

Santa Fe City Code Chapter 7

Section 7-4 GREEN BUILDING CODES.

7-4.1 Authority.

The city of Santa Fe establishes the Santa Fe Green Building Codes pursuant to the express statutory authority conferred upon municipalities to adopt ordinances for the purpose of providing for the safety and preserving the health of the municipality and its inhabitants (Section 3-17-1 NMSA 1978) and for prescribing standards for constructing buildings (Section 3-18-6 NMSA 1978). This section is adopted pursuant to the city of Santa Fe's powers under its municipal charter which was adopted effective March 15, 1998 and amended March 4, 2008, pursuant to the Municipal Charter Act Sections 3-15-1 to 3-15-16 NMSA 1978 and Article 10, Section 6 of the Constitution of New Mexico. (Ord. #2009-9, §2)

7-4.2 Residential Green Building Code.

A. *Purpose.* The purpose of this section is to:

(1) Provide criteria for rating the environmental performance of single-family residential construction and site design practices and provide guidelines for documentation that demonstrates conformance with those criteria;

(2) Encourage cost-effective and sustainable building methods by encouraging conservation of fossil fuels, water and other natural resources, reduction of greenhouse gas emissions, recycling of construction materials, reducing solid waste and improving indoor air quality;

(3) Identify the specific requirements for complying with the requirements of the Residential Green Building Code; and

(4) Encourage more aggressive green building development through incentives and rewards to work toward the goals of the 2030 challenge as adopted by the governing body by Resolution No. 2006-55.

B. *Residential Green Building Code; Applicability.*

(1) Exhibit A attached to the end of this chapter is adopted. Exhibit A shall be referred to as the Santa Fe Residential Green Building Code.

(2) The provisions of the Santa Fe Residential Green Building Code shall apply to all new residential units as defined by the 2009 International Residential Code or its successor as adopted by the city.

(3) Upon request of an applicant, applications for permits submitted prior to July 1, 2012, may be issued in compliance with the prior version of Residential Green Building Code.

C. *Relationship to Other Codes; Compliance; Exceptions*

(1) The requirements of this section are in addition to and do not replace the requirements of other sections of this chapter and other chapters of this Code, including without limitation, all of the life safety codes, historic preservation ordinance, land development code and adopted building codes and development standards.

(2) No person shall fail to comply with the requirements of this section. No person shall construct in violation of a Residential Green Building Code approval. All approvals in inspections of Residential Green Code applications and requirements shall be done in conjunction with a residential building permit application and field inspections. An application shall be made on a form approved by the land use department director. The applicant shall demonstrate compliance with all of the provisions of this section prior to the issuance of a certificate of occupancy by the land use department.

(3) For a structure located in an historic overlay district where it can be demonstrated that strict application of the requirements of this section cannot be accomplished due to the requirements of the historic overlay district and that findings cannot be reasonably made for a variance or exception to the historic overlay district requirements, the requirements of this section may be reduced commensurate with the conflict between the two (2) sections of the Code.

D. *Administration.*

(1) The Residential Green Building Code shall be administered by the city as set forth in the administrative procedures adopted by resolution of the governing body. All changes to the administrative procedures shall be reviewed and approved by the governing body. The administrative procedures shall set forth responsibilities, procedures and standards for administrative actions necessary to implement the Residential Green Building Code, which include, without limitation, the following:

(a) Submitting and reviewing applicable residential building permit requests and determining conditions of approval related to the requirements of the Residential Green Building Code;

(b) Reviewing and certifying Residential Green Building Code checklists with property owners to ensure compliance with the Residential Green Building Code and the administrative procedures;

(c) Monitoring the performance of property owners subject to such agreements or other requirements of the Residential Green Building Code and the administrative procedures; and taking appropriate action in the event of noncompliance; and

(d) Collecting and distributing any payments resulting from getting a worse index than the required home energy rating index.

(2) The land use department or its agents shall:

- (a) Be responsible for the administration of the Residential Green Building Code; and
- (b) Administer and enforce all other building code and land use ordinances that apply to development requests that are subject to this section;
- (c) Require, as part of the building permit submittals, the applicant to prepare and submit a Residential Green Building Code checklist to the green code administrator or designee to assure compliance with this section; and
- (d) Where applicable, invoke sanctions for noncompliance with this section at the request of the city manager.

E. *Effective Date.* Section 7-4.1 SFCC 1987 shall be effective July 1, 2009. (Ord. #2009-9, § 3; Ord. #2009-31, § 1; Ord. #2010-19, Exh. A; Ord. #2012-4 § 1; Ord. #2014-11, Exh. A)

7-4.3 Residential Addition and Remodel Green Building Code.

A. *Purpose.* The purpose of this subsection is to:

- (1) Provide criteria for rating environmental performance of residential addition and remodel practices and provide guidelines for documentation that demonstrates conformance with those criteria;
- (2) Encourage cost-effective and sustainable building and remodeling methods by encouraging the conservation of fossil fuels, water and other natural resources, reduction of greenhouse gas emissions, recycling of construction materials, reducing solid waste and improving indoor air quality in existing residential structures;
- (3) Identify the specific requirements for complying with the requirements of the Residential Addition and Remodel Green Building Code; and
- (4) Encourage more aggressive green remodeling and additions that work towards the goals of the 2030 challenge as adopted by the governing body by Resolution No. 2006-55.

B. *Residential Addition and Remodel Green Building Code; Applicability.*

- (1) Exhibit B attached to the end of this chapter is adopted. Exhibit B shall be referred to as the Santa Fe Residential Addition and Remodel Building Code.
- (2) The provisions of this subsection apply to all additions and remodels affecting fifty percent (50%) or more of the floor area of attached and detached single-family residences.

C. *Relationship to Other Codes; Compliance; Exceptions.*

(1) The requirements of this subsection are in addition to and do not replace the requirements of other sections of this chapter or other chapters of this Code, including, without limitation, all of the life safety codes, historic preservation ordinance, land development code and adopted building codes and development standards.

(2) No person shall fail to comply with the requirements of this subsection. No person shall construct in violation of a Residential Addition and Remodel Green Building Code approval. All approvals in inspections of Addition and Remodel Green Building Code applications and requirements shall be done in conjunction with residential building permit application and field inspections. An application shall be made on a form approved by the land use department director. The applicant shall demonstrate compliance with all of the provisions of this section prior to the issuance of a final inspection signoff by the land use department.

(3) For a structure located in an historic overlay district where it can be demonstrated that strict application of the requirements of this subsection cannot be accomplished due to the requirements of the historic overlay district and that findings cannot be reasonably made for a variance or exception to the historic overlay district requirements, the requirements of this subsection may be reduced commensurate with the conflict between the two (2) sections of the Santa Fe City Code.

D. *Administration.*

(1) The Residential Addition and Remodel Green Building Code shall be administered by the city as set forth in the administrative procedures adopted by resolution of the governing body. All changes to the administrative procedures shall be reviewed and approved by the governing body. The administrative procedures shall set forth responsibilities, procedures and standards for administrative actions necessary to implement the Residential Addition and Remodel Green Building Code, which include, without limitation, the following:

(a) Submitting and reviewing applicable residential building addition and remodeling permit requests and determining conditions of approval related to the requirements of the Residential Addition and Remodel Green Building Code;

(b) Reviewing and certifying Residential Addition and Remodel Green Building Code checklists with property owners to ensure compliance with the Residential Addition and Remodel Green Building Code and the administrative procedures; and

(c) Monitoring the performance of property owners subject to the requirements of the Residential Addition and Remodel Green Building Code and the Administrative Procedures; and

(d) Taking appropriate action in the event of noncompliance.

(2) The land use department or its agent shall:

(a) Be responsible for the administration of the Residential Addition and Remodel Green Building Code; and

(b) Prepare a User's Guide that provides detailed information regarding each checklist item in the Residential Addition and Remodel Green Building Code and when an applicant is eligible to take points and how many points may be taken.

(c) Administer and enforce all other building codes and land use development codes that apply to building permit requests that are subject to this Section.

(d) Require, as part of the building permit submittals for projects subject to Chapter 11 of the Residential Addition and Remodel Green Building Code to prepare and submit a Residential Addition and Remodel Green Building Code Chapter 11 checklist to the Green Building Code Administrator or designee to assure compliance with this Section; and

(e) Where applicable, invoke sanctions for noncompliance with this section at the request of the City Manager.

E. *Effective Date.* Subsection 7-4.3 SFCC 1987 shall be effective August 1, 2014.
(Ord. #2014-11, §1)

EXHIBIT A
SANTA FE RESIDENTIAL GREEN BUILDING CODE
to CHAPTER VII
(Subsection 7-4.2)

Introduction to the Santa Fe Residential Green Building Code (“RGBC”)

The RGBC addresses six categories relating to green building:

- (1) Lot design, preparation and development;
- (2) Resource efficiency;
- (3) Energy efficiency;
- (4) Water efficiency;
- (5) Indoor environmental quality; and
- (6) Operation, maintenance, and building owner education

Each category contains subsections and line items with associated points. The items not marked “mandatory” may be selected for points to obtain the number of points required by each section. An additional 20 points is required and may be selected from any category.

The RGBC requires that all single-family residential units reach a minimum level based on the number of heated gross square feet of the home. The level of certification is the minimum level for homes up to 3,000 heated gross square feet. Over that size, there are additional requirements for energy and water efficiency.

New Mexico Green Building Code

The RGBC has been designed to be consistent with state of New Mexico Building Codes. The RGBC is not intended to supersede any state requirements.

The Administrative Procedures to the Santa Fe Residential Green Building Code

On January 11, 2012, the governing body adopted Resolution No. 2012-12 setting forth the administrative procedures for the RGBC, which may be amended from time to time by the governing body. The administrative procedures detail each item of the RGBC checklist.

Santa Fe Residential Green Building Review and Inspection Process

The city of Santa Fe Green Building Code administrator will review building permit applications for compliance with the RGBC. The city of Santa Fe inspection division will inspect for most of the elements of the RGBC, however, a city-approved third party will conduct the Home Energy Rating System (HERS)

analysis and perform inspections related to thermal bypass and insulation installation at the applicant's expense. To certify a home under the RGBC:

- (1) When selecting a lot, set a goal for the level of certification, decide where points will be counted in each section, and write the implementation plan.
- (2) Retain a HERS Rater to analyze the building plan to verify that it is projected to meet the required HERS index, perform the third-party testing that is required, and to submit all required documentation to the city's inspection division.
- (3) When applying for a building permit, submit documentation including a completed certification checklist, implementation plan, and as much of the documentation as required by the verification column of the checklist as currently available.
- (4) Keep track of documentation during construction. Be sure that there is documentation for the points that are being claimed. Submit results of third party inspections and other documentation to the city, as they become available.
- (5) Notify the Green Building Code administrator at least two weeks prior to applying for a certificate of occupancy to allow for review of all submittals verifying compliance with the checklist items that are being claimed and have been received by the city and that all inspections have been made.

Santa Fe Residential Green Building Checklists

Chapter 1. Reserved.

Chapter 2 Definitions

201	GENERAL
201.1	Scope. Unless otherwise expressly stated, the following words and terms shall, for the purposes of this Code, have the meanings shown in this chapter.
201.2	Interchangeability. Words used in the present tense include the future; words stated in the masculine gender includes the feminine and neuter; the singular number includes the plural and the plural, the singular.
201.3	Terms defined in other document. Where terms are not defined in this Code, and such terms are used in relation to the reference of another document, those terms shall have the definition in that document.

201.4	Terms not defined. Where terms are not defined through the methods authorized by this section, such terms shall have ordinarily accepted meanings such as the context implies.
202	DEFINITIONS
	ACCESSORY STRUCTURE. A structure, the use of which is customarily accessory to and incidental to that of the residential building; the structure is located on the same lot or site as the residential building; the structure does not contain a dwelling unit; and (1) is classified as Group U - Utility and Miscellaneous in the accordance with the ICC International Building Code, or (2) is classified as accessory in accordance with the ICC International Residential Code, or (3) is classified as accessory to the residential use by a determination of the Adopting Entity.
	ADDITION. An extension or increase in floor area or height of a building or structure.
	ADOPTING ENTITY. The governmental jurisdiction, green building program, or any other third-party compliance assurance body that adopts this Code, and is responsible for implementation and administration of the practices herein.
	ADVANCED FRAMING. Code compliance layout, framing and engineering techniques that minimize the amount of framing products used and waste generated to construct a building while maintaining the structural integrity of the building.
	AFUE (Annual Fuel Utilization Efficiency). The ratio of annual output energy to annual input energy which includes any non-heating season pilot input loss, and for gas or oil-fired furnaces or boilers, does not includes electrical energy.
	AIR BARRIER. Material(s) assembled and joined together to provide a barrier to air leakage through the building envelope, An air barrier may be a single material or a combination of materials.
	AIR HANDLER. A blower or fan used for the purpose of distributing supply air to a room, space or area.
	AIR INFILTRATION. The uncontrolled inward air leakage into a building caused by the pressure effects of wind or the effect of differences in the indoor and outdoor air density or both.
	AIR, MAKE-UP. Air that is provided to replace air being exhausted.
	ARCHITECTURAL COATINGS. A material applied onto or impregnated into a substrate for protective, decorative, or functional purposes. Such materials include, but are not limited to, primers, paints, varnishes, sealers, and stains. An architectural coating is a materials applied to stationary structures or their appurtenances at the site of installation. Coatings applied in shop applications, sealants, and adhesives are not considered architectural coatings.
	BIO-BASED PRODUCT. A commercial or industrial product used in site development or building construction that is composed, in whole or in significant part, of biological products, renewable agriculture materials (including plant, animal, and marine materials), or forestry materials.
	CLIMATE ZONE. Climate zone for Santa Fe is 5 dry.
	COMMON AREA(S). Areas within a site or lot that are predominantly open spaces and consist of non-residential structures, landscaping, recreational facilities, roadways and walkways, which are owned and maintained by an incorporated or chartered entity such as a homeowner's association or governmental jurisdiction.
	COMPLETE BASEMENT REMODEL. A basement remodel where the scope of work is such that it requires a building permit.
	COMPLETE KITCHEN REMODEL. A kitchen remodel where the scope of work is such that it requires a building permit.

