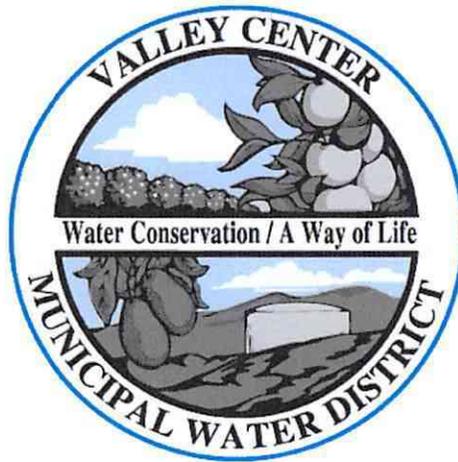


VALLEY CENTER MUNICIPAL WATER DISTRICT  
29300 Valley Center Road  
Valley Center, California 92082  
Phone: (760) 749-1600  
Fax: (760) 749-4098

# STANDARDS MANUAL FOR DESIGN AND CONSTRUCTION OF WATER, SEWER, AND RECYCLED FACILITIES



## UPDATES AND REVISIONS:

The following STANDARDS are approved by the Board of Directors per Article 280 of the Administrative Code, adopted by Ordinance 2020-02 on January 21, 2020 as the standard specification for improvements to the Valley Center Municipal Water District's facilities.

VALLEY CENTER MUNICIPAL WATER DISTRICT

By:   
\_\_\_\_\_  
Gary T. Arant, General Manager

By:   
\_\_\_\_\_  
Wally Grabbe, District Engineer

By:   
\_\_\_\_\_  
Brian Lovelady, Director of Operations/Facilities

# TABLE OF CONTENTS

LATEST REVISION

## SECTION 1 GENERAL CONDITIONS

1-01	General	MARCH 2020
1-02	Definition Of Terms	MARCH 2020
1-03	Supplementary Specifications	MARCH 2020
1-04	District Engineer's Authority	MARCH 2020
1-05	Requirements For Improvement Plans	MARCH 2020
1-06	Indemnification	MARCH 2020
1-07	Insurance Requirements	MARCH 2020
1-08	Contractor's License Requirements	MARCH 2020
1-09	Compliance With Laws & Regulations & Permits	MARCH 2020
1-10	Prejob Conference	MARCH 2020
1-11	Inspection	MARCH 2020
1-12	Safety Requirements	MARCH 2020
1-13	Alcohol & Drugs	MARCH 2020
1-14	Traffic Obstruction & Control	MARCH 2020
1-15	Plans & Specifications On Job Site	MARCH 2020
1-16	Construction Water	MARCH 2020
1-17	Temporary Lines	MARCH 2020
1-18	Responsibility For Damage To Existing Improvements	MARCH 2020
1-19	Materials & Workmanship	MARCH 2020
1-20	Atmospheric Control	MARCH 2020
1-21	Work In County Roads	MARCH 2020
1-22	Right-Of-Way & Easements	MARCH 2020
1-23	Loss Or Damage	MARCH 2020
1-24	Protection Of Property & Utilities	MARCH 2020
1-25	Disposal Of Excess Water	MARCH 2020
1-26	Superintendence & Labor Competency	MARCH 2020
1-27	Work Site Maintenance	MARCH 2020
1-28	Use Of Explosives	MARCH 2020
1-29	Attorneys Fees	MARCH 2020
1-30	Shutdown Periods	MARCH 2020
1-31	Project Clean-Up	MARCH 2020
1-32	Work Progress	MARCH 2020
1-33	1-Year Warranty Of Work	MARCH 2020

## SECTION 2 DESIGN GUIDELINES

### GENERAL

1.1	Drafting Guidelines	JUNE 2022
1.2	AutoCAD Guidelines	MARCH 2020
1.3	NOT USED	
1.4	NOT USED	
1.5	Easements and Encroachments	MARCH 2020
1.6	Survey Standards Guideline	MARCH 2020
1.7	Record Drawing Guidelines	MARCH 2020

### PRIVATE DEVELOPMENT PROJECTS

2.1	Procedural Guidelines	MARCH 2020
2.2	Development Plan and Permit Processing Procedures	MARCH 2020
2.3	Water Facility Guidelines	MARCH 2020
2.4	Sewer Facility Guidelines	MARCH 2020

# TABLE OF CONTENTS

LATEST REVISION

## AGENCY IMPROVEMENT PROJECTS

3.1	Agency Capital Improvement Projects.....	MARCH 2020
-----	--	------------

## PLANNING

4.1	Water Planning (PENDING)	
4.2	Sewer Planning (PENDING)	
4.3	NOT USED	
4.4	Sub-Area Master Plan Development.....	MARCH 2020
4.5	NOT USED	
4.6	National Pollutant Elimination System (NPDES).....	MARCH 2020
4.7	Other Agency Permits.....	MARCH 2020

