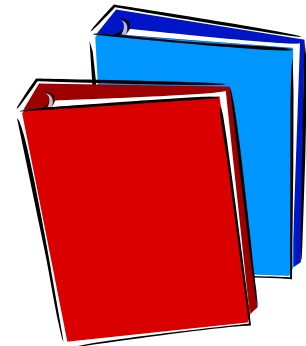


Standards and Specifications

Melenie Davis

Historical

- **Relied on County of Sacramento Standards and Specifications**
 - **Updates**
 - **Materials**
 - **Manufacturers**
- **Incorporated jurisdictions**
- **Approved by Board of Supervisors, not District's governing Board**



Documents

- **Design Standards, Version 2.0**
- **Construction Specifications, Version 1.0**
- **Rehabilitation Standards and Specifications, Version 1.0**
- **Standard Plans, Version 1.0**

**Approved by the Board of Directors
on February 25, 2009.**

Purpose

To provide minimum standards for use in design, construction and rehabilitation of sewer systems, which may consist of lift or pump stations, gravity sewers, force mains, and related appurtenances, that are to be or are dedicated to the District for Operation and Maintenance.



Philosophy

- **Explain methods and processes**
- **Faster reviews and approvals**

These standards/specifications are applicable to everyone working on the sewer!!

- **District Contractors/Designers**
- **District Maintenance and Operations Staff**
- **Design Engineers**
- **Contractors**

Design Standards

Contents

1. Purpose and Definitions
2. General Requirements and Procedures
3. Capacity Design
4. Sewer Main Alignment
5. Gravity Pipeline
6. Force main
7. Pump Stations
8. Appendix A



Design Standards...

- **Changes/Updates**
 - **New section...Sewer Main Alignment**
 - **Easements**
 - **Abandonment**
 - **Landscaping**
 - **Access Roads**



Design Standards...

- **Gravity**
 - **Backflow Preventers**
 - **Ductile Iron pipe loading**

- **Manholes**
 - **Connection to interceptor detail**
 - **Waterproofing**

- **Force main**
 - **Water hammer analysis**



Design Standards...

- **Pump Stations**
 - **Pump Station Startup Checklist**
 - **Perimeter Fencing**
 - **Gates**
 - **Emergency Storage Requirements**
 - **Instrumentation**
- **Enhanced trenchless guidelines**

Design Standards...

- **Supplements**
 - **Minimum Geotechnical Requirements**
 - **Minimum Sewer Study Requirements**
 - **Shed Shifts**
 - **Submittal Requirements**
 - **Design Report**



All available on the website!

Construction Specifications

Section 1 through 10 – County of Sacramento Standard Construction Specifications

- 11. Purpose and Definitions**
- 12. Preconstruction Photographs**
- 13. Construction Area Traffic Control**
- 14. Existing Facilities**
- 15. Dust Control**
- 16. Clearing and Grubbing**
- 17. Water Used in Construction**

Construction Specifications...

- 18. **Earthwork**
- 19. **Dewatering**
- 20. **Construction Materials**
- 21. **Trenchless Operations**
- 22. **Structure Excavation and Backfill**
- 23. **Trench Excavation, Bedding and Backfill**
- 24. **Gravity Pipeline**
- 25. **Lower Laterals**

Construction Specifications...

- 26. Structures**
- 27. Force main**
- 28. Cathodic Protection**
- 29. Locating Markers**
- 30. Waterproofing Structures**
- 31. Side Forms and Headers**
- 32. Concrete Structures**
- 33. Pumps**

Construction Specifications...

- 34. Pump Station Electrical**
- 35. Instrumentation**
- 36. Pump Station Site**
- 37. Base Material**
- 38. Asphalt Concrete**
- 39. Restoration of Surfaces**
- 40. Landscaping**
- 41. Curbs, Gutters and Sidewalks**

Construction Specifications...

- 42. Testing**
- 43. Pipe Cleaning**
- 44. Television Inspection**
- 45. Final Documents**
- 46. Warranty Period**

Available on our Website

www.sacsewer.com

Construction Specifications...