	CONDITIONED SPACE. An area or room within a building being heated or cooled, containing uninsulated ducts, or with a fixed opening directly into an adjacent conditioned space.
	CONSTRUCTION WASTE MANAGEMENT PLAN. A system of measures designed to reduce, reuse, and recycle the waste generated during construction and to properly dispose of the remaining waste.
	CONTINUOUS PHYSICAL FOUNDATION TERMITE BARRIER. An uninterrupted, non-chemical method of preventing ground termite infestation (e.g., aggregate barriers, stainless steel mesh, flashing, or plastic barriers).
	DIRECT-VENT APPLIANCE. A fuel-burning appliance with a sealed combustion system that draws all air for combustion from the outside atmosphere and discharges all flue gases to the outside atmosphere.
	DURABILITY. The ability of a building or any of its components to perform its required functions in its service environment over a period of time without unforeseen cost for maintenance or repair.
	DWELLING UNIT. A single unit providing complete, independent living facilities for one or more persons, including permanent provisions for living, sleeping, eating, cooking and sanitation.
	ENGINEERED WOOD PRODUCTS. Products that are made by combining wood stand, veneers, lumber or other wood fiber with adhesive or connectors to make a larger composite structure.
	EXISTING BUILDING. Building completed and occupied prior to any renovation considered under this Code.
	FROST-PROTECTED SHALLOW FOUNDATION. A foundation that does not extend below the design frost depth and is protected against the effects of frost in compliance with SEI/ASCE 32-01 or the provisions for frost-protected shallow foundations of the ICC IBC or IRC, as applicable.
	FULL BATHROOM REMODEL. A bathroom remodel where the scope of work is such that it requires a building permit.
	GRADE PLANE. A reference plane representing the average of the finished ground level adjoining the building at all exterior walls. Where the finished ground level slopes away from the exterior walls, the reference lane shall be established by the lowest points within the area between the building and the lot line or, where the lot line is more than 6 feet (1830 mm) from the building, between the structure and a point 6 feet (1830 mm) from the building.
	HIGH-EFFICIENCY LAMPS. Compact fluorescent lamps (CFL); light emitting diode (LED); T-8 or smaller diameter linear fluorescent lamps, or lamps with a minimum efficacy of 1) 60 lumens per watt for lamps over 40 watts, 2: 50 lumens per watt for lamps over 15 watts or 40 watts, or 3) 40 lumens per watt for lamps 15 watts or less.
	HYDROZONING. A landscape practice that groups plants with similar watering needs together in an effort to conserve water.
	LAVATORY FAUCET. A valve for dispensing hot and/or cold water to a basin used for washing hands or face.
	LOT. A single parcel of land generally containing one primary structure or use. Lot development, as defined by this Code, may include multiple ownership (such as with a condominium building) or multiple uses (such as with a mixed-use building). A lot is

	predominately represented by a single-family dwelling unit, a multifamily structure, or a mixed-use building also containing offices and shops. Lots may be located in urban, suburban, and promote soil infiltration and recharge.
	MERV (Minimum Efficiency Reporting Value). The Minimum Efficiency Reporting Value for filters in accordance with the criteria contained in ASHRAE 52.2.
	MODULAR CONSTRUCTION. Three-dimensional sections of the complete building or dwelling unit built in a factory and transported to the jobsite to be joined together on a permanent foundation.
	MULTI-UNIT BUILDINGS. A building containing multiple dwelling units and classified as R-2 under the ICC IBC.
	NEW CONSTRUCTION. Construction of a new building or construction that completely replaced more than 75 percent of an existing building.
	PERMEABLE MATERIAL. A material that permits the passage of water vapor and/or liquid.
	PLUMBING FIXTURE. A receptor or device that requires both a water-supply connection and a discharge to the drainage system, such as water closets, lavatories, bathtubs, and sinks.
	PRECUT. Materials cut to final size prior to delivery to site and ready for assembly.
	PROJECTION FACTOR. The ratio of the overhang width to the overhang height above the door threshold or window sill (PF=A/B).
	RECYCLE. To recover and reprocess manufactured goods into new products.
	REMODLING. The process of restoring or improving an existing building, dwelling unit, or property.
	RENEWABLE ENERGY. Energy derived from sources that are regenerative or cannot be depleted.
	RENEWABLE ENERGY SOURCE. Source of energy (excluding minerals) derived from incoming solar radiation, including natural solar radiation itself, photosynthetic processes; from phenomenon resulting there from, including wind, hydropower, waves and tides, and lake or pond thermal differences; from decomposition of waste material, including methane from landfills; from processes that use regenerated materials, including wood and bio-based products; and from the internal heat of the earth, including nocturnal thermal exchanges.
	REPLACEMENT. The act or process of replacing material or systems.
	REUSE. To recover a material or product for use again without processing.
	SIP (Structural Insulated Panel). A structural sandwich panel that consists of a lightweight foam plastic core securely laminated between two thin, rigid wood structural panel facings; a structural panel that consists of lightweight foam plastic and cold-formed steel sheet or structural cold-formed steel members; or other similar non-interrupted structural panels.
	SOLID FUEL-BURNING APPLIANCE. A chimney connected device designed for purposes of heating, cooking, or both that burns solid fuel.
	STORY. That portion of a building including between the upper surface of a floor and the upper surface of the floor or roof of the next above.
	STORY ABOVE GRADE. Any story having its finished floor surface entirely above grade, except that a basement shall be considered as a story above grade where the finished surface of the floor above the basement is:
	1. More than 6 feet (1829 mm) above the grade plane.

	2. More than 6 feet (1829 mm) above the finished ground level for more than 50 percent of the total building perimeter.
	3. More than 12 feet (3658 mm) above the finished ground level at any point.
	VENTILATION. The natural or mechanical process of supplying conditioned or unconditioned air to, or removing such air from, any space.
	WATER RESISTIVE BARRIER. A material behind an exterior wall covering that is intended to resist liquid water that has penetrated behind the exterior covering from further intruding into the exterior wall assembly.

(Ord. #2014-11, § 2)

Chapter 3. Reserved.

Chapter 4. Reserved.

**Chapter 5
Lot Design, Preparation, and Development**

Item #	Green Building Practices	Points
501		
501.1	Lot: The lot is selected to minimize environmental impact by one or more of the following:	
(1)	An infill site is selected.	4
(2)	A greyfield or an EPA-recognized brownfield lot is selected.	5
501.2	Mass Transportation: A range of mass transportation choices are promoted by one or more of the following:	
(1)	A lot is selected within one-half mile (805 m) of pedestrian access to a mass transit system or within five miles (8046 m) of a mass transit station with provisions for parking.	3
(2)	Walkways, street crossings, and entrances designed to promote pedestrian activity are provided. New buildings are connected to existing sidewalks and areas of development.	3
(3)	A lot is selected within one-half mile (805 m) of six or more community resources [e.g., recreational facilities (such as pools, tennis courts, basketball courts), parks, grocery store, post office, place of worship, community center, daycare center, bank, school, restaurant, medical/dental office, laundromat/dry cleaner).	3
503 Lot Design		
503.0	Intent: The lot is designed to avoid detrimental environmental impacts first, minimize any unavoidable impacts next, and finally mitigate for those impacts that do occur. The project is designed to minimize environmental impacts and to protect, restore, and enhance the natural features and	

	environmental quality of the lot. (to be awarded points allocated for design, the intent of the design is implemented)	
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503.1	Natural Resources: Natural resources are conserved by one or more of the following:	
(4)	Basic training in tree or other natural resource protection is provided for the on-site supervisor.	4
503.5	Landscape Plan: A landscape plan is developed to limit water and energy use while preserving or enhancing the natural environment.	
(2)	Vegetation and trees are selected that are native or regionally appropriate for local growing conditions.	4
(3)	A percentage of cool season turf areas are limited.	
(a)	0 percent	4
(4)	Plants with similar watering needs are grouped (hydrozoning).	5
(5)	Species and locations for tree planting are identified that will provide summer shading of streets, parking areas, and buildings to moderate temperatures, when trees reach maturity.	5

504 Lot Construction

504.0	Intent: Environmental impact during construction is avoided to the extent possible; impacts that do occur are minimized, and any significant impacts are mitigated.	
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504.2	Trees and Vegetation: Designated trees and vegetation are preserved by one or more of the following:	
(1)	Fencing or equivalent is installed to protect trees and other vegetation.	3
(2)	Trenching, significant changes in grade, and compaction of soil and critical root zones in "tree save" areas are avoided.	4

505 Innovative Practices

505.0	Intent: Innovative lot design, preparation and development practices are used to enhance environmental performance. Waivers or variances from local development regulations may be required, and innovative zoning practices may be used to implement such practices.	
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505.1	Driveways and Parking Areas: Driveways or parking areas are shared. Waivers or variances from local development regulations are obtained to implement such practices, as applicable. In a multi-unit project, parking capacity is not to exceed the local minimum requirements.	4
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505.4	Select a small lot to promote density and public transit and reduce sprawl	
(1)	Infill site of less than 6000 square feet OR	2
(2)	Infill site of less than 5000 square feet OR	3
(3)	Infill site of less than 4000 square feet OR	4
(4)	Infill site of less than 3000 square feet	5

TOTAL REQUIRED FOR NEW BUILDINGS (ALL BUILDING SIZES) 16

Chapter 6
Resource Efficiency

Item #	Green Building Practices	Points
601	Quality of Construction Materials and Waste	
601.0	Intent: Design and construction practices that minimize the environmental impact of the building materials are incorporated, environmentally efficient building systems and materials are incorporated, and waste generated during construction is reduced.	
601.1	Conditioned Floor Area: Conditioned floor area, as defined by ICC IRC and calculated in accordance with NAHBRC Z765, is limited. Dwelling unit size is to be calculated in accordance with NAHBRC Z765. Only the conditioned floor area for stories above grade plane is to be included in the calculation.	
(1)	less than or equal to 1,000 square feet (93 m ²)	15
(2)	less than or equal to 1,500 square feet (139 m ²)	12
(3)	less than or equal to 2,000 square feet (186 m ²)	9
(4)	less than or equal to 2,500 square feet (232 m ²)	6
601.2	Material Usage: Building-code-compliant structural systems or advanced framing techniques are implemented that optimize material usage. (Points awarded for each system or framing technique implemented).	3 9 Points max
(1)	24" OC framing	
(2)	Single top-plate - exterior and bearing walls	
(3)	Single top-plate - interior non-bearing partitions	
(4)	Right-sized headers or insulated box headers	
(5)	No headers in non-bearing partitions	
(6)	Ladders at perpendicular wall intersections	
(7)	Two-stud exterior corner framing or equivalent	
(8)	Doubling the rim joist in lieu of header	
(9)	Other (specify and provide detail)	
601.5	Prefabricated components. Precut or preassembled components, or panelized or precast assemblies are utilized for a minimum of 90 percent for the following system or building:	
(1)	floor system	4
(2)	wall system	4
(3)	roof system	4
(4)	modular construction for the entire building located above grade	13
(5)	manufactured home construction for the entire building located above grade	13
601.6	Stacked Stories: Stories above grade are stacked, such as in 1 1/2-story, 2-story, or greater structures. The area of the upper floor is a minimum of 50 percent of the area of the story below, based on areas with a minimum ceiling height of 7 feet (2134 mm).	
(1)	first stacked story	4
(2)	for each additional stacked story	2

601.7	Site-applied Finishing Materials: Building materials or assemblies are utilized that do not require additional site-applied material for finishing.	
(1)	90 percent or more of the installed building material or assembly listed below:	5
	(Points awarded for each material or assembly.)	
(2)	50 percent to less than 90 percent of the installed building material or assembly listed below:	2
	(Points awarded for each material or assembly.)	
(a)	pigmented, stamped, decorative, or final finish concrete or masonry	
(e)	Use no trim on doors and window counting both interior and exterior and both sides of internal doors.	

601.9	Above Grade Wall Systems: One or more of the following above grade wall systems that provide sufficient structural characteristics are used for a minimum of 75 percent of the gross exterior wall area of the building or 30 percent of interior and exterior wall areas combined.	4
(1)	adobe or compressed earth block	
(2)	concrete and/or masonry	
(4)	rammed earth	
601.9.1	Use earth from site (80% of the soil used) to make adobes, compressed earth block or rammed earth material used in building.	8 Additional Points

602	Enhanced Durability and Reduced Maintenance	
602.0	Intent: Design and construction practices are implemented that enhance the durability of materials and reduce in-service maintenance.	

602.1	Exterior Doors: Entries at exterior door assemblies, inclusive of side lights, are covered by one of the following methods to protect the building from the effects of precipitation and solar radiation. A projection factor of 0.375 minimum is provided.	5 Points Max
	(a) installing a porch roof or awning	
	(b) extending the roof overhang	
	(c) recessing the exterior door	
(1)	main entrance door	3
(2)	additional covered door assemblies	1

602.2	Roof Overhangs: Fixed permanent roof overhangs, including portals, based on inches of rainfall in Table 602.2, are provided over a minimum of 90 percent of exterior walls for sloped roofs or portals that cover 50% or more of the wall area for flat roofed buildings to protect the building envelope.	4
	Table 602.2	
	Minimum Roof Overhang for One- & Two-Story Buildings	
	Inches Rainfall⁽¹⁾ Eave Overhang (inches) Rake Overhang (inches)	
	Less than 20 12 12	

602.4	Drip Edge: Drip edge is installed at eaves and gable roof edges.	3
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602.7	Termite Barrier: Continuous physical foundation termite barrier used with or without low toxicity treatment is installed.	4
602.7.1	Additional points for continuous physical foundation termite barrier using no toxic treatment installed.	2
602.11	Foundation Waterproofing: Enhanced foundation waterproofing is installed where waterproofing is required by code: (Note: Some coatings are not compatible with exterior foam insulation.)	4
(1)	rubberized coating, or	
(2)	drainage mat	
602.12	Flashing: Flashing details are shown on plans and flashing is installed at all of the following locations, as applicable:	6
(1)	around exterior fenestrations, skylights and doors	
(2)	roof valleys	
(3)	deck/balcony to building intersections	
(4)	at roof-to-wall intersections and at roof-to-chimney intersections	
(5)	a drip cap is provided above windows and doors that are not flashed or protected by covering in accordance with Section 602.1	
603	Reused or Salvaged Materials	
603.0	Intent: Practices that reuse or modify existing structures, salvage materials for other uses, or use salvaged materials in the building's construction are implemented.	
603.1	Reuse of Existing Building: Existing buildings and structures are reused, modified, or deconstructed in lieu of demolition. (Points awarded for every 200 square feet (18.5 m²) of floor area.)	1
		12 Points Max
603.3	Scrap Materials: Facilitation for sorting and reuse of scrap building material (e.g., provide a central storage area or dedicated bins).	4
605	Recycled Construction Waste	
605.0	Intent: Waste generated during construction is recycled. All waste classified as hazardous shall be properly handled and disposed. (Points not awarded for hazardous waste removal.)	
605.1	Construction Waste and Management Plan: A construction waste management plan is developed, posted at the jobsite, and implemented with a goal of recycling or salvaging a minimum of 50 percent (by weight) of construction and land-clearing waste.	6
607	Resource-Efficient Materials	
607.1	Resource-Efficient Materials: Products containing fewer materials are used to achieve the same end-use requirements as conventional products, including but not limited to: (3 points awarded for each material)	9 Points Max
(2)	engineered wood or engineered steel products	

(3)	roof or floor trusses	
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610 Innovative Practices

610.2	Universal Design: For future resource efficiency. One point per universal design element (see User's Guide), Max of 6 points.	6
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610.3	Modular Building Dimensions. Frame structures or structures made with modular units are designed on 16- or 24-inch dimensions.	2
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610.4	Use structural vigas, beams, or posts (from less than 300 miles away) (does not apply to decorative vigas) (1 point per installed 10 linear feet)	10 max
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610.5	Structural insulated panels (SIPS) used for the exterior:	
(1)	Walls	5
(2)	Roof	5

610.6	Drainage from canales is done in accordance with all of the following	5
(1)	Waterproof the foundation behind the splash area and extending 3 feet in both directions.	
(2)	Install an impermeable liner in splash area under canale.	
(3)	Liner or other collector guides water away from structure sloping a minimum of 6 inches over 6 feet for a minimum of 6 feet away from structure.	