## WATER PIPELINE DESIGN

5.1	Pressure Pipeline Design.....	JULY 2021
5.2	Thrust Restraint and Anchor Blocks.....	MARCH 2020
5.3	Line Valves Selection and Placement.....	MARCH 2020
5.4	Fire Hydrants and Fire Services.....	MARCH 2020
5.5	Air Valves.....	MARCH 2020
5.6	Blowoffs.....	MARCH 2020
5.7	Water Services and Test Stations.....	MARCH 2020

## SEWER PIPELINE DESIGN

6.1	Gravity Sewer Pipeline Design.....	MARCH 2020
6.2	Sewer Manholes and Cleanouts.....	MARCH 2020
6.3	Sewer Laterals.....	MARCH 2020
6.4	Pressure Systems (Force Mains).....	MARCH 2020

## RESERVOIR DESIGN (PENDING)

## CONTROL VALVES (PENDING)

## WATER PUMP STATION DESIGN (PENDING)

## SEWAGE PUMP STATION DESIGN (PENDING)

## APPENDIX

1.1A	Hatching and Patterning.....	MARCH 2020
1.1B	Leader Lines.....	MARCH 2020
1.1C	Detail and Section Callouts.....	MARCH 2020
1.1D	Title Sheets.....	MARCH 2020
1.1E	Plan and Profile Sheets.....	MARCH 2020
1.1F	Detail Sheet.....	MARCH 2020
1.2	CAD Templates.....	JANUARY 2022
2.2A	Water Plan Checklist.....	MARCH 2020
2.2B	Plan Improvement Notes.....	MARCH 2020
2.2C	Bond Estimate Worksheet.....	MARCH 2020
2.3A	SWRCB Separation Guideline.....	MARCH 2020
2.4	Private Onsite Low Pressure Wastewater Collection Systems.....	MARCH 2020

# TABLE OF CONTENTS

LATEST REVISION

## SECTION 3 STANDARD DRAWINGS

### WATER

W-1	Standard Symbols, Abbreviations & Legends	MARCH 2020
W-2	Typical Installation for Water Main Appurtenances	MARCH 2020
W-3	¾" and 1" Water Service	OCTOBER 2021
W-3A	¾" Domestic & 1" Fire Water Service	JANUARY 2022
W-4	1½" or 2" Water Service	OCTOBER 2021
W-5	3" Water Service	OCTOBER 2021
W-6	3" Water Service Manifold Assembly	OCTOBER 2021
W-7	1 ½" or 2" Fire Service	OCTOBER 2021
W-8	4" and Larger Fire Service Installation (sht 1 & 2)	OCTOBER 2021
W-9	2" Blow off Assembly	MARCH 2020
W-10	1" Air Vacuum & 2" Blow Off Combinations	JANUARY 2022
W-10A	End of Line 1" Air Vacuum & 2" Blow Off Combinations	JANUARY 2022
W-11	4" Blow off Assembly	MAY 2019
W-12	6" Fire Hydrant Assembly	APRIL 2022
W-13	1" Air & Vacuum Release Assembly	SEPTEMBER 2020
W-14	2" Air & Vacuum Release Assembly	SEPTEMBER 2020
W-15	3" or 4" Combination Air Valve or Air & Vacuum Valve Assemblies	MAY 2019
W-16	Above Ground Enclosure	MARCH 2020
W-17	Standard Pipe Zone and Trench Backfill	MAY 2019
W-18	Typical Connection Details to Steel and AC Pipe	MAY 2019
W-19	Butt Strap Closure	MAY 2019
W-20	Concrete Thrust Blocks	MAY 2019
W-21	Concrete Valve Supports for In Line Valves	MAY 2019
W-22	Not Used	
W-23	Valve Stem Extension Gate Valves 3" or Smaller	MAY 2019
W-24	Valve Stem Extension Gate Valves 4" and Larger	MAY 2019
W-25	Valve Well Cap and Can Installation	MARCH 2020
W-26	Anchor Block Details for In Line Reducers (16" Pipe Max.)	MAY 2019
W-27	Vertical Anchor Block	MAY 2019
W-28	Slope Protection for Grades of 30% or Larger	MAY 2019
W-29	Standard Cutoff Wall	MAY 2019
W-30	Concrete Encasement Detail for U.G. Electrical, Telephone, and Sewer Tight Lines	MAY 2019
W-31	Guard & Marker Post Installation	MAY 2019
W-32	Utility Marker Post Installation	MAY 2019
W-33	Appurtenance Retaining Wall	MAY 2019
W-34	Adjustable Pipe Support Detail	MAY 2019
W-35	Water Quality Sampling Station	MAY 2019
W-36	Project Information Sign	MAY 2019
W-37	Typical Pipe Gate	MAY 2019
W-38	Chain Link Fence Details	MAY 2019
W-39	2-Wire Test Station(Paved)	MAY 2019
W-40	2-Wire Test Station(Unpaved)	MAY 2019
W-41	2 or 4 Wire Test Station	MAY 2019
W-42	At Grade Test Box	MAY 2019
W-43	Buried Insulating Flange	MAY 2019
W-44	Buried Insulating Flange At Grade Test Station	MAY 2019
W-45	4-Wire Casing Test Station	MAY 2019
W-46	Above Grade Insulating Flange	MAY 2019
W-47	Mechanical Joint Bond	MAY 2019
W-48	CML&C Steel Pipe Joint Bond (Wire Jumper)	MAY 2019
W-49	DIP Joint Bonding and Test Lead Connections	MAY 2019
W-50	Single Anode Installation	MAY 2019
W-51	Single Anode Test Station Wiring	MAY 2019
W-52	Prepackaged Magnesium Anode	MAY 2019

