

**STANDARD SPECIFICATIONS**

**TABLE OF CONTENTS**

**VOLUME I    GENERAL CONDITIONS**

<b>SECTION 1 - INTRODUCTION</b>	<b>1</b>
1.01 INTRODUCTION .....	1
<b>SECTION 2 - DEFINITIONS AND TERMS</b>	<b>2</b>
2.01 DEFINITIONS AND TERMS .....	2
2.02 ABBREVIATIONS .....	5
2.03 PIPE TYPES.....	5
<b>SECTION 3 - SCOPE OF WORK</b>	<b>6</b>
3.01 SCOPE .....	6
3.02 GUARANTEE OF WORK .....	6
3.03 INDEMNIFICATION .....	6
3.04 SAFETY.....	7
3.05 PRESERVATION OF PROPERTY .....	7
3.06 TRADE NAMES AND ALTERNATIVES.....	8
<b>SECTION 4 - SITE PREPARATION</b>	<b>9</b>
4.01 CONTAMINATED MATERIALS.....	9
<b>SECTION 5 - SITE CLEANUP</b>	<b>10</b>
5.01 SITE CLEANUP.....	10
<b>SECTION 6 - PAVING REPLACEMENT</b>	<b>11</b>
6.01 DEFINITION .....	11
6.02 PAVING IN PUBLIC RIGHTS-OF-WAY OR PUBLIC UTILITY EASEMENT .....	11
6.03 PAVING IN NAPA SANITATION DISTRICT EASEMENTS AND IN PRIVATE PROPERTY.....	11
6.04 ALL-WEATHER ACCESS .....	11
<b>SECTION 7 - REQUIREMENTS FOR ISSUANCE OF CONSTRUCTION PERMITS</b>	<b>12</b>
7.01 PROPERTY TO BE SERVED BY DISTRICT .....	12
7.02 LICENSE REQUIREMENTS .....	12
7.03 BOND/DEPOSIT REQUIREMENTS .....	12
7.04 FEES AND CHARGES .....	12
7.05 SUBMISSION OF DATA FOR MAIN SEWERS AND RECYCLED WATER MAINS.....	12
7.06 SUBMISSION OF DATA FOR PUBLIC LATERALS AND CONNECTIONS TO RECYCLED WATER MAINS .....	15
7.07 SUBMISSION OF DATA FOR PRIVATE LATERALS AND PRIVATE RECYCLED WATER SYSTEMS.....	15
7.08 WASTE DISCHARGE REPORT/PERMIT .....	17

7.09 PRIVATE EASEMENT REQUIREMENTS.....	17
7.10 ENCROACHMENT PERMIT.....	18
7.11 MINIMUM REQUIREMENTS FOR DIGITAL SUBMITTAL.....	18
<b>SECTION 8- MISCELLANEOUS SEWER AND RECYCLED WATER REQUIREMENTS</b>	<b>19</b>
8.01 REPAIR OR RELOCATION OF EXISTING MAIN SEWER, RECYCLED WATER MAIN, OR APPURTENANCES.....	19
8.02 REPAIR, RELOCATION OF OR CONNECTION TO EXISTING PRIVATE LATERALS AND PRIVATE RECYCLED WATER SYSTEMS.....	19
8.03 USE OF EXISTING LATERAL SEWERS AND RECYCLED WATER PIPES.....	19
8.04 ABANDONMENTS.....	19
8.05 NUMBER OF PRIVATE LATERALS REQUIRED.....	20
8.06 WORK IN PAVED AREAS.....	20
<b>SECTION 9 - REQUIREMENTS PRIOR TO START OF CONSTRUCTION</b>	<b>21</b>
9.01 PERMIT.....	21
9.02 STAKING AND CUT SHEETS.....	21
9.03 INSPECTION.....	21
<b>SECTION 10 - APPROVAL AND ACCEPTANCE OF CONSTRUCTION</b>	<b>23</b>
10.01 MAIN SEWERS AND RECYCLED WATER MAINS.....	23
10.02 PUBLIC LATERALS AND CONNECTIONS TO RECYCLED WATER MAINS.....	23
10.03 PRIVATE SEWERS.....	23
10.04 PAYMENT.....	23