TOTAL REQUIRED FOR NEW BUILDINGS (ALL BUILDING SIZES) 50

**Chapter 7
Energy Efficiency**

Item #	Green Building Practices	Points
701	Minimum Energy Efficiency Requirements	
701.1	Mandatory Requirements: New buildings must comply with Section 702 (Performance Path).	
701.4.3	Insulation and Air Sealing:	
701.4.3.1	General. Insulation and air sealing is inspected by an approved third party and a report verifying compliance is provided to the City's Inspection Division and is in accordance with the following:	
(1)	Insulation. Insulation is installed in accordance with the manufacturer's instructions or local code, as applicable.	Mandatory
(2)	Shafts (duct shaft, piping shaft/penetrations, flue shaft). Openings to unconditioned space are fully sealed with solid blocking or flashing and any remaining gaps are sealed with caulk or foam. Fire-rated collars and caulking are installed where required.	Mandatory
701.4.3.2		

	Floors, foundations, and crawlspaces: These items are inspected by an approved third party and a report verifying compliance is provided to the City's Inspection Division.	
(1)	Floors. (including insulated floors above garages and cantilevered floors)	Mandatory
(a)	Insulation is installed to maintain permanent contact with the underside of the subfloor decking, enveloping any attached ductwork within the thermal envelope without compression or air gaps in the insulation. This practice does not apply to ducts or other mechanical equipment that is adjacent to the underside of the subfloor.	
(b)	Batt and loose-fill insulation is held in place by permanent attachments or systems in accordance with the manufacturer's instructions.	
(2)	Crawlspace. Where insulated, crawlspace wall insulation is permanently attached to the walls. Exposed earth in unvented crawlspaces is covered with continuous vapor retarder with overlapping joints that are taped or masticed.	Mandatory
701.4.3.3	Walls: These items are inspected by an approved third party and a report verifying compliance is provided to the City's Inspection Division.	
(1)	Windows and Doors. Caulking, gasketing, adhesive flashing tape, foam sealant, or weatherstripping is installed forming a complete air barrier	Mandatory
(2)	Band joists and rim joists. Band and rim joists are insulated and air sealed.	Mandatory
(3)	Between foundation and sill plate bottom plate	
(a)	Sill sealer or other material that will expand and contract is installed between foundation and sill plate.	<u>Mandatory</u>
(b)	Caulk or the equivalent is installed to seal the bottom plate of exterior walls	<u>Mandatory</u>
(4)	Skylights and knee walls. Skylight shafts and knee walls are insulated to the same level as the exterior walls.	Mandatory
(5)	Exterior architectural features. Code required building envelope insulation and air sealing are not disrupted at exterior architectural features such as stairs and decks.	Mandatory
701.4.3.4	Ceilings and attics. These items are inspected by an approved third party and a report verifying compliance is provided to the City's Inspection Division.	
(1)	Attic access (except unvented attics). Attic access, knee wall door, or drop-down stair is covered with insulation and gasketed. Knee wall door is an insulated unit or is covered with insulation.	Mandatory
(2)	Recessed lighting. Recessed light fixtures that penetrate the thermal envelope are airtight, IC-rated, and sealed with gasket, caulk or foam.	Mandatory
(3)	Eave vents. Where ceiling/attic assemblies or designs have eave vents, baffles or other means are implemented to minimize air movement into or under the insulation.	Mandatory

702	Performance Path	
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702.2	Energy cost performance levels. Energy efficiency features are implemented to achieve energy cost performance that exceeds the ICC IECC by the following. A documented analysis using software in accordance with ICC IECC, Section 404, or ICC IECC Section 506.2 through 506.5, applied as defined in the ICC IECC, is required. A projected Home Energy Rating System, or equivalent, rating in the form of an ES 2.5 report, or equivalent, shall be provided to submit for permit and a report of the confirmed rating also in the form of an ES 2.5 report, or equivalent shall be provided to the City of Santa Fe's Inspection Division.	Mandatory
	Minimum HERS index is required as follows:	
	Heated Square Footage	Required HERS Index

0-3000	70
3001-3500	65
3501-4000	60
4001-4500	55
4501-5000	50
5001-5600	45
5601-6200	40
6201-6800	35
6801-7400	30
7401-8000	25
8001-8500	20
8501-9000	15
9001-9500	10
9501-10,000	5
10,001 +	0

702.3	Better HERS Index than Required: For each two (2) whole HERS index points below the required HERS index. Note: When applying for building permit points are not given for the first 6 HERS index points. All points will be given once the confirmed HERS index is completed.	1
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704 Additional Practices

704.1	Application of additional practice points.	
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704.2	Lighting and appliances	
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704.2.1	Hard-wired lighting is in accordance with one of the following:	
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(1)	A minimum of 50 percent of the bulbs in the hard-wired light fixtures, qualify as ENERGY STAR or equivalent.	4
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(2)	A minimum of 50 percent of the total hard-wired lighting fixtures qualify as ENERGY STAR or equivalent.	8
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704.2.2	The number of recessed lighting fixtures that penetrate the thermal envelope are less than 1 per 400 square feet (37.16 m ²) of total conditioned floor area and are in accordance with Section 701.4.3.4(2).	2
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704.2.4	Tubular daylighting device (TDD) or a skylight with sealed, insulated, low-E glass is installed in rooms without windows.	2
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(Points awarded per building)

704.2.5	ENERGY STAR or equivalent appliance(s) are installed	
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(1)	refrigerator	5
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(2)	dishwasher	2
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(3)	washing machine	4
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704.2.6	Induction cooktop is installed	1
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704.3	Renewable energy and solar heating and cooling	
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704.3.1	Solar Space heating and cooling	
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704.3.1.1	Sun-tempered design. Building orientation, sizing of glazing, and design of overhangs are in accordance with all of the following:	5
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(1)	The long side (or one side if of equal length) of the building faces within 20 degrees of true south.	
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(2)	Vertical glazing area on the south face is between 5 and 7 percent of the gross conditioned floor area [also see Section 704.3.1.1(8)] if no mass is present or up to 12% if mass is present.	
(3)	Vertical glazing area on the west face is less than 2 percent of the gross conditioned floor area, and glazing is ENERGY STAR compliant or equivalent.	
(4)	Vertical glazing area on the east face is less than 4 percent of the gross conditioned floor area, and glazing is ENERGY STAR compliant or equivalent.	
(5)	Vertical glazing area on the north face is less than 4 percent of the gross conditioned floor area, and glazing is ENERGY STAR compliant or equivalent.	
(6)	Skylights, where installed, are in accordance with the following:	
(a)	shades and insulated wells are used, and all glazing is ENERGY STAR compliant or equivalent.	
(b)	horizontal skylights are less than 0.5 percent of finished ceiling area or less than 1.5% of finished ceiling area if thermal performance is enhanced by means such as reflectors or translucent insulation.	
(c)	sloped skylights located on slopes facing within 20 degrees of true south are less than 0.5 percent of the finished ceiling area or less than 1.5% of finished ceiling area if thermal performance is enhanced by means such as reflectors or translucent insulation.	
(7)	Overhangs or adjustable canopies or awnings or trellises provide shading on south-facing glass in accordance with the diagram below:	
(8)	The south face windows have a SHGC of 0.40 or higher	
(9)	Return air or transfer grilles/ducts are in accordance with Section 704.4.5.	
704.3.1.2	Automated solar protection with sensor or timer is installed to provide shading for all windows in the sun path.	1
704.3.1.3	Passive cooling design features are in accordance with three or more of the following:	
	Points for three items:	3
	Points for one additional item:	1
(1)	Exterior shading is provided on east and west windows using one or a combination of the following:	2
(a)	Vine-covered trellises with the vegetation separated a minimum of 1 foot (305 mm) from face of building	
(b)	awnings or louvers designed to shade the windows	
(c)	covered porches or portals	

(d)	attached or detached conditioned/unconditioned enclosed space that provides full shade of east and west windows (e.g., detached garage, shed, or building).													
(2)	Overhangs are installed to provide shading on south-facing glazing in accordance with Section 704.3.1.1(7).													
	(Points not awarded if points are taken under Section 704.3.1.1.)													
(3)	Windows and/or venting skylights are located to facilitate cross ventilation.													
(5)	Internal exposed thermal mass is a minimum of three inches (76 mm) in thickness or 30 pounds of water per square foot of glazing. Thermal mass consists of concrete, brick, and/or tile that are fully adhered to a masonry base or other masonry material and is in accordance with one or a combination of the following:													
(a)	A minimum of 1 square foot (0.09 m ²) of exposed thermal mass of floor per 3 square feet (2.8 m ²) of gross finished floor area.													
(b)	A minimum of 3 square feet (2.8 m ²) of exposed thermal mass in interior walls or elements per square foot (0.09 m ²) of gross finished floor area.													
704.3.1.4	Passive solar heating design. In addition to the sun-tempered design features in Section 704.3.1.1, all of the following are implemented:	4												
(1)	Additional glazing, no greater than 12 percent, is permitted on the south wall. This additional glazing is in accordance with the requirements of Section 704.3.1.1.	2												
(2)	Additional thermal mass for any room with south-facing glazing of more than 7 percent of the finished floor area is provided in accordance with the following:													
(a)	Thermal mass is solid and a minimum of 3 inches (76 mm) in thickness. Where two thermal mass materials are layered together (e.g., ceramic tile on concrete base) to achieve the appropriate thickness, they are fully adhered to (touching) each other.													
(b)	Thermal mass directly exposed to sunlight is provided in accordance with the following minimum ratios:													
	(i) Above latitude 35 degrees: 5 square feet (0.465 m ²) of thermal mass for every 1 square foot (0.0929 m ²) of south-facing glazing or 30 pounds of water.													
(c)	Thermal mass not directly exposed to sunlight is permitted to be used to achieve thermal mass requirements of Section 704.3.1.4(2) based on a ratio of 40 square feet (3.72 m ²) of thermal mass for every 1 square foot (0.0929 m ²) of south-facing glazing.													
(3)	In addition to return air or transfer grilles/ducts required by Section 704.3.1.1, provisions for forced airflow to adjoining areas are implemented as needed.													
704.3.2	Solar Thermal Systems: A solar thermal system is installed in accordance with one of the following: (points can be taken for either 704.3.2.1 or 704.3.2.2 but not both)													
704.3.2.1	Solar Domestic Water Heating: SRCC (Solar Rating & Certification Corporation) OG 300 rated, or equivalent, solar domestic water heating system is installed. Solar Energy Factor (SEF as defined by SRCC) is in accordance with Table 704.3.2.1 (Note: A custom-designed system qualifies for points if a mechanical engineer certified the SEF)	Points per Table 704.3.2.1												
	Table 704.3.2.1 Solar Hot Water Systems													
	<table border="0"> <thead> <tr> <th style="text-align: left;">SEF - Electric Tank</th> <th style="text-align: left;">SEF - Gas Tank</th> <th style="text-align: left;">POINTS</th> </tr> </thead> <tbody> <tr> <td>1.30 - 1.50</td> <td>0.85 - 1.00</td> <td style="text-align: center;">8</td> </tr> <tr> <td>1.51 - 1.80</td> <td>1.01 - 1.20</td> <td style="text-align: center;">11</td> </tr> <tr> <td>1.81 - 2.30</td> <td>1.21 - 1.50</td> <td style="text-align: center;">14</td> </tr> </tbody> </table>	SEF - Electric Tank	SEF - Gas Tank	POINTS	1.30 - 1.50	0.85 - 1.00	8	1.51 - 1.80	1.01 - 1.20	11	1.81 - 2.30	1.21 - 1.50	14	
SEF - Electric Tank	SEF - Gas Tank	POINTS												
1.30 - 1.50	0.85 - 1.00	8												
1.51 - 1.80	1.01 - 1.20	11												
1.81 - 2.30	1.21 - 1.50	14												

	2.32 - 3.00 ≥ 3.01	1.51 - 2.00 ≥ 2.01	17 20	
704.3.2.2	Solar Domestic Water and Space Heater: SRCC (Solar Rating and Certification Corporation) OG 300 rated, or equivalent, solar collector thermal performance rating water and space heating system is installed. Manufacturer's specifications, SRCC OG 300 rating, and SEF for either gas or electric (or equivalent ratings) for solar water heating system and space heating system installed in building. Point calculation: Use the SRCC OG 100 rating for category C, Clear Day (note that the number provided in the tables at http://www.solar-rating.org is given in 1000 BTUs) and round down to the nearest whole number.			1 point per 7000 BTUs, 45 points maximum
704.3.3	Additional Renewable Energy Options			
704.3.3.1	Photovoltaic panels are installed on the property (Points awarded per 1/10 kW (or per 100 Watts))			1
704.3.3.2	Other on-site renewable energy source is installed (e.g., wind energy, on-site micro-hydro power). (Points awarded per 1/10 kW (or per 100 Watts))			One-half
704.4	Ducts			
704.4.2	Space heating is provided by a system that does not include air ducts			15
704.4.3	Space cooling is provided by a system that does not include air ducts or there is no cooling system			15
704.4.4	Ductwork is in accordance with all of the following:			12
(2)	Heating and cooling ducts and mechanical equipment are installed within the conditioned building space.			
(3)	Ductwork is not installed in exterior walls.			
704.4.5	Return ducts or transfer grilles are installed in every room with an interior door. This practice does not apply to kitchens, closets, and pantries.			5

704.5	HVAC Design and Installation			
704.5.3	Performance of the heating and/or cooling system is verified by the HVAC contractor in accordance with all of the following that apply and provide a signed checklist to the City of Santa Fe Inspection Division:			3
(1)	All start-up procedures are performed in accordance with the manufacturer's instructions.			
(2)	Refrigerant charge is verified by super-heat and/or sub-cooling method.			
(3)	Burner is set to fire at input level listed on nameplate.			
(4)	Air handler setting/fan speed is set in accordance with manufacturer's instructions.			
(5)	Total airflow is within 10 percent of design flow.			
(6)	Total external system static does not exceed equipment capability at rated airflow.			