# TABLE OF CONTENTS

**LATEST REVISION**

W-53	Alumino-Thermic Weld.....	MAY 2019
------	---------------------------	----------

## **GRAVITY SEWER**

S-1	Standard Symbols for Sewer Construction Drawings.....	MARCH 2020
S-2	Concrete Encasement.....	MARCH 2020
S-3	Pipeline Separation Requirements.....	MARCH 2020
S-4	Standard Precast Concrete Manhole (4' Dia).....	MARCH 2020
S-5	Standard Precast Concrete Manhole (5' Dia).....	MARCH 2020
S-6	Terminus Manhole.....	MARCH 2020
S-7	Standard Precast Concrete Drop Manhole.....	MARCH 2020
S-8	Standard Pipe Zone and Trench Backfill.....	MARCH 2020
S-9	36" Manhole Frame and Two Concentric Covers.....	MAY 2019
S-10	Not Used.....	
S-11	New Installation PVC Sewer Lateral.....	MARCH 2020
S-12	Deep Cut Sewer Lateral.....	MARCH 2020
S-13	Sewer Lateral Cut In.....	MAY 2019
S-14	Sewer Lateral Cleanout.....	OCTOBER 2021
S-15	Support for Undercut.....	MAY 2019
S-16	Standard Cutoff Wall (Anchor).....	MAY 2019
S-17	Sewer Manhole Adjustment (sht 1 and 2).....	MARCH 2020

## **LOW PRESSURE SEWER**

LPS-1	Low Pressure Wastewater Lateral.....	MARCH 2020
LPS-2	On-Site Grinder Pump Residential.....	MARCH 2020
LPS-3	On-Site Grinder Pump Commercial.....	MARCH 2020
LPS-4	Low Pressure Cleanout.....	MARCH 2020
LPS-5	Low Pressure Terminus Cleanout.....	MARCH 2020
LPS-6	Low Pressure Combination Air Valve.....	MARCH 2020
LPS-7	In-Line Plug Valve.....	MARCH 2020
LPS-8	Blowoff.....	MAY 2019

## **SECTION 4 APPROVED MATERIALS LIST**

4.01	Water Approved Material List.....	AUGUST 2022
4.02	Sewer Approved Material List.....	JANUARY 2022
4.03	Low Pressure Sewer Approved Material List.....	MARCH 2020

## **SECTION 5 STANDARD FORMS**

5.01	Construction Meter.....	MARCH 2023
5.02	Encroachment Permit.....	MARCH 2020
5.03	Submittal Form.....	MARCH 2023
5.04	Submittal Log.....	MARCH 2023
5.05	Request for Information Form.....	MARCH 2023
5.06	Performance/Warranty Bond.....	MARCH 2023
5.07	Commercial Wastewater Discharge Program Application.....	MARCH 2020
5.08	Project Account Agreement.....	MARCH 2023