**VOLUME II    SANITARY SEWER**

<b>SECTION 1 - SEWER PIPE LINES</b>	<b>1</b>
1.01 SEWER CONSTRUCTION MATERIALS.....	1
1.02 PIPE MATERIALS.....	1
1.03 PIPE COUPLINGS.....	8
1.04 MAIN CONNECTIONS.....	8
1.05 EMBEDMENT.....	9
1.06 STAINLESS STEEL BANDS.....	9
<b>SECTION 2 - PORTLAND CEMENT CONCRETE AND MORTAR</b>	<b>10</b>
2.01 CONCRETE.....	10
2.02 MORTAR AND GROUT.....	11
<b>SECTION 3 - SEWER PIPE AND STRUCTURE INSTALLATION</b>	<b>13</b>
3.01 SEWER PIPE INSTALLATION.....	13
3.02 SPLICE.....	17
3.03 MANHOLE.....	17
3.04 RISER (Main Sewer Only).....	22

3.05 CLEANOUT TO GRADE (Private Lateral Only).....	22
3.06 TWO-WAY CLEANOUT TO GRADE (Private Lateral Only).....	22
3.07 TEST WYE (Private Lateral Only) .....	23
3.08 SEWER THROUGH CASING .....	23
3.09 SEWER THROUGH BORE .....	24
3.10 REHABILITATION OF PRIVATE SEWERS USING PIPE-BURSTING.....	25
3.11 CURED IN PLACE PIPE (CIPP) LINING.....	27
<b>SECTION 4 - EXCAVATION</b>	<b>32</b>
4.01 DEFINITION .....	32
4.02 OPEN TRENCHING .....	32
<b>SECTION 5 - TRENCH BACKFILLING</b>	<b>36</b>
5.01 TRENCH BACKFILLING .....	36
5.02 PIPE FOUNDATION - (If Required by Engineer).....	36
5.03 GEOTEXTILE FILTER FABRIC.....	36
5.04 PIPE EMBEDMENT.....	37
5.05 TRENCH BACKFILL MATERIAL.....	38
<b>SECTION 6 - MISCELLANEOUS REQUIREMENTS</b>	<b>40</b>
6.01 INSPECTION.....	40
6.02 ALTERATIONS .....	40
6.03 DEFECTIVE WORK AND/OR MATERIALS .....	40
6.04 MANHOLE PROTECTION .....	40
6.05 USE OF EXISTING LATERAL SEWERS.....	41
6.06 PUBLIC (STREET) LATERAL MARKING.....	41
6.07 TRACER WIRE AND MARKER TAPE.....	41
6.08 MANHOLE MARKING .....	43
6.09 REPAIR OF DAMAGED SEWERS AND OTHER UTILITIES.....	43
6.10 ABANDONMENTS.....	43
6.11 GREASE AND OIL COLLECTION SYSTEMS .....	45
6.12 OUTDOOR SINK REQUIREMENTS.....	48
6.13 TRASH ENCLOSURE DRAIN REQUIREMENTS.....	49
6.14 CAR WASH REQUIREMENTS.....	50
6.15 POOL AND SPA REQUIREMENTS.....	50
6.16 WINTERIZING SANITARY SEWER SYSTEM DURING CONSTRUCTION.....	50
<b>SECTION 7 – TESTING</b>	<b>52</b>
7.01 TESTING MAIN SEWERS .....	52
7.02 TESTING PRIVATE AND PUBLIC SEWER LATERALS .....	55
7.03 TESTING PRESSURE SEWERS .....	56
7.04 MANHOLE VACUUM TESTING.....	56
7.05 ORDER OF WORK .....	57
<b>SECTION 8 – CLOSED CIRCUIT TELEVISION (CCTV) INSPECTION</b>	<b>58</b>
8.01 CCTV INSPECTION .....	58

