



THE CITY OF SAN DIEGO

MEMORANDUM

DATE: March 1, 2021

TO: Distribution

FROM: James Nagelvoort, City Engineer, Engineering & Capital Projects
Shauna Lorange, Director, Public Utilities Department

SUBJECT: Adoption of the Water Facility Design Guidelines 2021 Edition

As of June 1, 2021, the City of San Diego will adopt the 2021 edition of the City's Water Facility Design Guidelines. This latest edition includes updates to the design standards and will be posted on this site: <https://www.sandiego.gov/public-utilities/permits-construction/construction-and-development/water>.

- I. Updates in the Water Facility Design Guidelines: A summary of the updates in the 2021 Edition is described below:

Chapter 2

- a. Revised Table 2-1 Residential Population Densities, Figure 2-1 Peak Hour Demand Factor, Figure 2-2 Maximum Day Factor, and Table 2-4 Fire Demands For Design Purposes
- b. Deleted Figure 2-3 Peaking Factor Zones
- c. Revised pressure requirements during fires to refer to the California Fire Code
- d. Added looped water mains requirement
- e. Revised water storage requirements

Chapter 3

- a. Added clarification for horizontal utility separation to comply with the State Water Resources Control Board, Division of Drinking Water
- b. Added requirements for parallel water mains, water quality sampling stations, and for pipes installed crossing railroads/freeways
- c. Added new sections for prohibited locations of water mains installation, landscaping requirements, and water easement abandonment
- d. