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PREFACE

Introduction

The Plumbing Code of New York State (PCNYS) establishes minimum requirements for plumbing systems using prescriptive and performance-related provisions. It is founded on broad-based principles that make possible the use of new materials and new plumbing designs. This 2020 edition was developed as a derivative work of the 2018 edition of the International Plumbing Code® (IPC®) published by the International Code Council® (ICC®).

INTENTION

This code is founded on principles intended to establish provisions consistent with the scope of a plumbing code that adequately protects public health, safety and welfare; provisions that do not unnecessarily increase construction costs; provisions that do not restrict the use of new materials, products or methods of construction; and provisions that do not give preferential treatment to particular types or classes of materials, products or methods of construction.

Letter Designations in Front of Section Numbers

The bracketed letter designations for the party responsible for portions of this code are as follows:

- **[A]** = Administrative Code Development Committee;
- **[BE]** = IBC—Means of Egress Code Development Committee;
- **[BG]** = IBC—General Code Development Committee;
- **[BS]** = IBC—Structural Code Development Committee;
- **[E]** = International Energy Conservation Code Development Committee;
- **[F]** = International Fire Code Development Committee;
- **[M]** = International Mechanical Code Development Committee; and

- **New York State Code Development**

- **[NY]** = New York Department of State

Marginal Markings

Solid vertical lines in the margins within the body of the code indicate a technical change from the requirements of the 2015 edition of the I-Code®. Deletion indicators in the form of an arrow (↑) are provided in the margin where an entire section, paragraph, exception or table has been deleted or an item in a list of items or a table has been deleted.

A single asterisk [*] placed in the margin indicates that text or a table has been relocated within the code. A double asterisk [**] placed in the margin indicates that the text or table immediately following it has been relocated there from elsewhere in the code. The following table indicates such relocations in the 2020 edition of the Plumbing Code of New York State.

<table>
<thead>
<tr>
<th>2020 LOCATION</th>
<th>2015 LOCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>802.2</td>
<td>804.1</td>
</tr>
</tbody>
</table>
Italicized Terms

Words and terms defined in Chapter 2, Definitions, are italicized where they appear in code text and the Chapter 2 definition applies. Where such words and terms are not italicized, common-use definitions apply. The words and terms selected have code-specific definitions that the user should read carefully to facilitate better understanding of the code.
The Plumbing Code of New York State (PCNYS) is a code that regulates the design and installation of plumbing systems including the plumbing fixtures in all types of buildings except for detached one- and two-family dwellings and townhouses that are not more than three stories above grade in height. The regulations for plumbing systems in one- and two-family dwellings and townhouses are covered by Chapters 25 through 33 of the Residential Code of New York State (RCNYS). The PCNYS addresses general plumbing regulations, fixture requirements, water heater installations and systems for water distribution, sanitary drainage, special wastes, venting, storm drainage and medical gases. The PCNYS does not address fuel gas piping systems as those systems are covered by the Fuel Gas Code of New York State (FGCNYS). The PCNYS also does not regulate swimming pool piping systems, process piping systems, or utility-owned piping and systems. The purpose of the PCNYS is to establish the minimum acceptable level of safety to protect life and property from the potential dangers associated with supplying potable water to plumbing fixtures and outlets and the conveyance of bacteria-laden waste water from fixtures.

The IPC is primarily a specification-oriented (prescriptive) code with some performance-oriented text. For example, Section 405.1 is a performance statement but Chapter 6 contains the prescriptive requirements that will cause Section 405.1 to be satisfied.

Where a building contains plumbing fixtures, those fixtures requiring water must be provided with an adequate supply of water for proper operation. The number of required plumbing fixtures for a building is specified by this code and is based upon the anticipated maximum number of occupants for the building and the type of building occupancy. This code provides prescriptive criteria for sizing piping systems connected to those fixtures. Through the use of code-approved materials and the installation requirements specified in this code, plumbing systems will perform their intended function over the life of the building. In summary, the PCNYS sets forth the minimum requirements for providing safe water to a building as well as a safe manner in which liquid-borne wastes are carried away from a building.

**Arrangement and Format of the 2020 PCNYS**

The format of the PCNYS allows each chapter to be devoted to a particular subject with the exception of Chapter 3 which contains general subject matters that are not extensive enough to warrant their own independent chapter.
The following is a chapter-by-chapter synopsis of the scope and intent of the provisions of the *Plumbing Code of New York State*:

**Chapter 1 Scope and Administration.** This chapter contains provisions for the application, enforcement and administration of subsequent requirements of the code. In addition to establishing the scope of the code, Chapter 1 identifies which buildings and structures come under its purview.