<b>SECTION 9 - CLEANING</b>	<b>61</b>
9.01 CLEANING.....	61
<b>SECTION 10 - DESIGN AND POLICY STANDARDS FOR MAIN SEWERS AND PUBLIC LATERAL</b>	<b>62</b>
10.01 PIPE MATERIALS.....	62
10.02 PIPE MATERIAL CHANGES.....	62
10.03 SIZE AND SLOPE .....	62
10.04 MAIN SIZING CRITERIA.....	63
10.05 ALIGNMENT .....	63
10.06 CROSS CONNECTION.....	63
10.07 GRADE .....	64
10.08 GRADE STAKES .....	64
10.09 DESIGN DEPTH .....	64
10.10 MINIMUM PIPE COVER.....	64
10.11 TRENCH INTERSECTIONS.....	64
10.12 HORIZONTAL AND VERTICAL CLEARANCE REQUIREMENTS .....	65
10.13 WATER MAIN SEPARATION.....	65
10.14 CROSSING STORM DRAINS.....	66
10.15 STRUCTURE LOCATIONS .....	66
10.16 MAIN LOCATIONS .....	66
10.17 IN AND OUT ELEVATIONS AT MANHOLES .....	66
10.18 MAXIMUM DEFLECTION AT MANHOLES .....	66
10.19 MANHOLE RIM ELEVATION.....	67
10.20 CONNECTION TO EXISTING MANHOLE.....	67
10.21 CONNECTIONS BETWEEN MAIN SEWERS.....	67
10.22 CONNECTION BETWEEN PUBLIC AND PRIVATE LATERAL.....	67
10.23 DROP MANHOLES .....	67
10.24 BOLT-DOWN MANHOLES.....	67
10.25 EASEMENT ALL-WEATHER ACCESS REQUIREMENTS .....	67
10.26 EASEMENT ACCESS REQUIREMENTS .....	67
10.27 EXTENT OF SEWER MAIN IMPROVEMENTS.....	67
10.28 PUBLIC LATERAL CONNECTIONS TO EXISTING MAIN OR NEW MAIN .....	68
<b>SECTION 11 - DESIGN AND POLICY STANDARDS FOR PRIVATE LATERALS</b>	<b>70</b>
11.01 SIZE AND SLOPE .....	70
11.02 PIPE MATERIALS.....	70
11.03 ALIGNMENT .....	70
11.04 GRADE .....	70
11.05 GRADE STAKES .....	70
11.06 CURB MARKING .....	71
11.07 CONNECTION TO PUBLIC LATERAL .....	71
11.08 CONNECTION TO EXISTING PRIVATE SEWER.....	71
11.09 CONNECTION TO BUILDING DRAIN (PLUMBING KICK-OUT) .....	71
11.10 CLEARANCES .....	72

11.11 SEWER UNDER OR NEAR STRUCTURES.....	72
11.12 MINIMUM PIPE COVER.....	72
11.13 TRENCH INTERSECTIONS.....	72
11.14 HORIZONTAL UTILITY CLEARANCE.....	73
11.15 STRUCTURE TYPE AND LOCATION.....	73
11.16 OVERFLOW DEVICES.....	73
11.17 NUMBER OF PRIVATE SEWERS REQUIRED.....	73
11.18 PRIVATE PUMPING STATIONS.....	74
<b>SECTION 12 - DESIGN AND POLICY STANDARDS FOR PRIVATE MAINS</b>	<b>75</b>
12.01 GENERAL.....	75
<b>SECTION 13 – PUMP STATIONS</b>	<b>76</b>
13.01 PUMP STATIONS.....	76
13.02 PACKAGED PUMP STATIONS.....	83
13.03 PRIVATE LIFT STATIONS.....	87

**SANITARY SEWER DETAILS**

- SS-1 – Sanitary Sewer Cleanout
- SS-2 – Standard Residential Public Lateral for New Construction
- SS-3 –Sewer Lateral Crossing Above Utility, No Conflict in Grade
- SS-4 –Sewer Lateral Crossing Below Utility, No Conflict in Grade
- SS-5 – Simple Sewer Lateral Break with Conflict in Grade
- SS-6 – Sewer Lateral Layout 1
- SS-7 – Sewer Lateral Layout 2
- SS-8 – Drop Type Manhole
- SS-9 – Standard Pre-Fab Manhole (Sheet 1)
- SS-9A – Standard Pre-Fab Manhole (Sheet 2)
- SS-10 – Barrel Section Joints for Standard Pre-Fab Manhole
- SS-11 – Typical Manhole Using Impression Ring
- SS-12 – Pre-Cast Concrete 48"x24" Reducer Slab for Manholes
- SS-13 – Typical Method for Setting Appurtenances
- SS-14 – Standard 24" Manhole Frame and Cover
- SS-15 – Bolt-Down 24" Manhole Frame and Cover
- SS-16 – 36" Diameter Manhole Frame and Cover
- SS-17 – Typical Installation Irrigation "Subtraction" Meter
- SS-18 – Standard Casing Installation
- SS-19 – Redwood Check Dam
- SS-20 – Trench Dams
- SS-21 – NOT USED
- SS-22 – Two Stage Grease Interceptor
- SS-23 – Grease Interceptor Sampling Box
- SS-24 – Standard Trench Section

