

City of Carlsbad



Engineering Standards

**Volume 2
Potable and Recycled Water Standards**

2004 Edition

**CITY OF CARLSBAD
ENGINEERING STANDARDS**

VOLUME 2 - POTABLE AND RECYCLED WATER STANDARDS

TABLE OF CONTENTS

		<u>Page</u>
CHAPTER 1 – GENERAL REQUIREMENTS		
1.1	Introduction	1
1.2	Procuring Water System	1
1.2.1	Availability of Service	1
1.2.2	Preliminary Feasibility Investigation	1
1.2.3	Planchecking of Proposed Design	1
1.2.4	Agreements, Bonding, and Engineering Service Charges.....	2
1.2.5	Responsibility for Furnishing Materials and Installation	2
1.2.6	Guarantees	2
1.2.7	Occupancy Requirements.....	2
1.2.8	Acceptance of System Procedures	2
1.2.9	Severability	3
1.3	Water Connection Charges, Deposits, and Engineering Fees	3
1.3.1	Fees, Charges, and Surcharges	3
1.3.2	Meter Installation Charge	3
	Deposits for "Work Order" Installations	3
1.3.3	Inspection Charges	3
1.4	District's Regulation Regarding Backflow Prevention Devices.....	3
CHAPTER 2 – RULES AND REGULATIONS FOR USE OF RECYCLED WATER		
2.1	General Requirements and Conditions	1
2.1.1	Introduction	1
2.1.2	Service Area	2
2.1.3	Determination of Recycled Water Use Area.....	2
2.1.4	Authorized Uses.....	3
2.1.5	Conditions of Service	3
2.1.6	California Regional Water Quality Control Board Conditions.....	5
2.1.7	Other Applicable Codes, Rules, and Regulations.....	5
2.2	Administrative Requirements	6
2.2.1	Permit Application Process	6
2.2.2	Conditions for Recycled Water Use	7
2.2.3	Contracts/Agreements	9
2.2.4	Rates, Fees, Charges, Deposits	9

CHAPTER 3 – DESIGN GUIDELINES AND PROCEDURES

3.1 Design Procedures1
3.1.1 Potable Water1
3.1.2 Recycled Water1
3.2 Planning and Design Criteria.....2
3.2.1 Water Flow Generation2
3.2.2 District Pipeline Sizing Criteria (Maximum Friction, Slopes, Velocities, Etc.) ...2
3.2.3 Water Master Plan Peaking Factors3
3.3 Location, Type and Size of Water Facilities4
3.3.1 Distribution Mains4
3.3.2 Transmission Mains4
3.3.3 Water Valves for Distribution Mains4
3.3.4 Water Valves for Transmission Main.....4
3.3.5 Location of Valves and Appurtenances4
3.3.6 In-Line Valves4
3.3.7 Horizontal Location of Water Pipelines5
3.3.8 Vertical Location of Water Pipelines5
3.3.9 Separation Between Water, Sewer, Recycled Water Lines, and
Other Underground Utilities.....6
3.3.10 Water Service and Meter Items.....6
3.3.11 Providing Required Easements.....7

CHAPTER 4 – CONSTRUCTION INSPECTION PROCEDURES

4.1 General Requirements1
4.2 Inspection Procedures1
4.2.1 Field Inspection.....1
4.2.2 Interpretation of Specifications and Detail Drawings2
4.2.3 Revision of District Approved Plans2
4.2.4 Final Inspection.....2
4.3 Water Service Prior to Acceptance3

CHAPTER 5 – REQUIREMENTS FOR ONSITE (PRIVATE) RECYCLED WATER SYSTEMS

5.1 Design Requirements.....1
5.1.1 Determination of Recycled Water Use1
5.1.2 Requirements of Recycled Water Facilities Using Temporary Potable
Water Service1
5.1.3 Prohibitions and Limitations1
5.1.4 Control of Run-Off and Application Areas2
5.1.5 Drinking Fountains2
5.1.6 Guidelines for Recycled Water Use2
5.1.7 Private Recycled Water Notes3
5.1.8 Plan Review Processing of Private (Onsite) Recycled Water System
Improvement Plans5
5.1.9 Conversion of Recycled Water to a Potable Water Supply6
5.2 Construction Specifications.....6
5.2.1 Introduction6
5.2.2 General Conditions7
5.2.3 Material Specifications9
5.2.4 Methods of Construction13
5.3 Operational Requirements17
5.3.1 Specific Prohibitions.....17
5.3.2 Onsite Irrigation Systems19
5.3.3 Recycled Water Use at Construction Sites20

APPENDICES

Appendix A Abbreviations
Appendix B Definitions
Appendix C Approved Materials List