**Chapter 2 Definitions.** Chapter 2 is the repository of the definitions of terms used in the body of the code. Codes are technical documents and every word, term and punctuation mark can impact the meaning of the code text and the intended results. The code often uses terms that have a unique meaning in the code and the code meaning can differ substantially from the ordinarily understood meaning of the term as used outside of the code.

The terms defined in Chapter 2 are deemed to be of prime importance in establishing the meaning and intent of the code text that uses the terms. The user of the code should be familiar with and consult this chapter because the definitions are essential to the correct interpretation of the code and because the user may not be aware that a term is defined.

Where understanding of a term’s definition is especially key to or necessary for understanding of a particular code provision, the term is shown in *italics*. This is true only for those terms that have a meaning that is unique to the code. In other words, the generally understood meaning of a term or phrase might not be sufficient or consistent with the meaning prescribed by the code; therefore, it is essential that the code-defined meaning be known.

Guidance regarding tense, gender and plurality of defined terms as well as guidance regarding terms not defined in this code is provided.

**Chapter 3 General Regulations.** The content of Chapter 3 is often referred to as “miscellaneous,” rather than general regulations. This is the only chapter in the code whose requirements do not interrelate. If a requirement cannot be located in another chapter, it should be located in this chapter. Chapter 3 contains safety requirements for the installation of plumbing and nonplumbing requirements for all types of fixtures. This chapter also has requirements for the identification of pipe, pipe fittings, traps, fixtures, materials and devices used in plumbing systems.

The safety requirements of this chapter provide protection for the building’s structural members, as well as prevent undue stress and strain on pipes. The building’s structural stability is protected by the regulations for cutting and notching of structural members. Additional protection for the building occupants includes requirements to maintain the plumbing in a safe and sanitary condition, as well as privacy for those occupants.

**Chapter 4 Fixtures, Faucets and Fixture Fittings.** This chapter regulates the minimum number of plumbing fixtures that must be provided for every type of building. This chapter also regulates the quality of fixtures and faucets by requiring those items to comply with nationally recognized standards. Because fixtures must be properly installed so that they are usable by the occupants of the building, this chapter contains the requirements for the installation of fixtures. Because the requirements for the number of plumbing fixtures affects the design of a building, Chapter 29 of the *Building Code of New York State* (BCNYS) includes, verbatim, many of the requirements listed in Chapter 4 of this code.

**Chapter 5 Water Heaters.** Chapter 5 regulates the design, approval and installation of water heaters and related safety devices. The intent is to minimize the hazards associated with the installation and operation of water heaters. Although this code does not regulate the size of a water heater, it does regulate all other aspects of the water heater installation such as temperature and pressure relief valves, safety drip pans, installation and connections. Where a water heater also supplies water for space heating, this chapter regulates the maximum water temperature supplied to the water distribution system.

**Chapter 6 Water Supply and Distribution.** This chapter regulates the supply of potable water from both public and individual sources to every fixture and outlet so that it remains potable and uncontaminated. Chapter 6 also regulates the design of the water distribution system, which will allow fixtures to function properly and also help prevent backflow conditions. The unique require-
ments of the water supply for health care facilities are addressed separately. It is critical that the potable water supply system remain free of actual or potential sanitary hazards by providing protection against backflow.

**Chapter 7 Sanitary Drainage.** The purpose of Chapter 7 is to regulate the materials, design and installation of sanitary drainage piping systems as well as the connections made to the system. The intent is to design and install sanitary drainage systems that will function reliably, that are neither undersized nor oversized and that are constructed from materials, fittings and connections as prescribed herein. This chapter addresses the proper use of fittings for directing the flow into and within the sanitary drain piping system. Materials and provisions necessary for servicing the drainage system are also included in this chapter.

**Chapter 8 Indirect/Special Waste.** This chapter regulates drainage installations that require an indirect connection to the sanitary drainage system. Fixtures and plumbing appliances, such as those associated with food preparation or handling, health care facilities and potable liquids, must be protected from contamination that can result from connection to the drainage system. An indirect connection prevents sewage from backing up into a fixture or appliance, thus providing protection against potential health hazards. The chapter also regulates special wastes containing hazardous chemicals. Special waste must be treated to prevent any damage to the sanitary drainage piping and to protect the sewage treatment processes.

**Chapter 9 Vents.** Chapter 9 covers the requirements for vents and venting. Knowing why venting is required makes it easier to understand the intent of this chapter. Venting protects every trap against the loss of its seal. Provisions set forth in this chapter are geared toward limiting the pressure differentials in the drainage system to a maximum of 1 inch of water column (249 Pa) above or below atmospheric pressure (i.e., positive or negative pressures).