704.6	Insulation and Performance Verification			
704.6.1	Third-party on-site inspection is conducted to verify compliance with all of the following, as applicable. Minimum of two inspections are performed. One inspection after insulation is installed and prior to being covered, and another inspection upon completion of the project. Where multiple buildings or dwelling units of the same model are built by the same builder, a representative sample inspection of a minimum of 15 percent of the buildings or dwelling units is permitted.			5 Mandatory
(1)				

	Ducts are installed in accordance with the ICC, IRC, or IMC and ducts are sealed.	
(2)	Building envelope air sealing is installed.	
(3)	Insulation is installed in accordance with Section 703.1.2.	
(4)	Windows, skylights, and doors are flashed, caulked, and sealed in accordance with manufacturer's recommendations and in accordance with Section 703.2.1.	
704.6.2	Third-party testing is conducted to verify performance.	
704.6.2.1	The blower door test results meet the air changes at 50 pascals in #4 below and the following practices are required:	
(2)	Fossil fuel furnace and water heater is sealed combustion or power vented in accordance with Section 901.1.	
(4)	The maximum leakage rate is in accordance with:	
(a)	5 ACH50	3
(b)	4 ACH50	6
(c)	3 ACH50	9
(d)	2 ACH50	12
(e)	1 ACH50	15

705 INNOVATIVE PRACTICES

705.1	Energy Consumption Control. A whole building or whole dwelling unit device is installed that controls or monitors energy consumption.	7 Points Max
(1)	Programmable communicating thermostat (Not applicable to radiant systems that don't use a solar hydronic system)	2
(2)	Energy-monitoring device	4
(3)	Energy management control system.	7
705.3	Use a more energy efficient system for cooling the house than refrigerated air conditioning.	
(1)	Use whole house fan with insulation on flaps and the side walls have the same r-value as the exterior walls.	4
705.4	Lighting	
	Install all interior lighting fixtures within the conditioned envelope of the building, e.g., housing does not penetrate insulated ceiling.	4
705.5	Skylights are less than 0.8% of the square footage of the conditioned area of the house. Final calculations based on installed skylights shall be provided at time of Final Green Building Inspection.	5
705.6	Install device(s) on all skylights to improve their efficiency such as aerogel panels. (2 points per skylight)	8 Points Max
705.7	Reduce phantom loads with outlets tied to switches at room entries or comparable method (2 points per room where phantom loads are tied to switches)	8 Points Max
705.8	Construction site personnel has taken an approved thermal bypass inspection (TBI) class. (3 points for framer and 1 point for additional other trades)	6 Points Max

TOTAL REQUIRED

0 – 3000 HSF

26

3001 + HSF

35

**Chapter 8
Water Efficiency**

Item #	Green Building Practices	Points
801	Indoor and Outdoor Water Use	
801.0	Intent. Measures that reduce indoor and outdoor water usage are implemented.	
801.1	Indoor hot water usage	
801.1.1	Indoor hot water usage is reduced by one of the following practices:	
(1)	All hot water plumbing fixtures in both the kitchen and bathrooms are 32 feet (9,754 mm) or less in length from the water heater and is sized in accordance with the code for the specified application OR	2
(2)	All hot water plumbing fixtures in both the kitchen and bathrooms is 24 feet (7,315 mm) or less from the water heater and is sized in accordance with the code for the specified application OR	3
(4)	Pipe runs exceeding 32 feet (9,754 mm) from the water heater to fixture locations are aided by:	
(a)	tankless water heater is installed at point of use and is served only by cold water or a solar assisted system OR	1
(b)	on-demand hot water recirculation system is installed with a water temperature sensor turn-off located at the fixture furthest from the water heater.	6
801.2	Water-Conserving Appliances. ENERGY STAR or equivalent water-conserving appliances are installed.	
(1)	dishwasher	2
(2)	washing machine OR	8
(3)	washing machine with a water factor of 6.0 or less	12
801.4	Showerheads. Showerheads are in accordance with the following:	
(1)	The total showerhead flow rate at any point in time in each shower compartment is 1.6 to less than 2.5 gpm. The total flow rate is tested at 80 psi (552 kPa) in accordance with ASME A112.18.1. Showers are equipped with an automatic compensating valve that complies with ASSE 1016 or ASME A112.18.1 and specifically designed to provide thermal shock and scald protection at the flow rate of the showerhead. Documentation of fixture flow rate must be provided at final plumbing inspection. (Points awarded per showerhead.)	1 3 points max
(2)	All showerheads meet the requirements of 801.4(1). In addition, all showerheads are in compliance with either 801.4(2)(a) or 801.4(2)(b). Documentation of fixture flow rate must be provided at final plumbing inspection.	
(a)	2.0 to less than 2.5 gpm	1 Additional Point
(b)	1.6 to less than 2.0 gpm	2 Additional Points

	For SI: 1 gallon per minute = 3.785 L/m	
(3)	Manual shower shutoff	2 per shutoff
801.5	Faucets	
801.5.1	Water-efficient lavatory faucets with 1.5 gpm (5.68 L/m) or less maximum flow rate when tested at 60 psi (414 kPa) in accordance with ASME A112.18.1 are installed and documentation of flow rate must be provided at plumbing final inspection:	
(1)	a bathroom	1
	(Points awarded for each bathroom)	3 Points Max
(2)	all lavatory faucets	2 Additional Points
801.5.2	pedal-activated faucet is installed to enable intermittent on/off operation.	1
	(Points awarded per fixture.)	3 Points Max
801.6	Water Closets and Urinals. Water closets and urinals are in accordance with the following and if the gallons per flush rate is not printed on the fixture then documentation of the flush rate must be provided at the plumbing final inspection:	
	(For water closets, points awarded for either Section 801.6 or 802.2, not both.)	
(2)	A water closet is installed with an effective flush volume of 1.28 gallons (4.85 L) or less when tested in accordance with ASME A112.19.2 (all water closets) and ASME A112.19.14 (all dual flush water closets), and is in accordance with EPA WaterSense Tank-Type High-Efficiency Toilet.	6
	(Points awarded per fixture.)	18 Points Max
(3)	A urinal is installed with a flush volume of 0.5 gallons (1.9 L) or less when tested in accordance with ASME A112.19.2.	4
	(Points are awarded per fixture.)	4 Points Max
(4)	All water closets and all urinals are in accordance with Section 801.6(2) or Section 801.6(3), as applicable.	6 Additional Points

801.7	Irrigation Systems	
801.7.1	A low-volume irrigation system is installed:	-
(2)	drip irrigation OR	4
(3)	bubblers OR	4
(4)	drip emitters OR	4
(5)	soaker hose	4
(6)	subsurface irrigation	6
801.7.2	Irrigation system is in accordance with both of the following:	3
(1)	designed by a professional in accordance with EPA WaterSense requirements or equivalent	
(2)	Installed in accordance with EPA WaterSense program, or equivalent.	
801.7.3	Irrigation system is zoned separately for areas with different watering needs (hydrozoning).	2
801.7.4	The irrigation system(s) is controlled by a smart controller	
(1)	Evapotranspiration (ET) based irrigation controller with a rain sensor	4
(2)	Soil moisture sensor based irrigation controller	4
(3)		15

	No irrigation is installed and a landscape plan is developed in accordance with Section 503.5, as applicable.	
801.8	Rainwater Collection and Distribution. Rainwater collection and distribution is provided in an active system.	
(1)	Rainwater is collected and used	-
(a)	1 gallon per square foot for 100% of roofed area is collected and at least 60% of the roof area is collected.	10
(b)	1 gallon per square foot for 75% of roofed area is collected and at least 50% of the roof area is collected.	8
(c)	1 gallon per square foot for 50% of roofed area is collected and at least 40% of the roof area is collected.	6
(2)	Rainwater is distributed using a renewable energy source or gravity.	2
(3)	Rainwater that is collected in (1) above is used in an irrigation system as described in 801.7.1	10
802	Innovative Practices	
802.1	Gray Water. Gray water, as specified in ICC IRC, Appendix O, is separated and reused, as permitted by local building code. [Points awarded for either Section 802.1(1) or 802.1(2), not both.]	
(2)	irrigation from reclaimed or recycled water on-site	10
802.2	Composting or Waterless Toilets and/or Urinals. Composting or waterless toilets and/or urinals are in accordance with the following: (For water closets, points awarded for either Section, 802.2 or 801.6, not both)	24 Points Max
(2)	Composting or waterless toilet and/or urinal is installed (Points awarded per fixture)	8
(3)	All toilets and urinals are in accordance with Section 802.2(2).	8 Additional Points
802.3	Automatic Shutoff Water Devices. One of the following automatic shutoff water supply devices is installed. Where a fire sprinkler system is present, installer is to ensure that device will not interfere with the operation of the fire sprinkler system.	2
(1)	excess water flow shutoff	
(2)	leak detection system	
802.4	A real-time water use meter device is installed where the home occupant can easily see and monitor the home's water use like a KopyKap	4
802.5	Recirculating water pump is triggered by either a motion sensor or is switch activated	4
802.6	Rough plumbing shall be installed for future use of gray water for landscaping from at least one plumbing fixture. This item is required.	Mandatory
802.6A	Additional gray water connections. (1 point per connection over 1)	4 points max
TOTAL REQUIRED:		
	0 - 3000 HSF	18
	3001- 5000 HSF	28

(Ord. #2014-11, § 3)

**Chapter 9
Indoor Environmental Quality**

Item #	Green Building Practices	Points
901	Pollutant Source Control	
901.0	Intent. Pollutant sources are controlled.	
901.1	Space and Water Heating Options	
901.1.1	Natural draft space heating or water heating equipment is not located in conditioned spaces, including conditioned crawlspaces. Natural draft equipment is permitted to be installed within the conditioned spaces if located in a mechanical room that has an outdoor air source, and is otherwise sealed and insulated to separate it from the conditioned space(s).	5
901.1.2	Air handling equipment or return ducts are not located in the garage, unless placed in isolated, air-sealed mechanical rooms with an outside air source.	5
901.1.3	The following combustion space heating and water heating equipment is installed within conditioned space:	
(1)	Direct vent (sealed combustion) furnace or boiler	5
(2)	Water heater	
(a)	power vent water heater	3
(b)	direct vent (sealed combustion) water heater	5
901.1.4	The following electric equipment is installed:	
(1)	Heat pump air handler in unconditioned space	2
(2)	Heat pump air handler in conditioned space	5
901.2	Fireplaces and Fuel-Burning Appliances: Fireplaces and fuel-burning appliances (except cooking appliances, clothes dryers, water heaters, and furnaces) located in conditioned spaces are in accordance with the following: [Section 901.2.1(2)(a) is not mandatory.]	Mandatory
901.2.1	Fireplaces and natural draft fuel-burning appliances are code compliant, vented to the outdoors, and have adequate combustion and ventilation air provided to minimize spillage or back-drafting, in accordance with the following, as applicable.	
(2)	Solid fuel-burning appliances are in accordance with the following requirements:	
(a)	All wood-burning fireplaces are equipped with gasketed doors designed to operate with the doors closed, outside combustion air, and a means is provided for sealing the flue to minimize interior air (heat) loss when not in operation.	4
(b)	Factory-built, wood-burning fireplaces are in accordance with the certification requirements of UL 127 and are EPA certified.	6
(c)		6

	Wood stove and fireplace inserts, as defined in UL 1482 Section 3.8, are in accordance with the certification requirements of UL 1482 and are in accordance with the emission requirements of the EPA Certification and the State of Washington WAC 173-433-100(3).	
(d)	Pellet (biomass) stoves and furnaces are in accordance with the requirements of ASTM E 1509 or are EPA certified.	6
(e)	Masonry heaters are in accordance with the definitions in ASTM E1602 and ICC IBC, Section 2112.1.	6
901.2.2	Fireplaces, woodstoves, pellet stoves, or masonry heaters are not installed.	7

901.3	Garages. Garages are in accordance with the following:	
(1)	Attached garage	
(b)	A continuous air barrier is provided between walls and ceilings separating the garage space from the conditioned living spaces.	Mandatory 2
(c)	For one- and two-family dwelling units, a 100 cfm (47 L/s) or greater ducted, or 70 cfm (33 L/s) or greater unducted wall exhaust fan is installed and vented to the outdoors, designed and installed for continuous operation, or has controls (e.g., motion detectors, pressure switches) that activate operation for a minimum of 1 hour when either human passage door or roll-up automatic doors are operated. For ducted exhaust fans, the fan airflow rating and duct sizing are in accordance with Appendix A.	4
(2)	A carport is installed, the garage is detached from the building, or no garage is installed.	10

902 Pollutant Control

902.0	Intent. Pollutants generated in the building are controlled.	
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902.1	Spot ventilation	
902.1.1	Spot ventilation is in accordance with the following:	
(1)	Bathrooms are vented to the outdoors. The minimum ventilation rate is 50 cfm (23.6 L/s) for intermittent operation or 20 cfm (9.4 L/s) for continuous operation in bathrooms.	Mandatory
(3)	Kitchen exhaust units and/or range hoods are ducted to the outdoors and have a minimum ventilation rate of 100 cfm (47.2 L/s) for intermittent operation or 25 cfm (11.8 L/s) for continuous operation.	8
902.1.2	Bathroom and/or laundry exhaust fan is provided with an automatic timer, motion sensor, and/or humidistat:	9 Points Max
(1)	for first device	5
(2)	for each additional device	2
902.1.4	Exhaust fans are ENERGY STAR, as applicable.	6 Points Max
(1)	ENERGY STAR, or equivalent, fans (Points awarded per fan.)	2
(2)	ENERGY STAR, or equivalent, fans operating at or below 1 sone (Points awarded per fan.)	3

