

# TABLE OF CONTENTS

<i>Part I—Administrative</i> . . . . .	1
<b>CHAPTER 1 ADMINISTRATION</b> . . . . .	<b>1</b>
Section	
<u>R101 Title, Scope and Purpose</u> . . . . .	1
<u>R102 Unsafe Buildings, Structures or Premises</u> . . . . .	2
<u>R103 Enforcement, Violations and Penalties</u> . . . . .	2
<u>R104 Organization and Duties</u> . . . . .	4
<u>R105 Building Permits</u> . . . . .	5
<u>R106 Inspections</u> . . . . .	12
<u>R107 Existing Structures and Equipment</u> . . . . .	13
<u>R108 Fees</u> . . . . .	15
<i>Part II—Definitions</i> . . . . .	<b>11</b>
<b>CHAPTER 2 DEFINITIONS</b> . . . . .	<b>17</b>
Section	
R201 General . . . . .	17
R202 Definitions . . . . .	17
<i>Part III—Building Planning and Construction</i> . . . . .	<b>27</b>
<b>CHAPTER 3 BUILDING PLANNING</b> . . . . .	<b>35</b>
Section	
R301 Design Criteria . . . . .	35
R302 Fire-Resistant Construction . . . . .	58
R303 Light, Ventilation and Heating . . . . .	64
R304 Minimum Room Areas . . . . .	66
R305 Ceiling Height . . . . .	66
R306 Sanitation . . . . .	67
R307 Toilet, Bath and Shower Spaces . . . . .	67
R308 Glazing . . . . .	68
R309 Garages and Carports . . . . .	71
R310 Emergency Escape and Rescue Openings . . . . .	71
R311 Means of Egress . . . . .	72
R312 Guards and Window Fall Protection . . . . .	76
R313 Automatic Fire Sprinkler Systems . . . . .	76
R314 Smoke Alarms . . . . .	76
R315 Carbon Monoxide Alarms . . . . .	77
R316 Foam Plastic . . . . .	78
R317 Protection of Wood and Wood-Based Products Against Decay . . . . .	80
R318 Protection Against Subterranean Termites . . . . .	82
R319 Site Address . . . . .	82
R320 Accessibility . . . . .	82
R321 Elevators and Platform Lifts . . . . .	83
R322 Flood-Resistant Construction . . . . .	83
R323 Storm Shelters . . . . .	86
R324 Solar Energy Systems . . . . .	86
R325 Mezzanines . . . . .	87
R326 Swimming Pools, Spas and Hot Tubs . . . . .	89
<u>R327 Family Home Child Care</u> . . . . .	89
<u>R328 Adult Family Homes</u> . . . . .	89
<u>R329 Floating Homes</u> . . . . .	91
<u>R330 Security from Criminal Activity</u> . . . . .	92
<u>R331 Sound Transmission Control</u> . . . . .	93
<b>CHAPTER 4 FOUNDATIONS</b> . . . . .	<b>95</b>
Section	
R401 General . . . . .	95
R402 Materials . . . . .	96
R403 Footings . . . . .	97
R404 Foundation And Retaining Walls . . . . .	117
R405 Foundation Drainage . . . . .	137
R406 Foundation Waterproofing and Dampproofing . . . . .	138
R407 Columns . . . . .	139
R408 Under-Floor Space . . . . .	140
<b>CHAPTER 5 FLOORS</b> . . . . .	<b>143</b>
Section	
R501 General . . . . .	143
R502 Wood Floor Framing . . . . .	143
R503 Floor Sheathing . . . . .	152
R504 Pressure Preservative-Treated Wood Floors (on Ground) . . . . .	153
R505 Cold-Formed Steel Floor Framing . . . . .	154
R506 Concrete Floors (on Ground) . . . . .	169
R507 Exterior Decks . . . . .	169
<b>CHAPTER 6 WALL CONSTRUCTION</b> . . . . .	<b>177</b>
Section	
R601 General . . . . .	177
R602 Wood Wall Framing . . . . .	177

