at least 36 inches (914 mm).

(8) Section 402.2.8, Crawl space walls, of the *I.E.C.C.*, is further amended by adding an Exception at the end of the subsection as follows:

> Exception: This alternative is permitted only if venting in the crawlspace is mechanically vented and humidistat controlled.

(9) Section 402.5, Moisture control (Mandatory), of the *I.E.C.C.*, is amended by adding Exception 4 as follows:

> 4. A vapor retarder may be installed within the thermal insulation so long as the R-value of the thermal insulation on the warm side of the vapor retarder does not exceed one third of the total R-value.

(10) New Subsection 403.2.4, Duct material, of the *I.E.C.C.*, is added under Section 403.2 as follows:

> 403.2.4 Duct material. A duct transporting ventilation air shall be constructed of a smooth-walled material, such as galvanized steel or lined fiberglass (rigid or semi-rigid), as much as possible. When necessary to use flexible ducting, it shall be supported along its full length with no sags and no bends greater than 90 degrees.

(11) Section 403.3, Mechanical system piping insulation, of the *I.E.C.C.*, is amended by adding an Exception as follows:

> Exception: Piping carrying fluids above 105 degrees F (41 degrees C) within the thermal envelope.

(12) Section 403.5, Mechanical ventilation, of the *I.E.C.C.*, is amended by adding the following second sentence to read:

An exterior vent shall be located to minimize exhaust air rising into an attic vent.

(13) Section 403.6, Equipment sizing, of the *I.E.C.C.*, is amended by adding the following second sentence to read:

The AkWarm design heating load methodology is an approved heating calculation methodology. All heating, cooling and ventilation equipment shall be installed in accordance with the manufacturer's installation instructions and the requirements of this Energy Conservation Code.

(14) Section 404.3, Performance-based compliance, of the *I.E.C.C.*, is amended by adding two additional Exceptions as follows:

Compliance may be demonstrated through a home energy rating under a program approved by the Alaska Housing Finance Corporation (AHFC) that meets the following: (i) a minimum four-star plus rating is required; (ii) the maximum air infiltration rate shall not exceed seven air changes per hour at 50 pascals pressure difference; and (iii) the compliance rating shall be performed by a person authorized by AHFC.

Compliance may be demonstrated through a national recognized energy program such as RESNET.

(15) Chapter 4, Residential Energy Efficiency, of the *I.E.C.C.*, is further amended by deleting Sections 404.4 through 404.6 in their entirety.

(16) Section 502.2.1, Roof assembly, Table 502.2(1), of the *I.E.C.C.*, is amended as follows:
Climate zone, Ketchikan shall use Columns 5 and Marine 4 for Building Envelope Requirements – Opaque Assemblies.

(17) Section 502.3, Fenestrations (Prescriptive), Table 502.3, of the *I.E.C.C.*, is amended as follows:

Climate Zone, Ketchikan shall use Column 5 and Marine 4 for building Envelope Requirements: Fenestration."

Section 10: Amendment. Subsection 19.35.010 of the Ketchikan Municipal Code, entitled "Building regulations fine schedule," is hereby amended to read as follows:

"**19.35.010 Building regulations fine schedule.** Pursuant to 1.02.120 of this code the following fine schedule is established for violations of this title and of the codes and regulations as adopted by this title:

Sections:	**Fine:**
19.04.010	$100.00
19.05.030	$100.00
19.12.010	$100.00
19.12.020	$100.00
19.12.030	$100.00
19.12.040(b)	$100.00
19.12.040(c)	$100.00
19.14.010	$150.00
19.20.010	$100.00
19.20.030	$100.00
19.20.040	$100.00
19.24.010	$100.00
19.28.010	$100.00

The fine schedule for a second offense of the same section within twelve months shall be twice the amount listed above. The fine schedule for a third and subsequent offense of the same section within twelve months shall be triple the amount above listed."

Section 11: Effective Date. This ordinance is effective one (1) month after its final passage and publication.

PASSED ON FIRST READING ____.

FINAL PASSAGE ____.

Lew Williams III, Mayor

ATTEST:

_____

Katherine M. Suiter
City Clerk

EFFECTIVE DATE:			
ROLL CALL	YEA	NAY	ABSENT
COOSE			
J. HARRIS			
K. HARRIS			
OLSEN			
SHAY			
SIVERTSEN			
WEST			
MAYOR			