902.2	Building ventilation systems	
902.2.1	One of the following whole building ventilation systems is implemented and is in accordance with the following formula: CFM	Mandatory

	fan flow continuous = (heated square footage X .01) + (7.5 X (number of bedrooms +1)). Note: Continuous flow rate can also be achieved, for example, by two fans continuous at half the rate or by doubling the fan flow over half the time, with a timer.	
(1)	exhaust or supply fan(s) ready for continuous operation and with appropriately labeled controls	8
(2)	balanced exhaust and supply fans with supply intakes located in accordance with the manufacturer's guidelines so as to not introduce polluted air back into the building.	10
(3)	heat-recovery ventilator installed with balanced exhaust and supply fans with supply intakes located in accordance with the manufacturer's guidelines so as to not introduce polluted air back into the building	15
(4)	energy-recovery ventilator installed with balanced exhaust and supply fans with supply intakes located in accordance with the manufacturer's guidelines so as to not introduce polluted air back into the building	17
902.2.2	Ventilation airflow is tested to achieve the design fan airflow at point of exhaust in accordance with Section 902.2.1 by a qualified third party and a report provided to the City of Santa Fe Inspection Division.	8

902.3	Radon control. Radon control measures are in accordance with ICC IRC Appendix F.	
(1)	Buildings located in Zone 1 (Santa Fe)	Mandatory
(a)	a passive radon system is installed with an electric supply to be able to add a fan in the future if needed.	10
(b)	an active system is installed	15

902.4	HVAC system protection. HVAC system protection measure is performed.	
(1)	HVAC supply registers (boots), return grilles, and duct terminations are covered during construction activities to prevent dust and other pollutant from entering the system. HVAC may be run once the thermal envelope is completed during cold weather if run with filters and if cleaned after construction is complete.	3 (Mandatory)

902.5	Central vacuum system. Central vacuum system is installed and vented to the outside.	5
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902.6	Living space contaminants. The living space is sealed to prevent unwanted contaminants and third-party verified.	
(1)	Attic access, knee wall door, or drop down stair is caulked, gasketed, or otherwise sealed.	2 Mandatory
(2)	All penetrations (e.g., top plates, HVAC register boots, recessed can lights) are sealed in the following areas:	
(a)	attic /ceiling	2 Mandatory
(b)	wall	2 Mandatory

(c)	floors	2 Mandatory
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903 Moisture Management: Vapor, Rainwater, Plumbing, HVAC

903.0	Intent. Moisture and moisture effects are controlled.	
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903.5	Plumbing	
903.5.1	Plumbing supply distribution lines are not installed horizontally in exterior wall cavities.	2
903.5.2	Cold water pipes in unconditioned spaces are insulated to a minimum of R-4 with pipe insulation or other covering that adequately prevents condensation.	2
903.5.3	Plumbing is not installed in unconditioned spaces.	5

903.6	Duct insulation. All HVAC ducts, plenums, and trunks in unconditioned attics, basements, and crawlspaces are sealed with UL181 tape or mastic and insulated to a minimum of R-6. Outdoor air supplies to ventilation systems are sealed with UL181 tape or mastic and insulated to a minimum of R-6.	
(1)	insulated to a minimum of R-6	Mandatory
(2)	insulated to a minimum of R-8.	2

904 Innovative Practices

904.4	Use non PVC materials for water supply lines including the service to the house.	4
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904.5	Use no carpet or vinyl flooring	4
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TOTAL REQUIRED 14

**Chapter 10
Operation, Maintenance, and Building Owner Education**

Item #	Green Building Practices	Points
1001	Building Owner's Manual for One- and Two-Family Dwellings	
1001.0	Intent. Information on the building's use, maintenance, and green components is provided.	
1001.1	A building owner's manual is provided that includes the following, as available and applicable. (Points awarded per two items. Points awarded for both mandatory and non-mandatory items.)	1
(1)	A green building program certificate or completion document	Mandatory
(2)	List of green building features (can include the national green building checklist).	Mandatory

(3)	Product manufacturer's manuals or product data sheet for installed major equipment, fixtures, and appliances, including any alternative energy systems. If product data sheet is in the building owner's manual, manufacturer's manual may be attached to the appliance in lieu of inclusion in the building owner's manual.	Mandatory
(4)	Information on local recycling programs.	
(5)	Information on available local utility or other energy provider programs that purchase a portion of energy from renewable energy providers.	
(6)	Explanation of the benefits of using energy-efficient lighting systems [e.g., compact fluorescent light bulbs, light emitting diode (LED)] in high-usage areas.	
(7)	A list of practices to conserve water and energy.	
(8)	Local public transportation options.	
(9)	A diagram showing the location of safety valves and controls for major building systems.	Mandatory
(10)	Where frost-protected shallow foundations are used, owner is informed of precautions including:	
(a)	instructions to not remove or damage insulation when modifying landscaping.	
(b)	providing heat to the building as required by the ICC IRC or UMC	
(c)	keeping base materials beneath and around the building free from moisture caused by broken water pipes or other water sources.	
(11)	A list of local service providers that offer regularly scheduled service and maintenance contracts to ensure proper performance of equipment and the structure (e.g., HVAC, water-heating equipment, sealants, caulks, gutter and downspout system, shower and/or tub surrounds, irrigation system).	
(12)	A photo record of framing with the utilities installed. Photos are taken prior to installing insulation, clearly labeled, and included as part of the building owner's manual.	
(13)	Maintenance checklist.	
(14)	List of common hazardous materials often used around the building and instructions for proper handling and disposal of these materials.	
(15)	Information on organic pest control, fertilizers, deicers, and cleaning products.	
(16)	Information on native landscape materials and/or those that have low-water requirements.	
(17)	Information on methods of maintaining the building's relative humidity in the range of 30 percent to 60 percent.	
(18)	Instructions for inspecting the building for termite infestation.	
(19)	Instructions for maintaining gutters and downspouts and importance of diverting water a minimum of 5 feet away from foundation.	
(20)	A narrative detailing the importance of maintenance and operation in retaining the attributes of a green-built building.	
(21)	Information regarding cost effective window treatments	
(22)	Information about protecting the home from fire danger	
(23)	Instructions for maintaining solar systems employed in the home (only available if solar systems are employed in the home)	Mandatory
(24)	Provide homeowner with information about mulching and composting	

1002

Training of Building Owners on Operation and Maintenance for One- and Two-Family Dwellings and Multi-Unit Buildings

1002.1	Training of building owners. Building owners/occupants are familiarized with the green building goals and strategies implemented and the impacts of the occupants' practices on the costs of operating the building. Training is provided to the responsible party(ies) regarding all equipment operation and control systems. Systems include, but are not limited to, the following:	6
(1)	HVAC filters or boiler maintenance	
(2)	thermostat operation and programming	
(3)	lighting controls	
(4)	appliances and settings	
(5)	water heating settings	
(6)	fan controls	
(7)	the irrigation system	
(8)	catchment system maintenance	
(9)	all other equipment	

1004 Innovative Practices

1004.1	(Reserved)	
1004.2	Translate homeowner documents into Spanish and make both available to homeowner	6

TOTAL REQUIRED 8

**Chapter 11
REMODELING**

Item #	Green Building Practices	City Green Co Points
11.3	COMPLIANCE AND APPLICABILITY	
11.305.1	Compliance. Compliance with Section 305 is mandatory.	
11.305.2	Compliance options. The criteria for existing buildings shall be in accordance with Section 305.3 for whole-building ratings or additions greater than 400 sf or Section 305.4 for compliance designations of building functional areas and additions under 400 sf.	
11.305.3	Whole-building rating criteria	
11.305.3.1	Applicability. The provisions of Section 305.3 shall apply to remodeling of existing buildings that effect 50% or more of the existing conditioned floor area and additions of 400 conditioned sf or greater. In addition to the foundation, at least one major structural system (such as walls) of the existing building shall remain in place after the remodel for the building to be eligible for compliance under Section 305.3. If less of the building remains than needed to be eligible for compliance under Section 305.3 then the Santa Fe Residential Green Building Code for new buildings shall apply.	
11.305.3.1.1		

	Additions. For a remodeled building that meets the applicability for meeting the provisions of Section 305.3 and that includes an addition, the entire building including the addition shall comply with the criteria of Section 305.3.	
11.305.3.3	Mandatory practices. For additions and remodels that must comply with Chapter 11, the building, including any additions and common areas, shall satisfy all practices designated as mandatory in Chapter 11.	
11.305.3.4	Required points for Chapter 11. A minimum number of 40 points shall be achieved in Chapter 11 in any category.	
11.5	LOT DESIGN, PREPARATION AND DEVELOPMENT	
11.500.0	Intent: This section applies to the lot and changes to the lot due to remodeling of an existing building. This section does not apply if there is no landscaping or site work in the project.	
11.503	LOT DESIGN	
11.503.0	Intent. The lot is designed to avoid detrimental environmental impacts first, minimize any unavoidable impacts, and to mitigate for those impacts that do occur. The project is designed to minimize environmental impacts and to protect, restore, and enhance the natural features and environmental qualities of the lot. (Points awarded only if the intent of the design is implemented)	
11.503.1	Natural resources. Natural resources are conserved by one or more of the following:	
(4)	Basic training in tree or other natural resource protection is provided for the on-site supervisor.	4
11.503.5	Landscape Plan: A landscape plan for the lot is developed to limit water and energy use while preserving or enhancing the natural environment. (Where "front" or "rear" only plan is implemented, only half of the points (rounded down to a whole number) are awarded for Items (1)-(6))	
(2)	Vegetation and trees are selected that are native or regionally appropriate for local growing conditions are selected and specified on the lot plan.	4
(3)	The percentage of cool season turf areas is limited and shown on the lot plan. The percentage is based on the landscaped area of the lot not including the home footprint, hardscape, and any undisturbed natural areas.	
(a)	0 percent	5
(4)	Plants with similar watering needs are grouped (hydro zoning) and shown on the lot plan.	5
11.504	LOT CONSTRUCTION	
11.504.0	Intent: Environmental impact during construction is avoided to the extent possible; impacts that do occur are minimized, and any significant impacts are mitigated.	

11.504.2	Trees and vegetation: Designated trees and vegetation are preserved by one or more of the following:	
(1)	fencing or equivalent is installed to protect trees and other vegetation.	3
(2)	Trenching, significant changes in grade, and compaction of soil and critical root zones in "tree save" areas as shown on the lot plan are avoided.	5
11.505	INNOVATIVE PRACTICES	
11.505.0	Intent: Innovative lot design, preparation and development practices are used to enhance environmental performance. Waivers or variances from development regulations are obtained, and innovative zoning is used to implement such practices.	
(1)	Hardscape: Not less than 50 percent of the surface area of the hardscape on the lot meets one or a combination of the following methods.	5
(c)	Permeable hardscaping: Permeable hardscaping materials are installed.	
(2)	Roofs: Not less than 75 percent of the exposed surface of the roof is in accordance with one or a combination of the following methods.	5
(a)	Minimum initial SRI of 78 for a s low-sloped roof (a slope less than or equal to 2:12) and a minimum initial SRI of 29 for a steep-sloped roof (a slope of more than 2:12). The SRI is calculated in accordance with ASTM E1980. Roof products shall be certified and labeled.	
11.601	QUALITY OF CONSTRUCTION MATERIALS AND WASTE	
11.601.0	Intent: Design and construction practices that minimize the environmental impact of the building materials are incorporated, environmentally efficient building systems and materials are incorporated, and waste generated during construction is reduced.	
11.601.1	Conditioned Floor Area: Finished floor area of a dwelling unit after remodeling is limited. Finished floor area is calculated in accordance with NAHBRC Z765. Only the finished floor area for stories above grade plane is to be included in the calculation.	
(1)	less than or equal to 1,000 square feet (93 m ²)	15
(2)	less than or equal to 1,500 square feet (139 m ²)	12
(3)	less than or equal to 2,000 square feet (186 m ²)	9
(4)	less than or equal to 2,500 square feet (232 m ²)	6
(5)	greater than 4,000 square feet (372 m ²)	Mandatory
	(For every 100 square feet (9.29 m²) over 4,000 square feet (372 m²), one point is to be added to the threshold points to maximum of 60 required points.)	
11.601.2	New Work-Material Usage: Newly installed structural systems are designed or construction techniques are implemented that reduce and optimize material usage.	9 Points max
	(Points awarded only when the newly installed portion of each structural system comprises at least 25% of the total area of that structural system after the remodel).	