**TABLE OF CONTENTS**

R603 Cold-Formed Steel Wall Framing . . . . . 227  
 R604 Wood Structural Panels . . . . . 271  
 R605 Particleboard . . . . . 271  
 R606 General Masonry Construction . . . . . 271  
 R607 Glass Unit Masonry . . . . . 284  
 R608 Exterior Concrete Wall Construction . . . . . 285  
 R609 Exterior Windows and Doors . . . . . 361  
 R610 Structural Insulated Panel Wall  
 Construction . . . . . 363

**CHAPTER 7 WALL COVERING . . . . . 375**

Section  
 R701 General . . . . . 375  
 R702 Interior Covering . . . . . 375  
 R703 Exterior Covering . . . . . 379

**CHAPTER 8 ROOF-CEILING  
 CONSTRUCTION . . . . . 399**

Section  
 R801 General . . . . . 399  
 R802 Wood Roof Framing . . . . . 399  
 R803 Roof Sheathing . . . . . 427  
 R804 Cold-Formed Steel Roof Framing . . . . . 427  
 R805 Ceiling Finishes . . . . . 443  
 R806 Roof Ventilation . . . . . 443  
 r807 Attic Access . . . . . 445

**CHAPTER 9 ROOF ASSEMBLIES . . . . . 447**

Section  
 R901 General . . . . . 447  
 R902 Fire Classification . . . . . 447  
 R903 Weather Protection . . . . . 447  
 R904 Materials . . . . . 448  
 R905 Requirements for Roof Coverings . . . . . 448  
 R906 Roof Insulation . . . . . 460  
 R907 Rooftop-Mounted Photovoltaic Systems . . . . . 460  
 R908 Reroofing . . . . . 461  
 R909 Rooftop-Mounted Photovoltaic Panel  
 Systems . . . . . 461

**CHAPTER 10 CHIMNEYS AND FIREPLACES . . . 463**

Section  
 R1001 Masonry Fireplaces . . . . . 463  
 R1002 Masonry Heaters . . . . . 467  
 R1003 Masonry Chimneys . . . . . 467  
 R1004 Factory-Built Fireplaces . . . . . 472

R1005 Factory-Built Chimneys . . . . . 472  
 R1006 Exterior Air Supply . . . . . 473

**Part IV—Energy Conservation . . . . . 437**

**CHAPTER 11 [RE] ENERGY EFFICIENCY . . . . . 475**  
**Not adopted in Seattle**

**Part V—Mechanical . . . . . 471**

**CHAPTER 12 MECHANICAL  
 ADMINISTRATION . . . . . 477**

Section  
 M1201 General . . . . . 477  
 M1202 Existing Mechanical Systems . . . . . 477

**CHAPTER 13 GENERAL MECHANICAL  
 SYSTEM REQUIREMENTS . . . . . 479**

Section  
 M1301 General . . . . . 479  
 M1302 Approval . . . . . 479  
 M1303 Labeling Of Appliances . . . . . 479  
 M1304 Type Of Fuel . . . . . 479  
 M1305 Appliance Access . . . . . 479  
 M1306 Clearances From Combustible Construction . . . . . 480  
 M1307 Appliance Installation . . . . . 481  
 M1308 Mechanical Systems Installation . . . . . 484

**CHAPTER 14 HEATING AND COOLING  
 EQUIPMENT AND  
 APPLIANCES . . . . . 485**

Section  
 M1401 General . . . . . 485  
 M1402 Central Furnaces . . . . . 485  
 M1403 Heat Pump Equipment . . . . . 485  
 M1404 Refrigeration Cooling Equipment . . . . . 485  
 M1405 Baseboard Convectors . . . . . 485  
 M1406 Radiant Heating Systems . . . . . 485  
 M1407 Duct Heaters . . . . . 486  
 M1408 Vented Floor Furnaces . . . . . 486  
 M1409 Vented Wall Furnaces . . . . . 486  
 M1410 Vented Room Heaters . . . . . 487  
 M1411 Heating and Cooling Equipment . . . . . 487  
 M1412 Absorption Cooling Equipment . . . . . 488  
 M1413 Evaporative Cooling Equipment . . . . . 488  
 M1414 Fireplace Stoves . . . . . 488  
 M1415 Masonry Heaters . . . . . 489