**Chapter 10 Traps, Interceptors and Separators.** This chapter contains design requirements and installation limitations for traps. Prohibited types of traps are specifically identified. Where fixtures do not frequently replenish the water in traps, a method is provided to ensure that the water seal of the trap will be maintained. Requirements for the design and location of various types of interceptors and separators are provided. Specific venting requirements are given for separators and interceptors as those requirements are not addressed in Chapter 9.

**Chapter 11 Storm Drainage.** Chapter 11 regulates the removal of storm water typically associated with rainfall. The proper installation of a storm drainage system reduces the possibility of structural collapse of a flat roof, prevents the leakage of water through the roof, prevents damage to the footings and foundation of the building and prevents flooding of the lower levels of the building.

**Chapter 12 Special Piping and Storage Systems.** This chapter contains the requirements for the design, installation, storage, handling and use of nonflammable medical gas systems, including inhalation anesthetic and vacuum piping systems, bulk oxygen storage systems and oxygen-fuel gas systems used for welding and cutting operations. The intent of these requirements is to minimize the potential fire and explosion hazards associated with the gases used in these systems.

**Chapter 13 Nonpotable Water Systems.** This chapter regulates the design and installation of nonpotable water systems. The reduction of potable water use in buildings has led building designers in some jurisdictions to use nonpotable water for irrigation and flushing of water closets and urinals. This chapter provides the overall requirements for these systems.

**Chapter 14 Subsurface Landscape Irrigation Systems.** This chapter regulates the design and installation of subsurface landscape irrigation systems for the disposal of on-site nonpotable water such as graywater. The reduction of potable water use in buildings has led building designers in some jurisdictions to use on-site nonpotable water for irrigation. This chapter provides the overall requirements for these systems.

**Chapter 15 Referenced Standards.** Chapter 15 contains a comprehensive list of all standards that are referenced in the code. The standards are part of the code to the extent of the reference to the standard. Compliance with the referenced standard is necessary for compliance with this code. By providing specifically adopted standards, the construction and installation requirements neces-
sary for compliance with the code can be readily determined. The basis for code compliance is, therefore, established and available on an equal basis to the building official, contractor, designer and owner.

Chapter 15 is organized in a manner that makes it easy to locate specific standards. It lists all of the referenced standards, alphabetically, by acronym of the promulgating agency of the standard. Each agency’s standards are then listed in either alphabetical or numeric order based upon the standard identification. The list also contains the title of the standard; the edition (date) of the standard referenced; any addenda; and the section or sections of this code that reference the standard.

**Appendix A Reserved.**

**Appendix B Rates of Rainfall for Various Cities.** This appendix is informative and not part of the code. Appendix B provides specific rainfall rates for major cities in the United States.

**Appendix C Structural Safety.** Appendix C is provided so that the user does not have to refer to another code book for limitations for cutting, notching and boring of sawn lumber and cold-formed steel framing.

**Appendix D Degree Day and Design Temperatures.** This appendix provides valuable temperature information for designers and installers of plumbing systems in areas where freezing temperatures might exist.

**Appendix E Sizing of Water Piping System.** This appendix is informative and not part of the code. Appendix E provides two recognized methods for sizing the water service and water distribution piping for any structure. The method under Section E103 provides friction loss diagrams which require the user to “plot” points and read values from the diagrams in order to perform the required calculations and necessary checks. This method is the most accurate of the two presented in this appendix. The method under Section E201 is known to be conservative; however, very few calculations are necessary in order to determine a pipe size that satisfies the flow requirements of any application.
TABLE OF CONTENTS

CHAPTER 1 SCOPE AND ADMINISTRATION . . . . 1
Section
101 Title, Scope and Purpose . . . . . . . . . . . . . . . . . . . . . . 1
102 Applicability . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1
103 Administration and Enforcement . . . . . . . . . . . . . . 3
104 Materials, Equipment and Methods of
Construction . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 4
105 Building Permits, Construction Inspections, Stop
Work Orders and Certificates of Occupancy . . . . 4
106 Submittal Documents . . . . . . . . . . . . . . . . . . . . . . . . . 6
107 Service Utilities . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 7

CHAPTER 2 DEFINITIONS ................. 9
Section
201 General . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 9
202 General Definitions . . . . . . . . . . . . . . . . . . . . . . . . . 9