(1)	24" OC framing	3
(2)	Single top-plate - exterior and bearing walls	3
(3)	Single top-plate - interior non-bearing partitions	3
(4)	Right-sized headers or insulated box headers	3
(5)	No headers in non-bearing partitions	3
(6)	Ladders at perpendicular wall intersections	3
(7)	Two-stud exterior corner framing ore equivalent	3
(8)	Doubling the rim joist in lieu of header	3
(9)	Ladder blocking or equivalent at intersection of interior wall and exterior wall.	3
(10)	Ladder blocking or equivalent at all interior wall intersections	3
(11)	Other (specify and provide detail)	3
11.601.5	Prefabricated components. Precut or preassembled components, or panelized or precast assemblies are utilized for a minimum of 90 percent for the following system or building:	13 max
	(Points are awarded only when the newly installed system comprises at least 25 percent of the total area of that system of the building after the remodel)	
(1)	floor system	4
(2)	wall system	4
(3)	roof system	4
(4)	modular construction for any new construction located above grade	13
11.601.6	Stacked Stories: Stories above grade are stacked, such as in 1 1/2-story, 2-story, or greater structures. The area of the upper floor is a minimum of 50 percent of the area of the story below, based on areas with a minimum ceiling height of 7 feet (2134 mm).	8 Max
(1)	first stacked story	4
(2)	for each additional stacked story	2
11.601.7	Site-applied Finishing Materials: Building materials or assemblies listed below that do not require additional site-applied material for finishing are incorporated into the building.	12 Max
(a)	pigmented, stamped, decorative, or final finish for all new concrete or masonry	5
(b)	Use no trim on all new or replaced doors and window counting both interior and exterior and both sides of internal doors.	5
11.602	ENHANCED DURABILITY AND REDUCED MAINTENANCE	
11.602.0	Intent: Design and construction practices are implemented that enhance the durability of materials and reduce in-service maintenance.	
11.602.1	Moisture Management - Building Envelope	
11.602.1.2	Foundation waterproofing. Enhanced foundation waterproofing is installed in all new foundations, and on not less than 25 percent of the foundation after the remodel using one or both of the following:	4
(1)	rubberized coating, or	

(2)	drainage mat	
11.602.1.5	Termite Barrier: Continuous physical foundation termite barrier used with low toxicity treatment or with no chemical treatment is installed.	4
11.602.10	Exterior Doors: Entries at exterior door assemblies, inclusive of side lights, are covered by one of the following methods to protect the building from the effects of precipitation and solar radiation. A projection factor of 0.375 minimum is provided. (a) installing a porch roof or awning (b) extending the roof overhang (b) recessing the exterior door	2 per exterior door Max
11.602.1.12	Roof Overhangs: Fixed permanent roof overhangs, including portals, in accordance with Table 11.602.1.12, are provided over a minimum of 90 percent of exterior walls for sloped roofs or portals that cover 50% or more of the wall area for flat roofed buildings to protect the building envelope.	4

**Table 11.602.1.12
Minimum Roof Overhang for One- & Two-Story Buildings**

Inches Rainfall ⁽¹⁾	Eave Overhang (inches)	Rake Overhang (inches)
≤40	12	12
>41 to ≤70	18	12
>70	24	12

⁽¹⁾Annual mean total precipitation in inches in accordance with Figure 6(2)
For SI: 1 foot = 304.8 mm

11.603	REUSED OR SALVAGED MATERIALS	
11.603.0	Intent: Practices that reuse or modify existing structures, salvage materials for other uses, or use salvaged materials in the building's construction are implemented.	
11.603.1	Reuse of Existing Building: Major elements or components of existing buildings and structures are reused, modified, or deconstructed for later use. (Points awarded for every 200 square feet (18.5 m²) of floor area)	1 12 Max
11.603.3	Scrap Materials: Sorting and reuse of scrap building materials is facilitated (e.g., a central storage area or dedicated bins are provided).	4
11.604	RECYCLED-CONTENT BUILDING MATERIALS	
11.605	RECYCLED CONSTRUCTION WASTE	
11.605.0	Intent: Waste generated during construction is recycled. All waste classified as hazardous is properly disposed of.	
11.605.2	Construction Waste Management Plan: A construction waste management plan is developed, posted at the jobsite, and implemented with a goal of recycling or salvaging a minimum of 50 percent (by weight) of construction waste.	6

11.608	RESOURCE EFFICIENT MATERIALS	
11.608.1	Resource-efficient materials. Products containing fewer materials are used to achieve the same end-use requirements as conventional products, including but not limited to:	9 Max 3 per each mate
(2)	engineered wood or engineered steel products	
(3)	roof or floor trusses	
11.611.3	Universal Design Elements: Dwelling incorporates one or more of the following universal design elements. Conventional industry tolerances are permitted.	10 Max
(1)	Any no-step entrance into the dwelling which (1) is accessible from a substantially level parking or drop-off area (no more than 2%) via an accessible path which has no individual change in elevation or other obstruction of more than 1-1/2 inches in height with a pitch not exceeding 1 in 12 and (2) provides a minimum 32-inch wide clearance into the dwelling.	3
(2)	Minimum 36-inch wide accessible route from the no-step entrance into at least one visiting room in the dwelling and into at least one full or half bathroom which has a minimum 32 inch clear door width and a 30-inch by 48-inch clear area inside the bathroom outside the door swing.	3
(3)	Minimum 36-inch wide accessible route from the no-step entrance into at least one bedroom which has a minimum 32 inch clear door width.	3
(4)	Blocking or equivalent installed in the accessible bathroom walls for future installation of grab bars at water closet and bathing fixture, if applicable.	1
11.611.4	Modular Building Dimensions. Frame structures or structures made with modular units are designed on 16- or 24-inch dimensions.	2
11.611.5	Use structural vigas, beams, or posts (from less than 300 miles away) (does not apply to decorative vigas) (1 point per installed 10 linear feet)	10 Max
11.611.6	Structural insulated panels (SIPS) used for the exterior:	
(1)	Walls	5
(2)	Roof	5
11.611.7	Drainage from canales is done in accordance with all of the following:	5
(1)	Waterproof the foundation behind the splash area and extending 3 feet in both directions.	
(2)	Install an impermeable liner in splash area under canale.	
(3)	Liner or other collector guides water away from structure sloping a minimum of 6 inches over 6 feet for a minimum of 6 feet away from structure.	
11.701	MINIMUM ENERGY EFFICIENCY REQUIREMENTS	
11.701.4.3	Insulation and air sealing,	
11.701.4.3.1	Building Thermal Envelope. The building thermal envelope exposed or created during the remodel is durably sealed to limit infiltration. The sealing methods between dissimilar materials allow for differential expansion and contraction. The following are caulked, gasketed,	Mandatory

	weather-stripped or otherwise sealed with an air barrier material, suitable film or solid material:	
(a)	All joints, seams and penetrations.	
(b)	Site-built windows, doors and skylights.	
(c)	Openings between window and door assemblies and their respective jambs and framing.	
(d)	Utility penetrations.	
(e)	Dropped ceiling or chases adjacent to the thermal envelope.	
(f)	Knee walls.	
(g)	Walls and ceilings separating a garage from conditioned spaces.	
(h)	Behind tubs and showers on exterior walls.	
(i)	Common walls between dwelling units.	
(j)	Attic access openings.	
(k)	Rim joist junction.	
(l)	Other sources of infiltration.	

11.701.4.3.2	Air Sealing and insulation. Grade 3 insulation installation is not permitted. The compliance of the building envelope tightness and insulation installation is demonstrated in accordance with Section 11.701.4.3.2(1) or 11.701.4.3.2(2).	Mandatory
(1)	Testing Option: Building envelope tightness and insulation installation is considered acceptable when air leakage is less than seven air changes per hour (ACH) when tested with a blower door at a pressure of 33.5 psf (50 Pa). Testing is conducted after rough-in and after installation of penetrations of the building envelope, including penetrations for utilities, plumbing, electrical, ventilation and combustion appliances. Testing is conducted under the following conditions:	
(a)	Exterior windows and doors, fireplace and stove doors are closed, but not sealed;	
(b)	Dampers are closed, but not sealed, including exhaust, intake, makeup air, backdraft, and flue dampers;	
(c)	Interior doors are open;	
(d)	Exterior openings for continuous ventilation systems and heat recovery ventilators are closed and sealed;	
(e)	Heating and cooling system(s) is turned off;	
(f)	HVAC duct terminations are not sealed; and	
(g)	Supply and return registers are not sealed.	
(2)	Visual inspection option. Building envelope tightness and insulation installation are considered acceptable when the items listed in Table 11.701.4.3.2(2) applicable to the method of construction and exposed and visible during the remodel, are field verified by an approved third party and a report verifying compliance is provided to the City's Inspection Division.	

Table 11.701.4.3.2(2)

Air Barrier and Insulation Inspection Component Criteria

Component	Criteria	Criteria
Air barrier and thermal barrier		<ul style="list-style-type: none"> Exterior thermal envelope

		insulation for framed walls is installed in substantial contact and continuous alignment with building envelope air barrier.	
		<ul style="list-style-type: none"> • Breaks or joints in the air barrier are filled or repaired. 	
		<ul style="list-style-type: none"> • Air-permeable insulation is not used as a sealing material. 	
		<ul style="list-style-type: none"> • Air-permeable insulation is not installed with an air barrier. 	
	Ceiling/Attic	<ul style="list-style-type: none"> • Air barrier in dropped ceiling/soffit is substantially aligned with insulation and any gaps are sealed. 	
		<ul style="list-style-type: none"> • Attic access (except unvented attic), knee wall door, or dropdown stair is sealed. 	
	Exterior Walls	<ul style="list-style-type: none"> • Corners and headers are insulated. 	
		<ul style="list-style-type: none"> • Junction of foundation and sill plate is sealed. 	
	Windows and doors	<ul style="list-style-type: none"> • Space between windows/ door jambs is sealed. 	
	Rim joints	<ul style="list-style-type: none"> • Rim joists are insulated and 	

		include an air barrier.	
	Floors (including above-garage and cantilevered floors)	<ul style="list-style-type: none"> • Insulation is installed to maintain permanent contact with underside of subfloor decking. 	
		<ul style="list-style-type: none"> • Air barrier is installed at any exposed edge of insulation. 	
	Crawlspace walls	<ul style="list-style-type: none"> • Where installed, insulation is permanently attached to walls. 	
		<ul style="list-style-type: none"> • Exposed earth in unvented crawlspaces is covered with Class I vapor retarder with overlapping joints taped. 	
	Shafts, penetrations	<ul style="list-style-type: none"> • Duct shafts, flue shafts, and utility penetrations, opening to the exterior or an unconditioned space are sealed. 	
	Narrow cavities	<ul style="list-style-type: none"> • Batts in narrow cavities are cut to fit, or narrow cavities are filled by sprayed/blown insulations. 	
	Garage separation	<ul style="list-style-type: none"> • Air sealing is provided between the garage and conditioned spaces. 	
	Recessed lighting		

		<ul style="list-style-type: none"> • Recessed light fixtures not installed in the conditioned space are air tight, IC rated, and sealed to drywall. 	
	Plumbing and wiring	<ul style="list-style-type: none"> • Insulation is placed between the outside and pipes. Batt insulation is cut to fit around wiring and plumbing, or sprayed/blown insulation extends behind piping and wiring. 	
	Shower/tub adjacent to exterior wall	<ul style="list-style-type: none"> • Showers and tubs adjacent to exterior walls have insulation and an air barrier separation from the exterior. 	
	Electrical/phone box in exterior walls	<ul style="list-style-type: none"> • Air barrier extends behind boxes or air sealed-type boxes are installed. 	
	Common wall	<ul style="list-style-type: none"> • Air barrier is installed in common walls between dwelling units. 	
	HVAC register boots	<ul style="list-style-type: none"> • HVAC register boots that penetrate building envelope are sealed to subfloor or drywall. 	
	Fireplace		

		• Fireplace walls include an air barrier.	
11.701.4.3.3	Fenestration air leakage. Newly installed windows, skylights and sliding glass doors have an air filtration rate of no more than 0.3 cfm per square foot (1.5 L/s/m ²), and swinging doors no more than 0.5 cfm per square foot (2.6 L/s/m ²), when tested in accordance with NFRC 400 or AAMA/WDMA/CSA 101/I.S.2/A440 by an accredited, independent laboratory and tested and labeled. This practice does not apply to site-build windows, skylights and doors.		Mandatory
11.701.4.3.5	Recessed lighting. Newly installed recessed luminaires installed in the building thermal envelope are sealed to limit air leakage between conditioned and unconditioned spaces. All recessed luminaires are IC-rated and labeled as meeting ASTM E 283 when tested at 1.57 psf (75 Pa) pressure differential with no more than 2.0 cfm (0.944 L/s) of air movement from the conditioned space to the ceiling cavity. All recessed luminaires are sealed with a gasket or caulk between the housing and the interior of the wall or ceiling covering.		Mandatory
11.701.4.4	High-efficiency lighting. A minimum of 50 percent of the newly installed hard-wired lighting fixtures, or the bulbs in those fixtures, qualify as high efficacy or equivalent.		Mandatory
11.701.4.5	Boiler supply piping. Boiler supply piping in unconditioned space that is accessible during the remodel is insulated.		Mandatory
11.901	POLLUTANT SOURCE CONTROL		
11.901.0	Intent. Pollution sources are controlled		
11.901.1	Space and water heating options		
11.901.1.1	Natural draft furnace, boilers, or water heaters are not located in conditioned spaces, including conditioned crawlspaces, unless located in a mechanical room that has an outdoor air source and is sealed and insulated to separate it from the conditioned space(s). (points are awarded only for buildings that use natural draft combustion space or water heating equipment.)		5
11.901.1.2	Air handling equipment or return ducts are not located in the garage, unless placed in isolated, air-sealed mechanical rooms with an outside air source.		5
11.901.1.3	The following combustion space heating and water heating equipment is installed within conditioned space:		
(1)	all furnaces or boilers		
(a)	power vent furnace(s) or boiler(s)		3
(b)	direct vent (sealed combustion) furnace(s) or boiler(s)		5
(2)	all water heaters		
(a)	power vent water heater(s)		3
(b)	direct vent (sealed combustion) water heater(s)		5
11.901.1.4			Mandatory

	Newly installed gas-fired fireplaces and direct heating equipment is listed and is installed in accordance with the NFPA 54, ICC IFG, or the applicable local gas appliance installation code. Gas-fired fireplaces and direct heating equipment are vented to the outdoors.	
11.901.1.6	The following electric equipment is installed:	
(1)	Heat pump air handler in unconditioned space	2
(2)	Heat pump air handler in conditioned space	5
11.901.2.1	Newly installed solid fuel-burning fireplaces, inserts, stoves and heaters are local code compliant and are in accordance with the following requirements:	Mandatory
(1)	Site-built masonry wood-burning fireplaces are equipped with outside combustion air and a means of sealing the flue and the combustion air outlets to minimize interior air (heat) loss when not in operation.	
(2)	Factory-built, wood-burning fireplaces are in accordance with the certification requirements of UL 127 and are EPA certified.	
(3)	Wood stove and fireplace inserts, as defined in UL 1482 Section 3.8, are in accordance with the certification requirements of UL 1482 and are in accordance with the emission requirements of the EPA Certification and the State of Washington WAC 173-433-100(3).	
(4)	Pellet (biomass) stoves and furnaces are in accordance with the requirements of ASTM E 1509 or are EPA certified.	
(5)	Masonry heaters are in accordance with the definitions in ASTM E1602 and ICC IBC, Section 2112.1.	
(6)	Removal of or rendering unusable an existing fireplace or fuel burning appliance that is not in accordance with 11.901.2.1 or replacement of each fireplace or appliance that is not in accordance with 11.901.2.1 with a compliant appliance. (Not Mandatory)	7
11.901.3	Garages. Garages are in accordance with the following:	
(1)	Attached garage	
(c)	For one- and two-family dwelling units, a 100 cfm (47 L/s) or greater ducted, or 70 cfm (33 L/s) or greater unducted wall exhaust fan is installed and vented to the outdoors, designed and installed for continuous operation, or has controls (e.g., motion detectors, pressure switches) that activate operation for a minimum of 1 hour when either human passage door or roll-up automatic doors are operated. For ducted exhaust fans, the fan airflow rating and duct sizing are in accordance with Appendix A.	8
(2)	A carport is installed, or a detached garage is installed.	10
11.901.12	Carbon monoxide (CO) alarms. A carbon monoxide (CO) alarm is installed in a central location outside of each separate sleeping area in the immediate vicinity of the bedrooms. The CO alarm(s) is located in accordance with NFPA 720 and where there is existing electrical lines accessible is hard-wired with a battery back-up. The alarm device(s) is certified by a third-party for conformance to either CSA 6.19 or UL 2034. At least one of the CO alarms is capable of detecting CO concentrations as low as 9 ppm and includes a visible display.	Mandatory

Exception: No CO alarms are required when all three of the following conditions are true: 1. There is no attached garage; 2. There are no gas-fired appliances within the conditioned space and; 3. There are no solid fuel burning appliances in the home, including fireplaces.