<b>CHAPTER 15 EXHAUST SYSTEMS . . . . .</b>	<b>491</b>	<b>CHAPTER 21 HYDRONIC PIPING . . . . .</b>	<b>513</b>
Section		Section	
M1501 General . . . . .	491	M2101 Hydronic Piping Systems Installation . . . . .	513
M1502 Clothes Dryer Exhaust . . . . .	491	M2102 Baseboard Convectors . . . . .	513
M1503 Range Hoods . . . . .	492	M2103 Floor Heating Systems . . . . .	513
M1504 Installation of Microwave Ovens . . . . .	492	M2104 Low Temperature Piping . . . . .	515
M1505 Overhead Exhaust Hoods . . . . .	492	M2105 Ground-Source Heat-Pump System Loop Piping . . . . .	515
M1506 Exhaust Ducts and Exhaust Openings . . . . .	493		
M1507 Mechanical Ventilation . . . . .	493		
<b>CHAPTER 16 DUCT SYSTEMS . . . . .</b>	<b>499</b>	<b>CHAPTER 22 SPECIAL PIPING AND STORAGE SYSTEMS . . . . .</b>	<b>519</b>
Section		Section	
M1601 Duct Construction . . . . .	499	M2201 Oil Tanks . . . . .	519
M1602 Return Air . . . . .	502	M2202 Oil Piping, Fitting and Connections . . . . .	519
		M2203 Installation . . . . .	519
<b>CHAPTER 17 COMBUSTION AIR . . . . .</b>	<b>503</b>	M2204 Oil Pumps and Valves . . . . .	520
Section			
M1701 General . . . . .	503	<b>CHAPTER 23 SOLAR THERMAL ENERGY SYSTEMS . . . . .</b>	<b>521</b>
		Section	
<b>CHAPTER 18 CHIMNEYS AND VENTS . . . . .</b>	<b>505</b>	M2301 Thermal Solar Energy Systems . . . . .	521
Section			
M1801 General . . . . .	505	<i>Part VI—Fuel Gas . . . . .</i>	<b>513</b>
M1802 Vent Components . . . . .	505		
M1803 Chimney and Vent Connectors . . . . .	506	<b>CHAPTER 24 FUEL GAS . . . . .</b>	<b>523</b>
M1804 Vents . . . . .	507	Section	
M1805 Masonry and Factory-Built Chimneys . . . . .	507	G2401 General . . . . .	523
		G2402 General . . . . .	523
<b>CHAPTER 19 SPECIAL APPLIANCES, EQUIPMENT AND SYSTEMS . . . . .</b>	<b>509</b>	G2403 General Definitions . . . . .	523
Section		G2404 General . . . . .	529
M1901 Ranges and Ovens . . . . .	509	G2405 Structural Safety . . . . .	530
M1902 Sauna Heaters . . . . .	509	G2406 Appliance Location . . . . .	530
M1903 Stationary Fuel Cell Power Plants . . . . .	509	G2407 Combustion, Ventilation and Dilution Air . . . . .	531
M1904 Gaseous Hydrogen Systems . . . . .	509	G2408 Installation . . . . .	535
		G2409 Clearance Reduction . . . . .	535
<b>CHAPTER 20 BOILERS AND WATER HEATERS . . . . .</b>	<b>511</b>	G2410 Electrical . . . . .	539
Section		G2411 Electrical Bonding . . . . .	539
M2001 Boilers . . . . .	511	G2412 General . . . . .	539
(M2002 Operating and Safety Controls) . . . . .	511	G2413 Pipe Sizing . . . . .	540
(M2003 Expansion Tanks) . . . . .	511	G2414 Piping Materials . . . . .	562
M2004 Water Heaters Used for Space Heating . . . . .	512	G2415 Piping System Installation . . . . .	563
M2005 Water Heaters . . . . .	512	G2416 Piping Bends and Changes in Direction . . . . .	566
M2006 Pool Heaters . . . . .	512	G2417 Inspection, Testing and Purging . . . . .	566
		G2418 Piping Support . . . . .	568
		G2419 Drips and Sloped Piping . . . . .	568
		G2420 Shutoff Valves . . . . .	569