# TABLE OF CONTENTS

LATEST REVISION

## SECTION 6 TECHNICAL SPECIFICATIONS

### DIVISION 1 – GENERAL REQUIREMENTS

01010	Summary of Work.....	MARCH 2020
01025	Measurement and Payment.....	MARCH 2020
01050	Construction Survey.....	MARCH 2020
01060	Safety and Health.....	MARCH 2020
01080	Applicable Codes.....	MARCH 2020
01090	Abbreviations and Symbols.....	NOVEMBER 2020
01200	Project Meetings.....	MARCH 2020
01292	Schedule of Values.....	MARCH 2020
01300	Submittals.....	MARCH 2020
01300-A	Submittal Transmittal.....	MARCH 2020
01312	Construction Schedule.....	SEPTEMBER 2022
01400	Quality Control.....	MARCH 2020
01500	Temporary Facilities and Controls.....	MARCH 2020
01505	Mobilization / Demobilization.....	MARCH 2020
01550	Traffic Regulation.....	NOVEMBER 2020
01590	Field Office.....	MARCH 2020
01600	Products, Materials and Substitution.....	MARCH 2020
01625	Product Delivery, Storage, and Protection.....	MARCH 2020
01710	Cleaning.....	NOVEMBER 2020
01720	Record Drawings.....	MARCH 2020
01730	Operation and Maintenance Data and Manuals.....	MARCH 2020
01740	Guarantee and Warranty.....	MARCH 2020
01756	Testing, Training, and Facility Start-up.....	MARCH 2020
01999	Reference Forms.....	MARCH 2020

### DIVISION 2 – SITE WORK

02200	Earthwork and Site Preparation.....	MARCH 2020
02050	Demolition.....	MARCH 2020
02221	Trenching, Backfilling, and Compacting.....	MARCH 2020
02743	Asphalt Concrete Paving.....	MARCH 2020

### DIVISION 3 – CONCRETE

03100	Formwork.....	MARCH 2020
03200	Reinforcing.....	MARCH 2020
03300	Cast-In-Place Concrete.....	MARCH 2020
03461	Precast Concrete Manholes.....	MARCH 2020

### DIVISION 4 – MASONRY (NOT USED)

### DIVISION 5 – METALS

05500	Miscellaneous Metals.....	MARCH 2020
-------	---------------------------	------------

### DIVISION 6 – WOOD AND PLASTICS (NOT USED)

### DIVISION 7 – THERMAL AND MOISTURE PROTECTION (NOT USED)

### DIVISION 8 – DOORS AND WINDOWS (NOT USED)

# TABLE OF CONTENTS

LATEST REVISION

## DIVISION 9 – FINISHES

09900	General Field Painting and Coating.....	MARCH 2020
09910	Reservoir Painting and Protective Coatings.....	MARCH 2020

## DIVISION 10 – SPECIALTIES (NOT USED)

## DIVISION 11 – EQUIPMENT

11286	Cast Iron Slide.....	MARCH 2020
-------	----------------------	------------

## DIVISION 12 – FURNISHINGS (NOT USED)

## DIVISION 13 – SPECIAL CONSTRUCTION (PENDING)

## DIVISION 14 – CONVEYING SYSTEMS (NOT USED)

## DIVISION 15 – MECHANICAL

15000	General Piping System and Appurtenances.....	MARCH 2023
15041	Disinfection of Pipe and Water Storage Facilities.....	MARCH 2020
15043	Sewer Leakage and Infiltration Testing.....	MARCH 2020
15044	Hydrostatic Testing of Pressure Pipelines.....	MARCH 2020
15045	Closed-Circuit Television (CCTV) Inspections.....	MARCH 2020
15056	Ductile Iron Pipe and Fittings.....	MARCH 2020
15057	Copper Tubing, Brass, Bronze.....	MARCH 2020
15061	Cement Mortar Lined and Coated Steel Pipe and Specials.....	MARCH 2020
15064	Polyvinyl Chloride (PVC) Pressure Pipe.....	OCTOBER 2021
15065	Polyvinyl Chloride (PVC) Gravity Sewer Pipe.....	MARCH 2020
15066	Temporary Water Mains.....	OCTOBER 2021
15074	Blowoff Assemblies.....	MARCH 2020
15099	Process Valves and Miscellaneous Valves.....	MARCH 2020
15100	Resilient Wedge Gate Valves.....	MARCH 2020
15102	Butterfly Valves (BFV).....	MARCH 2020
15108	Combination Air Valve Assemblies.....	MARCH 2020
15112	Backflow Preventers.....	MARCH 2020
15150	High Density Polyethylene (HDPE) Pipe.....	MARCH 2020
15151	Recycled Water Facilities (Offsite).....	MARCH 2020
15152	Recycled Water Facilities (Onsite).....	MARCH 2020
15300	Fire Hydrants.....	MARCH 2020

## DIVISION 16 – ELECTRICAL (PENDING)

## DIVISION 17 – INSTRUMENTATION AND CONTROLS (PENDING)