11.902	POLLUTANT CONTROL	
11.902.0	Intent. Pollutants generated in the building are controlled.	
11.902.1	Spot ventilation.	
11.902.1.1	Spot ventilation is in accordance with the following:	
(1)	Bathrooms are vented to the outdoors. The minimum ventilation rate is 50 cfm (23.6 L/s) for intermittent operation or 20 cfm (9.4 L/s) for continuous operation in bathrooms. (Points are awarded only if a window complying with IRC Section R303.3 is provided in addition to mechanical ventilation.)	Mandatory
(3)	Kitchen exhaust units and/or range hoods are ducted to the outdoors and have a minimum ventilation rate of 100 cfm (47.2 L/s) for intermittent operation or 25 cfm (11.8 L/s) for continuous operation.	8
11.902.1.2	Bathroom and/or laundry exhaust fan is provided with an automatic timer, motion sensor, and/or humidistat:	11 Max
	for first device	5
	for each additional device	2
11.902.1.4	Exhaust fans are ENERGY STAR, as applicable.	12 Max
(1)	ENERGY STAR, or equivalent, fans (Points awarded per fan.)	2
(2)	ENERGY STAR, or equivalent, fans operating at or below 1 sone (Points awarded per fan.)	3
11.902.2	Building ventilation systems	
11.902.2.1	One of the following whole building ventilation systems is implemented and is in accordance with the specifications in Appendix B.	Mandatory when the maximum infiltration rate is less than 5 ACH or no blower door test is performed
(1)	exhaust or supply fan(s) ready for continuous operation and with appropriately leveled controls OR	3
(2)	balanced exhaust and supply fans with supply intakes located in accordance with the manufacturer's guidelines so as to not introduce polluted air back into the building OR	6
(3)	heat-recovery ventilator OR	7
(4)	energy-recovery ventilator	8

11.902.2.2	Ventilation airflow is tested to achieve the design fan airflow at point of exhaust in accordance with Section 11.902.2.1.	4
11.902.2.3	MERV filters 8 or equivalent or greater are installed on central forced air systems and are accessible. Designer or installer is to verify that the HVAC equipment is able to accommodate the greater pressure drop of MERV 8 filters.	3
11.902.3	Radon control , Radon control measures are in accordance with the Santa Fe Residential Green Building Code.	
(1)	All residential buildings shall be tested both prior to, and after, remodeling or an addition and information regarding the potential health risks of radon exposure shall be supplied to the homeowner. Tests shall be consistent with the USEPA measurement protocols from homes or by the American Association of Radon Scientists and Technologists (AARST) "protocols for Radon Measurements in Homes" (MAH September 2005). It is highly recommended that mitigation be performed if the concentrations are at or above 4 pCi/L. It is recommended that remediation be performed if levels are between 2 and 4 pCi/L. NOTE: Some types of construction may increase radon concentrations including actions that reduce natural ventilation or the introduction of sources of radon such as granite. This information is intended as disclosure only for the homeowner to use at their discretion.	Mandatory
(a)	a passive radon system is installed	7
(b)	an active radon system is installed	10
11.902.4	HVAC system protection. The following HVAC system protection measure is performed.	-
(1)	HVAC supply registers (boots), return grilles, and rough-ins are covered during construction activities to prevent dust and other pollutants from entering the system.	3 Mandato
11.902.5	Central vacuum system. Central vacuum system is installed and vented to the outside.	3
11.902.6	Living space contaminants. The living space is sealed in accordance with Section 11.701.4.3.1 to prevent unwanted contaminants and third-party verified.	Mandatory
11.903	MOISTURE MANAGEMENT: VAPOR, RAINWATER, PLUMBING, HVAC	
11.903.0	Intent. Moisture and moisture effects are controlled.	
11.903.1	Plumbing	
11.903.1.1	Cold water pipes in unconditioned spaces are insulated to a minimum of R-4 with pipe insulation or other covering that adequately prevents condensation.	2
11.903.1.2	Plumbing is not installed in unconditioned spaces such as garages, attics, basements or crawl spaces.	5

11.903.2	Duct insulation. Ducts are in accordance with one of the following:	
(1)	All HVAC ducts, plenums, and trunks are in conditioned space.	1
(2)	All HVAC ducts, plenums, and trunks are in conditioned space. All HVAC ducts are insulated to a minimum of R4.	3
11.1001	BUILDING OWNERS' MANUAL	
11.1001.0	Intent. Information on the building's use, maintenance, and green components is provided.	
11.1001.1	A building owner's manual is provided that includes the following, as available and applicable.	1 9 Max
	(Points awarded per two items. Points awarded for both mandatory and non-mandatory items.)	
(1)	A green building program certificate or completion document	Mandatory
(2)	List of green building features (can include the Green Building Code checklist).	Mandatory
(3)	Product manufacturer's manuals or product data sheet for newly installed major equipment, fixtures, and appliances, including any alternative energy systems. If product data sheet is in the building owner's manual, manufacturer's manual may be attached to the appliance in lieu of inclusion in the building owner's manual.	Mandatory
(4)	Maintenance checklist.	
(5)	Information on local recycling programs.	
(6)	Information on available local utility or other energy provider programs that purchase a portion of energy from renewable energy providers.	
(7)	Explanation of the benefits of using energy-efficient lighting systems (e.g., compact fluorescent light bulbs, light emitting diode (LED)) in high-usage areas.	
(8)	A list of practices to conserve water and energy.	
(9)	Local public transportation options.	
(10)	A diagram showing the location of safety valves and controls for major building systems.	Mandatory
(11)	Where frost-protected shallow foundations are used, owner is informed of precautions including:	
(a)	instructions to not remove or damage insulation when modifying landscaping.	
(b)	providing heat to the building as required by the ICC IRC or UMC	
(c)	keeping base materials beneath and around the building free from moisture caused by broken water pipes or other water sources.	
(12)	A list of local service providers that offer regularly scheduled service and maintenance contracts to ensure proper performance of equipment and the structure (e.g., HVAC, water-heating equipment, sealants, caulks, gutter and downspout system, shower and/or tub surrounds, irrigation system).	
(13)	A photo record of framing with the utilities installed. Photos are taken prior to installing insulation, clearly labeled, and included as part of the building owner's manual.	
(14)	List of common hazardous materials often used around the building and instructions for proper handling and disposal of these materials.	
(15)		

	Information on organic pest control, fertilizers, deicers, and cleaning products.	
(16)	Information on native landscape materials and/or those that have low-water requirements.	
(17)	Information on methods of maintaining the building's relative humidity in the range of 30 percent to 60 percent.	
(18)	Instructions for inspecting the building for termite infestation.	
(19)	Instructions for maintaining gutters and downspouts and importance of diverting water a minimum of 5 feet away from foundation.	
(20)	A narrative detailing the importance of maintenance and operation in retaining the attributes of a green-built building.	
(21)	Where stormwater management measures are installed on the lot, information on the location, purpose, and upkeep of these measures.	
(22)	For buildings originally built before 1978, the EPA publications "Reducing Lead Hazards When Remodeling Your Home" and "Asbestos in Your Home: A Homeowner's Guide".	
(23)	Information regarding energy efficient window treatments	
(24)	Information about protecting the home from fire danger	Mandatory
(25)	Instructions for maintaining solar systems employed in the home (only available if solar systems are employed in the home)	Mandatory
(26)	Provide homeowner with information about mulching and composting	
(27)	Provide information about participating in a clean energy program (i.e. purchase energy from PNM Sky Blue).	
(28)	Provide information about water conservation practices and City incentives	Mandatory

11.1002	Training of Building Owners on Operation and Maintenance	
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11.1002.1	Training of building owners.	
	Building owners are familiarized with the role of occupants in achieving green goals. On-site training is provided to the responsible party(ies) regarding newly installed equipment operation and maintenance, control systems, and occupant actions that will improve the environmental performance of the building. These include:	Mandatory
(1)	HVAC filters or boiler maintenance	
(2)	thermostat operation and programming	
(3)	lighting controls	
(4)	appliances operation	
(5)	water heating settings and hot water use	
(6)	fan controls	
(7)	recycling practices	
(8)	the irrigation system	
(9)	catchment system maintenance	
(10)	all other equipment	

11.1004	Innovative Practices	
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11.1004.2	Translate homeowner documents into Spanish and make both available to homeowner	6
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Chapter 12
REMODELING OF FUNCTIONAL AREAS AND SMALL
ADDITIONS

Item #	Green Building Practices
12.00	REMODELING OF FUNCTIONAL AREAS
12.0	Intent. This chapter sets forth the mandatory green practices for remodeling functional areas of buildings. The intent of Chapter 12 is to address the most common remodeling projects: complete kitchen, full bathroom, complete basement, or an addition under 400 square feet. Chapter 12 is not intended to be used for rating minor alterations.
12.305.4	Criteria for remodeling functional areas of buildings
13.305.4.1	Applicability. The provisions of Section 305.4 shall apply to remodeling of one or more of the following functional areas of the existing building as follows:
1.	Addition, kitchen, bathroom, or basement in buildings other than multi-unit buildings.
2.	Kitchen or bathroom of an individual dwelling unit in a multi-unit building
12.305.4.1.1	Additions. The total above-grade conditioned area added during a remodel that are less than 400 conditioned square feet.
12.305.4.2	Compliant. Projects that meet all applicable requirements of Chapter 12 for that functional area shall be designated as <i>compliant</i> .
12.305.4.3	Designation. The designation achieved under Section 305.4 applies only to the specific functional area of the existing building. The existing building may have more than one <i>compliant</i> functional area.
12.305.4.4	Additions. A bathroom(s), kitchen, or finished basement included in an addition shall comply with all criteria specifically applicable to those functional areas in accordance with the provisions of Chapter 12.
305.4.5	Mandatory. Projects shall satisfy all applicable practices designated as mandatory in Chapter 12.
12.305.4.6	Existing attributes. The attributes of the existing building that were in compliance with the applicable provisions of Chapter 12 prior to the remodel and remain in compliance after the remodel shall be eligible for contributing to demonstration of compliance under Section 305.4.
12.701.4.3.1	Building Thermal Envelope. The portions of the building thermal envelope that are exposed or created during the remodel is durably sealed to limit infiltration. The sealing methods between dissimilar materials allow for differential expansion and contraction. The following are caulked, gasketed, weather-stripped or otherwise sealed with an air barrier material, suitable film or solid material:
(a)	All joints, seams and penetrations.
(b)	Site-built windows, doors and skylights.
(c)	Openings between window and door assemblies and their respective jambs and framing.
(d)	Utility penetrations.

(e)	Dropped ceiling or chases adjacent to the thermal envelope.	
(f)	Knee walls.	
(g)	Walls and ceilings separating a garage from conditioned spaces.	
(h)	Behind tubs and showers on exterior walls.	
(i)	Common walls between dwelling units.	
(j)	Attic access openings.	
(k)	Rim joist junction.	
(l)	Other sources of infiltration.	
12.701.4.3.2	Air Sealing and insulation. Grade 3 insulation installation is not permitted for newly installed insulation. The compliance of the portions of the building envelope that are exposed or created during the remodel for air tightness and insulation installation are considered acceptable when the items listed in Table 12.1.701.4.3.2(2) applicable method of construction are field verified.	
	Table 12.1.701.4.3.2(2)	
	Air Barrier and Insulation Inspection Component Criteria	
	Component	Criteria
	Criteria	
	Air barrier and thermal barrier	<ul style="list-style-type: none"> • Exterior thermal envelope insulation for framed walls is installed in substantial contact and continuous alignment with building envelope air barrier.
		<ul style="list-style-type: none"> • Breaks or joints in the air barrier are filled or repaired.
		<ul style="list-style-type: none"> • Air-permeable insulation is not used as a sealing material.
		<ul style="list-style-type: none"> • Air-permeable insulation is not installed with an air barrier.
	Ceiling/Attic	<ul style="list-style-type: none"> • Air barrier in dropped ceiling/soffit is substantially aligned with insulation and any gaps are sealed.
		<ul style="list-style-type: none"> • Attic access (except unvented attic), knee wall door, or dropdown stair is sealed.
	Exterior Walls	<ul style="list-style-type: none"> • Corners and headers are insulated.
		<ul style="list-style-type: none"> • Junction of foundation and sill plate is sealed.
	Windows and doors	<ul style="list-style-type: none"> • Space between windows/door jambs is sealed.
	Rim joints	<ul style="list-style-type: none"> • Rim joists are insulated and include an air barrier.
	Floors (including above-garage and cantilevered floors)	<ul style="list-style-type: none"> • Insulation is installed to maintain permanent contact with underside of subfloor decking.
		<ul style="list-style-type: none"> • Air barrier is installed at any exposed edge of insulation.
	Crawlspace walls	<ul style="list-style-type: none"> • Where installed, insulation is permanently attached to walls.
		<ul style="list-style-type: none"> • Exposed earth in unvented crawlspaces is covered with Class I

		vapor retarder with overlapping joints taped.
	Shafts, penetrations	<ul style="list-style-type: none"> • Duct shafts, flue shafts, and utility penetrations, opening to the exterior or an unconditioned space are sealed.
	Narrow cavities	<ul style="list-style-type: none"> • Batts in narrow cavities are cut to fit, or narrow cavities are filled by sprayed/blown insulations.
	Garage separation	<ul style="list-style-type: none"> • Air sealing is provided between the garage and conditioned spaces.
	Recessed lighting	<ul style="list-style-type: none"> • Recessed light fixtures not installed in the conditioned space are air tight, IC rated, and sealed to drywall.
	Plumbing and wiring	<ul style="list-style-type: none"> • Insulation is placed between the outside and pipes. Batt insulation is cut to fit around wiring and plumbing, or sprayed/blown insulation extends behind piping and wiring.
	Shower/tub adjacent to exterior wall	<ul style="list-style-type: none"> • Showers and tubs adjacent to exterior walls have insulation and an air barrier separation from the exterior.
	Electrical/phone box in exterior walls	<ul style="list-style-type: none"> • Air barrier extends behind boxes or air sealed-type boxes are installed.
	Common wall	<ul style="list-style-type: none"> • Air barrier is installed in common walls between dwelling units.
	HVAC register boots	<ul style="list-style-type: none"> • HVAC register boots that penetrate building envelope are sealed to subfloor or drywall.
	Fireplace	<ul style="list-style-type: none"> • Fireplace walls include an air barrier.
12.1.701.4.3.4	<p>Recessed lighting. Newly installed recessed luminaires installed in the building thermal envelope are sealed to limit air leakage between conditioned and unconditioned spaces. All recessed luminaires are IC-rated and labeled as meeting ASTM E 283 when tested at 1.57 psf (75 Pa) pressure differential with no more than 2.0 cfm (0.944 L/s) of air movement from the conditioned space to the ceiling cavity. All luminaires are sealed with a gasket or caulk between the housing and the interior of the wall or ceiling covering.</p>	
12.1.701.4.4	<p>High-efficiency lighting. A minimum of 50 percent of the hard-wired lighting fixtures and bulbs in the remodeled portion of the building, or the bulbs in those fixtures, qualify as high efficacy or equivalent.</p>	
12.1.701.4.5	<p>Boiler supply piping. Newly installed boiler supply piping in unconditioned space that is accessible during the remodel is insulated.</p>	
12.1.703.5.3		