**TABLE OF CONTENTS**

G2421 Flow Controls . . . . . 569  
 G2422 Appliance Connections . . . . . 570  
 G2423 Compressed Natural Gas Motor Vehicle  
 Fuel-Dispensing Facilities . . . . . 571  
 G2424 Piping Support Intervals . . . . . 571  
 G2425 General . . . . . 571  
 G2426 Vents . . . . . 572  
 G2427 Venting of Appliances . . . . . 573  
 G2428 Sizing of Category I Appliance Venting  
 Systems . . . . . 581  
 G2429 Direct-Vent, Integral Vent, Mechanical Vent  
 and Ventilation/Exhaust Hood Venting . . . . . 585  
 G2430 Factory-Built Chimneys . . . . . 585  
 G2431 General . . . . . 594  
 G2432 Decorative Appliances for Installation in  
 Fireplaces . . . . . 594  
 G2433 Log Lighters . . . . . 594  
 G2434 Vented Gas Fireplaces (Decorative  
 Appliances) . . . . . 594  
 G2435 Vented Gas Fireplace Heaters . . . . . 594  
 G2436 Vented Wall Furnaces . . . . . 594  
 G2437 Floor Furnaces . . . . . 594  
 G2438 Clothes Dryers . . . . . 595  
 G2439 Clothes Dryer Exhaust . . . . . 595  
 G2440 Sauna Heaters . . . . . 596  
 G2441 Pool and Spa Heaters . . . . . 596  
 G2442 Forced-Air Warm-Air Furnaces . . . . . 597  
 G2443 Conversion Burners . . . . . 597  
 G2444 Unit Heaters . . . . . 598  
 G2445 Unvented Room Heaters . . . . . 598  
 G2446 Vented Room Heaters . . . . . 598  
 G2447 Cooking Appliances . . . . . 598  
 G2448 Water Heaters . . . . . 599  
 G2449 Air-Conditioning Appliances . . . . . 599  
 G2450 Illuminating Appliances . . . . . 599  
 G2451 Infrared Radiant Heaters . . . . . 599  
 G2452 Boilers . . . . . 599  
 G2453 Chimney Damper Opening Area . . . . . 600  
 G2454 Outdoor Decorative Appliances . . . . . 600

**Part VII—Plumbing . . . . . 601**

**CHAPTER 25 PLUMBING  
 ADMINISTRATION  
 Not adopted in Seattle**

**CHAPTER 26 GENERAL PLUMBING  
 REQUIREMENTS  
 Not adopted in Seattle**

**CHAPTER 27 PLUMBING FIXTURES  
 Not adopted in Seattle**

**CHAPTER 28 WATER HEATERS  
 Not adopted in Seattle**

**CHAPTER 29 WATER SUPPLY AND  
 DISTRIBUTION . . . . . 603**

Section  
 ((P2901 General)) . . . . . 603  
 ((P2902 Protection of Potable Water Supply)) . . . . . 603  
 ((P2903 Water Supply System)) . . . . . 606  
 P2904 Dwelling Unit Fire Sprinkler Systems . . . . . 610  
 ((P2905 Heated Water Distribution Systems)) . . . . . 623  
 ((P2906 Materials, Joints and Connections)) . . . . . 623  
 ((P2907 Changes in Direction)) . . . . . 627  
 ((P2908 Support)) . . . . . 627  
 ((P2909 Drinking Water Treatment Units)) . . . . . 627  
 ((P2910 Nonpotable Water Systems)) . . . . . 627  
 ((P2911 On-Site Nonpotable Water Reuse Systems)) . . . . . 630  
 ((P2912 Nonpotable Rainwater Collection and  
 Distribution Systems)) . . . . . 632  
 ((P2913 Reclaimed Water Systems)) . . . . . 634