- SS-25 – Standard Tracer Wire Installation Detail
- SS-26 – Abandoned Pipe Plug
- SS-27 – Abandoned Manhole
- SS-28 – Standard Flush Hole for 6” and 8” Sanitary Sewer Mains
- SS-29 – Standard Trench Section for Private Sewer Lateral

**VOLUME III RECYCLED WATER**

<b>SECTION 1 - RECYCLED WATER MAINS – GENERAL</b>	<b>1</b>
1.01 RECYCLED WATER MAINS – GENERAL .....	1
1.02 RESTRAINED JOINTS .....	2
1.03 THRUST BLOCKS .....	2
1.04 MATERIALS .....	2
1.05 PRESSURE .....	5
<b>SECTION 2 - CONNECTION TO AN EXISTING PUBLIC RECYCLED WATER MAIN</b>	<b>6</b>
2.01 CONNECTIONS .....	6
<b>SECTION 3 - ALIGNMENT</b>	<b>7</b>
3.01 ALIGNMENT CRITERIA .....	7
3.02 MAIN SIZING CRITERIA .....	7
3.03 MIMIMUM MAIN/LATERAL COVER .....	7
<b>SECTION 4 - RECYCLED WATER VALVING</b>	<b>9</b>
4.01 RECYCLED WATER VALVING .....	9
4.02 SPECIALTY VALVES AND RECYCLED WATER SAMPLING STATIONS .....	10
<b>SECTION 5 - HYDROSTATIC TEST</b>	<b>12</b>
5.01 TESTING .....	12
<b>SECTION 6 - SERVICE LATERALS AND METERS FOR IRRIGATION SERVICE</b>	<b>14</b>
6.01 SERVICE LATERALS .....	14
<b>SECTION 7 - BACKFLOW DEVICES</b>	<b>18</b>
7.01 BACKFLOW DEVICES .....	18
<b>SECTION 8 - SPECIAL CONDITIONS FOR DELINEATED FAULT ZONES</b>	<b>19</b>
8.01 SPECIAL CONDITIONS .....	19
<b>SECTION 9 - ABANDONMENT OF RECYCLED WATER MAINS AND SERVICES</b>	<b>20</b>
9.01 ABANDONMENT OF RECYCLED WATER MAINS AND SERVICES .....	20
<b>SECTION 10 - ON-SITE DESIGN STANDARDS</b>	<b>21</b>
10.01 ON-SITE DESIGN STANDARDS .....	21

## **RECYCLED WATER DETAILS**

- RW-1 – Concrete Anchor Blocks for Vertical Bends
- RW-2 – Concrete Thrust Blocks for Horizontal Bends
- RW-3 – Not Used
- RW-4 – Recycled Water Main Trench Section
- RW-5 – Not Used
- RW-6 – 2” Blow-Off Assembly
- RW-7 – 2” Water Service Lateral for 1 1/2” Meters
- RW-8 – 1” Water Service Lateral for 3/4” Meters
- RW-9 – Not Used
- RW-10 – Not Used
- RW-11 – Not Used
- RW-12 – Reduced-Pressure Backflow Device
- RW-13 – Gate Valve
- RW-14 – Recycled Water Reservoir Fill Requirements
- RW-15 – 1” Air Release and Vacuum Valve Assembly
- RW-16 – 2” Air Release and Vacuum Valve Assembly
- RW-17 – Recycled Water Line Notes
- RW-18 – Recycled Water Sign