	Appliances. All newly installed major appliances in the remodeled portion of the building are ENERGY STAR or equivalent.
12.1.901.1.4	Gas-fired equipment. Newly installed gas-fired fireplaces and direct heating equipment is listed and is installed in accordance with the NMAC. Gas-fired fireplaces and direct heating equipment are vented to the outdoors.
12.1.901.2.1	Solid fuel-burning appliances. Newly installed solid fuel-burning fireplaces, inserts, stoves, and heaters are code compliant and are in accordance with the following requirements:
(1)	Site-built masonry wood-burning fireplaces are equipped with outside combustion air and a means of sealing the flue and the combustion air outlets to minimize interior air (heat) loss when not in operation.
(2)	Factory-built, wood-burning fireplaces are in accordance with the certification requirements of UL 127 and are EPA certified.
(3)	Wood stove and fireplace inserts, as defined in UL 1482 Section 3.8, are in accordance with the certification requirements of UL 1482 and are in accordance with the emission requirements of the EPA Certification and the State of Washington WAC 173-433-100(3).
	Pellet (biomass) stoves and furnaces are in accordance with the requirements of ASTM E1509 or are EPA certified.
	Masonry heaters are in accordance with the definitions in ASTM E1602 and ICC IBC, Section 2112.1.
12.1.902.4	HVAC System Protection. One of the following HVAC system protection measures is performed.
(1)	HVAC supply registers (boots), return grilles, and rough-ins are covered during construction activities to prevent dust and other pollutants from entering the system.
12.1.903.2	Duct insulation. All newly installed, exposed, or modified All HVAC ducts, plenums, and trunks in unconditioned attics, basements, and crawl spaces are insulated to a minimum of R-6. Outdoor air supplies to ventilation systems are insulated to a minimum of R-6.
12.2	KITCHEN REMODELS
12.2.0	Applicability. In addition to the practices listed in Section 12.1, the following practices are mandatory for all kitchen remodels.
12.2.607.1	Recycling. Recycling by the occupants is facilitated by means of a built-in collection space in or near the kitchen and an aggregation/collection space in a garage, covered outdoor space, or other area for recycling containers.
12.3	BATHROOM REMODELS
12.3.611.3	Universal design elements. Where existing stud walls are exposed and where new walls are constructed, blocking or equivalent is installed to accommodate the future installation of grab bars at water closet(s) and bathing fixtures(s).

12.3.801.4	Showerheads. The total maximum combined flow rate of all newly installed showerheads that are controlled by a single valve at any point in time in a shower compartment is 1.6 to less than 2.5 gpm. Maximum of two valves are installed per shower compartment. The flow rate is tested at 80 psi (552 kPa) in accordance with ASME A112.18.1. Showerheads are served by an automatic compensating valve that complies with ASSE 1016 or ASME A112.18.1 and specifically designed to provide thermal shock and scald protection at the flow rate of the showerhead.
12.3.801.5.1	Faucets. Newly installed lavatory faucets have a maximum flow rate of 1.5 gpm (5.68 L/m) or less when tested at 60 psi (414 kPa) in accordance with ASME A112.18.1.
12.3.801.6	Water Closets. All newly installed water closets have an effective flush volume of 1.28 gallons (4.85 L) or less when tested in accordance with ASME A112.19.2 or ASME A112.19.14, as applicable, and is in accordance with EPA WaterSense Tank-Type Toilets.
12.4	BASEMENT REMODELS
12.4.0	Applicability. In addition to the practices listed in Section 12.1, the following practices are mandatory for all basement remodels.
12.4.2	Kitchen. When the basement remodel includes a kitchen, the remodel shall also comply with the practices in Section 12.2.
12.4.3	Bathroom. When the basement remodel includes a bathroom, the remodel shall also comply with the practices in Section 12.3.
12.4.4	Radon control. Passive or active radon control system is installed in accordance with ICC IRC Appendix F unless a radon test is performed demonstrating that the level is less than the USEPA mitigation action level of 4 pCi/L. (The USEPA recommends, but does not require, mitigation between 2 and 4 pCi/L) or unless it is structurally infeasible.
12.5	ADDITIONS
12.5.0	Applicability. In addition to the practices listed in Section 12.1, the following practices are mandatory for all addition remodels.
12.5.1	Kitchen. When the addition includes a kitchen, the remodel shall also comply with the practices in Section 12.2.
12.5.2	Bathroom. When the addition includes a bathroom, the remodel shall also comply with the practices in Section 12.3.
12.5.602.1.9	Flashing. Flashing is provided for the addition and for the intersection where the addition joins the existing building, to minimize water entry into wall and roof assemblies and to direct water to exterior surfaces or exterior water-resistant barriers for drainage. Flashing details are provided in the construction documents and are in accordance with the fenestration manufacturer's instructions, the flashing manufacturer's instructions, or as detailed by a registered design professional. Flashing is installed at all of the following locations, as applicable:

	(a)	around exterior fenestrations, skylights and doors
	(b)	at roof valleys
	(c)	at all building-to-deck, -balcony, -porch, and -stair intersections
	(d)	at roof-to-wall intersections, at roof-to-chimney intersections, at wall-to-chimney intersections, and at parapets.
	(e)	at ends of an under masonry, wood, or metal copings and sills
	(f)	above projecting wood trim
	(g)	at built-in roof gutters and canales, and
	(f)	drip edge is installed at eaves and rake edges.
12/5/602/1/14		Ice barrier. In areas where there has been a history of ice forming along the eaves causing backup of water, an ice barrier is installed on the addition in accordance with the ICC IRC at roof eaves of pitched roofs and extends a minimum of 24 inches (610 mm) inside the exterior wall line of the building.
12.5.602.1.15		Architectural features. New architectural features that increase the potential for water intrusion are avoided.
	(1)	No roof configurations that create horizontal valleys in roof designs.
	(2)	No recessed windows and architectural features that trap water on horizontal surfaces.
	(3)	All horizontal ledgers are sloped away to provide gravity drainage as appropriate for the application.
12.5.902.3		Radon control. Passive or active radon control system is installed in accordance with ICC IRC Appendix F unless a radon test is performed in the existing house demonstrating that the level is less than the USEPA mitigation action level of 4 pCi/L. (The USEPA recommends, but does not require, mitigation between 2 and 4 pCi/L).

(Ord. #2014-11, §5)

Appendix A Ducted Garage Exhaust Fan Sizing Criteria

A100

Scope and Applicability

A101.1 Applicability of Appendix A. Appendix A is part of this Code.

A101.2 Scope. The provisions contained in Appendix A provide the criteria necessary for complying with Section 901.3(1)(c) for the installation of ducted exhaust fans in garages. To receive points for implementing Practice 901.3(1)(c), the fan airflow rating and duct sizing for ducted exhaust fans are to be in accordance with the applicable criteria of Appendix A.

A101.3 Acknowledgement. The text of Appendix A, Section A200 and related Table are extracted from ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.) Standard

62.2-2007 Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings, Section 7.3 and Table 7.1, respectively.

A200

Air Flow Rating

A201.1 Airflow rating. The airflows required by this code refer to the delivered airflow of the system as installed and tested using a flow hood, flow grid, or other airflow measuring device. Alternatively, the airflow rating at a pressure of 0.25 in. w.c. (62.5 Pa) may be used, provided the duct sizing meets the prescriptive requirements of Table A201 or manufacturers’ design criteria.

**Table A201
Prescriptive Duct Sizing**

Fan Rating cfm@0.25 in w.g. (L/s @62.5 Pa)	Duct Type							
	Flex Duct				Smooth Duct			
	50 (25)	80 (40)	100 (50)	125 (65)	50 (25)	80 (40)	100 (50)	125 (65)
Diameter, in. (mm)	Maximum Length, Ft (m)							
3(75)	x	x	x	x	5(2)	x	x	x
4(100)	70(27)	3(1)	x	x	105(35)	35(12)	5(2)	x
5(125)	NL	70(27)	35(12)	20(7)	NL	135(45)	85(28)	55(18)
6(150)	NL	NL	125(42)	95(32)	NL	NL	NL	145(48)
7(175) and above	NL	NL	NL	NL	NL	NL	NL	NL

This table assumes no elbows. Deduct 15 ft (5 m) of allowable duct length for each elbow.

NL = no limit on duct length of this size.

X = now allowed, any length of duct of this size with assume turns and fitting will exceed the rated pressure drop.

(Ord. #2009-9, Exh. A; Ord. #2009-31, §§ 1–13; Ord. #2010-19, Exh. A; Ord. #2012-4, Exh. A.)

Appendix B Whole Building Ventilation System Specifications

B100 SCOPE AND APPLICABILITY

B101.1 Applicability of Appendix B. Appendix B is part of this standard.

B101.2 Scope. The provisions contained in Appendix B provide the specifications necessary for complying with Section 902.2.1 for the installation of whole building ventilation systems. To receive points for implementing Practice 902.2.1, the chosen whole building ventilation system is to be in accordance with the applicable specifications of Appendix B.

B191.3 Acknowledgment. The text of Appendix B, Section B200 and related Tables are extracted from ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.) Standard 62.2-2010 *Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings*, Section 4, and is used with the permission of ASHRAE. The referenced Section and Table numbers within the extracted text are modified to be applicable to Appendix B of this Standard. "*" indicates added reference to ICC or ASHREA 62.2 to provide clarity.

B200 WHOLE-BUILDING VENTILATION

B201.1 Ventilation Rate. A mechanical exhaust system, supply system, or other combination thereof shall be installed for each dwelling unit to provide whole-building ventilation with outdoor air each hour at no less than the rate specified in Tables B201.1a and B201.1b or, equivalently, Equations B201.1a and B201.1b, based on the floor area of the conditioned space and number of bedrooms.

B201.1.2 Alternative Ventilation. Other methods may be used to provide the required ventilation rates (of Tables B201.1a and B201.1b) when approved by a licensed design professional.

Equation B201.1a

$$Q_{fan} = 0.01A_{floor} + 7.5(N_{br} + 1)$$

where

Q_{fan} = fan flow rate, cfm

A_{floor} = floor area, ft²

N_{br} = number of bedrooms; not to be less than one

Equation B201.1b

$$Q_{fan} = 0.05A_{floor} + 3.5(N_{br} + 1)$$

where

Q_{fan} = fan flow rate, L/s

A_{floor} = floor area, m²

N_{br} = number of bedrooms; not to be less than one

**TABLE B201.1a (I-P)
Ventilation Air Requirements, cfm**

Floor Area (ft ²)	Bedrooms				
	0-1	2-3	4-5	6-7	>7
<1500	30	45	60	75	90
1501-3000	45	60	75	90	105
3001-4500	60	75	90	105	120
4501-6000	75	90	105	120	135
6001-7500	90	105	120	135	150
>7500	105	120	135	150	165

**TABLE B201.1b (SI) Ventilation
Air Requirements, L/s**

Floor Area (m ²)	Bedrooms				
	0-1	2-3	4-5	6-7	>7
<139	14	21	28	35	42

139.1-279	21	28	35	42	50
279.1-418	28	35	42	50	57
418.1-557	35	42	50	57	64
557.1-697	42	50	57	64	71
>697	50	57	64	71	78

B201.2 System Type. The whole-house ventilation system shall consist of one or more supply or exhaust fans and associated ducts and controls. Local exhaust fans shall be permitted to be part of a mechanical exhaust system. Outdoor air ducts connected to the return side of an air handler shall be permitted as supply ventilation if manufacturers' requirements for return air temperature are met. See ASHRAE 62.2*, Appendix B for guidance on selection of methods.

B201.3 Control and Operation. The "fan on" switch on a heating or air-conditioning system shall be permitted as an operational control for systems introducing ventilation air through a duct to the return side of an HVAC system. Readily accessible override control must be provided to the occupant. Local exhaust fan switches and "fan on" switches shall be permitted as override controls. Controls, including the "fan-on" switch of a conditioning system, must be appropriately labeled.

Exception: An intermittently operating, whole-house mechanical ventilation system may be used if the ventilation rate is adjusted according to the exemption to Section B201.4. The system must be designed so that it can operate automatically based on a timer. The intermittent mechanical ventilation system must operate at least one hour out of every twelve.

Equation B201.4

$$Q_f = Q_r / (\epsilon f)$$

where

Q_f = fan flow rate

Q_r = ventilation air requirement (from Table B201.1a or B201.1b)

ϵ = ventilation effectiveness (from Table B201.1)

f = fractional on time

if the system runs at least every three hours, 1.0 can be used as the ventilation effectiveness.

(See ASHRAE 62.2*, Appendix B for an example of this calculation.)

TABLE B201.4

Ventilation Effectiveness for Intermittent Fans

Daily Fractional On-Time, f	Ventilation Effectiveness, ϵ
$f \leq 35\%$	0.33
$35\% \leq f < 60\%$	0.50
$60\% \leq f < 80\%$	0.75
$80\% \leq f$	1.0

(Ord. #2014-11, §6)