New/Changes

- **Section 11: Purpose and Definitions**
 - **Document Precedence**
- **Section 14: Existing Facilities**
 - **Bypass Pumping/Flow Control**
 - **Coordination with Existing Operations**
 - **Connections to existing mainlines/manholes**
 - **Connections to existing lower lateral stubs**
 - **Facilities Abandonment**

Construction Specifications...

- **Section 19: Dewatering**
- **Section 20: Construction Materials**
 - **Ductile Iron**
 - **Valves**
- **Section 21: Trenchless Operations**
- **Section 23: Trench Excavation, Bedding and Backfill**

Construction Specifications...

- **Section 24: Gravity Pipe**
 - **Offset Joint**
 - **Lines and Grade**
 - **Grade Tolerances**
 - **Sag Tolerances**
- **Section 25: Lower Laterals**
- **Section 26: Structures**
 - **Manholes, Vaults, Wet Wells**

Construction Specifications...

- **Section 27: Force main**
 - **DIP/HDPE**
 - **Testing**
 - **Thrust Blocks**
- **Section 28: Cathodic Protection**
 - **Identify facilities on curb**
- **Section 29: Locating Markers**
- **Section 30: Waterproofing Structures**
 - **Within areas of groundwater**

Construction Specifications...

- **Section 35: Instrumentation**
 - **New Standard**
 - **Transducers in....bubblers out**
- **Section 36: Pump Station Site**
 - **Ornamental Iron or CMU**
 - **Gates**
 - **Force necessary to open**
- **Section 42: Testing**
 - **Deflection Flexible Pipe**
 - **Test for leakage**
 - **Fresh Water Test for Pump Stations and other tests for stations**

Construction Specifications...

- **Section 44: Television Inspection**
 - **New Construction Standards**
- **Section 45: Final Documents**
 - **Record Drawings vs. As-Built Drawings**
 - **M&O Manuals**

Rehabilitation Standards & Specifications

- **Section 1: Overview, Purpose and Definitions**
- **Section 2: General Information**
 - **Available information**
- **Section 3: Construction Requirements**
 - **Notifications**
 - **Confined Spaces**
 - **Public Notification**
 - **Bypass Pumping/Flow Control**
 - **Cleaning**
 - **Restoration**
 - **Warranty**

Rehabilitation Standards & Specifications...

- **Section 4: Inspection and Testing**
 - **Smoke Testing**
 - **Dye Testing**
 - **Television Inspection (replaces the 2004 TVI manual)**
- **Section 5: Gravity Pipelines**
 - **Lower laterals**
 - **Leak Correction**
 - **Point Repairs**
 - **Lining**
 - **Pipe Bursting**
 - **Joint Testing – Air Testing**
 - **Push Bursting**

Rehabilitation Standards & Specifications...

- **Section 6: Concrete Structures**
 - Frames and Covers
 - Patching
 - Leak Correction
 - Lining
 - Manhole Channeling
 - Manhole Raising
- **Section 7: Pump and Lift Stations**
 - Under Review

Available on our Website

www.sacsewer.com

Standard Plans

- **Supplement to the Above Documents**
 - **Separated into the following categories**
 - **G General Plans**
 - **P Pipeline Plans**
 - **MH Manhole Plans**
 - **LL Lower Lateral**
 - **F Flow Monitoring/Sampling**
 - **FM Force main Plans**
 - **PS General Pump Station Plans**
 - **M Pump Station Mechanical Plans**
 - **E Pump Station Electrical Plans**
 - **I Pump Station Instrumentation**

Available on our Website

www.sacsewer.com

Transition

- **When are these documents effective**
 - **Now!!..... anything that was submitted after Feb 25, 2009.**
- **All Documents and supplements are available online.**

Deviations

- **Request for Deviation to Standards/Specifications**
- **Fill it out completely**
 - **Signed and stamped by Engineer of Record**
 - **Let us know you are okay with this request**
- **Submit to plan reviewer/project manager for processing**
 - **They will review it and determine if it is complete and viable**
- **These requests will be tracked and reviewed to see where there may be issues with the standards/specifications that need to be addressed**

What is Next?

- **More work on Rehabilitation Standards and Specifications**
- **Front End Document**
 - **Goal is to have one Document with Sections**

Contacts

- **Work through your plan reviewer/project manager for questions regarding the standards and specifications**
- **They are here to assist you with your project**

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