CHAPTER 3 GENERAL REGULATIONS ...... 17
Section
301 General . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 17
302 Exclusion of Materials Detrimental
to the Sewer System . . . . . . . . . . . . . . . . . . . . . . . 17
303 Materials . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 17
304 Rodentproofing . . . . . . . . . . . . . . . . . . . . . . . . . . . . 17
305 Protection of Pipes and Plumbing
System Components . . . . . . . . . . . . . . . . . . . . . . . 18
306 Trenching, Excavation and Backfill . . . . . . . 18
307 Structural Safety . . . . . . . . . . . . . . . . . . . . . . . . . . 19
308 Piping Support . . . . . . . . . . . . . . . . . . . . . . . . . . . 19
309 Flood Hazard Resistance . . . . . . . . . . . . . . . . . . . . 19
310 Washroom and Toilet Room Requirements . . . 20
311 Toilet Facilities for Workers . . . . . . . . . . . . . . . . . 20
312 Tests and Inspections . . . . . . . . . . . . . . . . . . . . . . . 20
313 Equipment Efficiencies . . . . . . . . . . . . . . . . . . . . . . 22
314 Condensate Disposal . . . . . . . . . . . . . . . . . . . . . . . 22
315 Penetrations . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 23
316 Alternative Engineered Design . . . . . . . . . . . . . . 23

CHAPTER 4 FIXTURES, FAUCETS
AND FIXTURE FITTINGS . . . . . . . . . . . . . . . . . . . . . 25
Section
401 General . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 25
402 Fixture Materials . . . . . . . . . . . . . . . . . . . . . . . . . . . 25
403 Minimum Plumbing Facilities . . . . . . . . . . . . . . . . . 25
404 Accessible Plumbing Facilities . . . . . . . . . . . . . . . . 29
405 Installation of Fixtures . . . . . . . . . . . . . . . . . . . . . . . 29
406 Automatic Clothes Washers . . . . . . . . . . . . . . . . . . 30
407 Bathtubs . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 31
408 Bidets . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 31
409 Dishwashing Machines . . . . . . . . . . . . . . . . . . . . . . 31
410 Drinking Fountains . . . . . . . . . . . . . . . . . . . . . . . . . 31
411 Emergency Showers and Eyewash Stations . . . 31
412 Faucets and Fixture Fittings . . . . . . . . . . . . . . . . . . . 32
413 Floor and Trench Drains . . . . . . . . . . . . . . . . . . . . . . 32
414 Floor Sinks . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 32
415 Flushing Devices for Water Closets and Urinals . 32
416 Food Waste Disposer Units . . . . . . . . . . . . . . . . . . . . 33
417 Garbage Can Washers . . . . . . . . . . . . . . . . . . . . . . . 33
418 Laundry Trays . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 33
419 Lavatories . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 33
420 Manual Food and Beverage
Dispensing Equipment . . . . . . . . . . . . . . . . . . . . . . 34
421 Showers . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 34
422 Sinks . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 35
423 Specialty Plumbing Fixtures . . . . . . . . . . . . . . . . . . . 35
424 Urinals . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 35
425 Water Closets . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 35
426 Whirlpool Bathtubs . . . . . . . . . . . . . . . . . . . . . . . . . 35

CHAPTER 5 WATER HEATERS . . . . . . . . . . . . . . . . . . . . 37
Section
501 General . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 37
502 Installation . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 37
503 Connections . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 37
504 Safety Devices . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 38
505 Insulation . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 39

CHAPTER 6 WATER SUPPLY
AND DISTRIBUTION . . . . . . . . . . . . . . . . . . . . . . . . 41
Section
601 General . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 41
602 Water Required . . . . . . . . . . . . . . . . . . . . . . . . . . . . 41
603 Water Service . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 41
604 Design of Building Water
Distribution System . . . . . . . . . . . . . . . . . . . . . . . . 42
TABLE OF CONTENTS

CHAPTER 7 SANITARY DRAINAGE ............ 59
Section
701 General .................................. 59
702 Materials .................................. 59
703 Building Sewer ............................. 60
704 Drainage Piping Installation .......... 61
705 Joints .................................... 61
706 Connections Between Drainage Piping and Fittings .............. 64
707 Prohibited Joints and Connections ............ 64
708 Cleanouts .................................. 65
709 Fixture Units ............................... 66
710 Drainage System Sizing ..................... 66
711 Offsets in Drainage Piping in Buildings of Five Stories or More .......... 68
712 Sumps and Ejectors .......................... 68
713 Computerized Drainage Design .......... 69
714 Backwater Valves ........................... 69
715 Vacuum Drainage Systems ................. 70
716 Replacement of Underground Building Sewers and Building Drains by Pipe-Bursting Methods .......... 70