**CHAPTER 30 SANITARY DRAINAGE  
 Not adopted in Seattle**

**CHAPTER 31 VENTS  
 Not adopted in Seattle**

**CHAPTER 32 TRAPS  
 Not adopted in Seattle**

**CHAPTER 33 STORM DRAINAGE  
 Not adopted in Seattle**

**CHAPTER 34 GENERAL REQUIREMENTS  
 Not adopted in Seattle**

**CHAPTER 35 ELECTRICAL DEFINITIONS  
 Not adopted in Seattle**

**CHAPTER 36 SERVICES  
 Not adopted in Seattle**

<p><b>CHAPTER 37 BRANCH CIRCUIT AND FEEDER REQUIREMENTS</b> Not adopted in Seattle</p> <p><b>CHAPTER 38 WIRING METHODS</b> Not adopted in Seattle</p> <p><b>CHAPTER 39 POWER AND LIGHTING DISTRIBUTION</b> Not adopted in Seattle</p> <p><b>CHAPTER 40 DEVICES AND LUMINAIRES</b> Not adopted in Seattle</p> <p><b>CHAPTER 41 APPLIANCE INSTALLATION</b> Not adopted in Seattle</p> <p><b>CHAPTER 42 SWIMMING POOLS</b> Not adopted in Seattle</p> <p><b>CHAPTER 43 CLASS 2 REMOTE-CONTROL, SIGNALING AND POWER-LIMITED CIRCUITS</b> Not adopted in Seattle</p> <p><i>Part IX—Referenced Standards . . . . . 637</i></p> <p><b>CHAPTER 44 REFERENCED STANDARDS . . . . . 637</b></p> <p><b>APPENDIX A SIZING AND CAPACITIES OF GAS PIPING</b> Not adopted in Seattle</p> <p><b>APPENDIX B SIZING OF VENTING SYSTEMS SERVING APPLIANCES EQUIPPED WITH DRAFT HOODS, CATEGORY I APPLIANCES, AND APPLIANCES LISTED FOR USE WITH TYPE B VENTS</b> Not adopted in Seattle</p> <p><b>APPENDIX C EXIT TERMINALS OF MECHANICAL DRAFT AND DIRECT-VENT VENTING SYSTEMS</b> Not adopted in Seattle</p> <p><b>APPENDIX D RECOMMENDED PROCEDURE FOR SAFETY INSPECTION OF AN EXISTING APPLIANCE INSTALLATION</b> Not adopted in Seattle</p>	<p><b>APPENDIX E MANUFACTURED HOUSING USED AS DWELLINGS</b> Not adopted in Seattle</p> <p><b>APPENDIX F RADON CONTROL METHODS . . . 665</b> Section AF101 Scope . . . . . 665 AF102 Definitions . . . . . 665 AF103 Requirements . . . . . 665</p> <p><b>APPENDIX G PIPING STANDARDS FOR VARIOUS APPLICATIONS</b> Not adopted in Seattle</p> <p><b>APPENDIX H PATIO COVERS</b> Not adopted in Seattle</p> <p><b>APPENDIX I PRIVATE SEWAGE DISPOSAL</b> Not adopted in Seattle</p> <p><b>APPENDIX J EXISTING BUILDINGS AND STRUCTURES</b> Not adopted in Seattle</p> <p><b>APPENDIX K SOUND TRANSMISSION</b> Not adopted in Seattle</p> <p><b>APPENDIX L PERMIT FEES</b> Not adopted in Seattle</p> <p><b>APPENDIX M HOME DAY CARE—R-3 OCCUPANCY</b> Not adopted in Seattle</p> <p><b>APPENDIX N VENTING METHODS</b> Not adopted in Seattle</p> <p><b>APPENDIX O AUTOMATIC VEHICULAR GATES</b> Not adopted in Seattle</p> <p><b>APPENDIX P SIZING OF WATER PIPING SYSTEM</b> Not adopted in Seattle</p> <p><b>APPENDIX Q RESERVED</b></p> <p><b>APPENDIX R LIGHT STRAW-CLAY CONSTRUCTION</b> Not adopted in Seattle</p> <p><b>APPENDIX S STRAWBALE CONSTRUCTION</b> Not adopted in Seattle</p>
--	---

**TABLE OF CONTENTS**

**APPENDIX T RECOMMENDED PROCEDURE  
FOR WORST-CASE TESTING  
OF ATMOSPHERIC VENTING  
SYSTEMS UNDER N1102.4 OR  
N1105 CONDITIONS  $\leq 5ACH_{50}$   
Not adopted in Seattle**

**APPENDIX U SOLAR-READY PROVISIONS—  
DETACHED ONE- AND TWO-  
FAMILY DWELLINGS, MULTIPLE  
SINGLE-FAMILY DWELLINGS  
(TOWNHOUSES) ..... 675**

Section

U101 Scope ..... 675

U102 General Definitions ..... 675

U103 Solar-Ready Zone..... 675

**INDEX ..... 677**