CHAPTER 8 INDIRECT/SPECIAL WASTE ....... 71
Section
801 General .................................. 71
802 Indirect Wastes ............................ 71
803 Special Wastes ............................. 72

CHAPTER 9 VENTS ............................. 73
Section
901 General .................................. 73
902 Materials .................................. 73
903 Vent Terminals ............................. 73
904 Outdoor Vent Extensions ................. 73
905 Vent Connections and Grades .......... 74
906 Vent Pipe Sizing ........................... 74
907 Vents for Stack Offsets ..................... 74
908 Relief Vents—Stacks of More Than 10 Branch Intervals .......... 76
909 Fixture Vents .............................. 76
910 Individual Vent ............................. 76
911 Common Vent ............................... 76
912 Wet Venting ................................ 77
913 Waste Stack Vent ........................... 77
914 Circuit Venting ............................. 78
915 Combination Waste and Vent System .......... 78
916 Island Fixture Waste and System .......... 78
917 Single-Stack Vent System ................. 79
918 Air Admittance Valves ...................... 80
919 Engineered Vent Systems ................. 80
920 Computerized Vent Design ............... 81

CHAPTER 10 TRAPS, INTERCEPTORS AND SEPARATORS .......... 83
Section
1001 General .................................. 83
1002 Trap Requirements ......................... 83
1003 Interceptors and Separators ............... 84
1004 Materials, Joints and Connections .......... 86

CHAPTER 11 STORM DRAINAGE .......... 87
Section
1101 General .................................. 87
1102 Materials .................................. 87
1103 Traps ..................................... 88
1104 Conductors and Connections ............... 88
1105 Roof Drains ............................... 88
1106 Size of Conductors, Leaders and Storm Drains ............. 88
1107 Siphonic Roof Drainage Systems .......... 90
1108 Secondary (Emergency) Roof Drains .......... 90
1109 Combined Sanitary and Storm Public Sewer .......... 91
1110 Controlled Flow Roof Drain Systems .......... 91
1111 Subsoil Drains ............................. 91
1112 Building Subdrains ......................... 91
1113 Sumps and Pumping Systems .............. 92
<table>
<thead>
<tr>
<th>CHAPTER 12</th>
<th>SPECIAL PIPING AND STORAGE SYSTEMS</th>
<th>93</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1201</td>
<td>General</td>
<td>93</td>
</tr>
<tr>
<td>1202</td>
<td>Medical Gases</td>
<td>93</td>
</tr>
<tr>
<td>1203</td>
<td>Oxygen Systems</td>
<td>93</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CHAPTER 13</th>
<th>NONPOTABLE WATER SYSTEMS</th>
<th>95</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1301</td>
<td>General</td>
<td>95</td>
</tr>
<tr>
<td>1302</td>
<td>On-site Nonpotable Water Reuse Systems</td>
<td>97</td>
</tr>
<tr>
<td>1303</td>
<td>Nonpotable Rainwater Collection and Distribution Systems</td>
<td>99</td>
</tr>
<tr>
<td>1304</td>
<td>Reclaimed Water Systems</td>
<td>101</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CHAPTER 14</th>
<th>SUBSURFACE LANDSCAPE IRRIGATION SYSTEMS</th>
<th>103</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1401</td>
<td>General</td>
<td>103</td>
</tr>
<tr>
<td>1402</td>
<td>System Design and Sizing</td>
<td>103</td>
</tr>
<tr>
<td>1403</td>
<td>Installation</td>
<td>104</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CHAPTER 15</th>
<th>REFERENCED STANDARDS</th>
<th>107</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>APPENDIX A</th>
<th>RESERVED</th>
<th>123</th>
</tr>
</thead>
<tbody>
<tr>
<td>APPENDIX B</td>
<td>RATES OF RAINFALL FOR VARIOUS CITIES</td>
<td>125</td>
</tr>
<tr>
<td>APPENDIX C</td>
<td>STRUCTURAL SAFETY</td>
<td>127</td>
</tr>
<tr>
<td>Section</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C101</td>
<td>Cutting, Notching and Boring in Wood Members</td>
<td>127</td>
</tr>
</tbody>
</table>

| APPENDIX D | DEGREE DAY AND DESIGN TEMPERATURES | 129 |

| APPENDIX E | SIZING OF WATER PIPING SYSTEM | 131 |
| Section    |                            |    |
| E101       | General                   | 131 |
| E102       | Information Required       | 131 |
| E103       | Selection of Pipe Size     | 131 |
| E201       | Selection of Pipe Size     | 148 |
| E202       | Determination of Pipe Volumes | 148 |

INDEX | 153 |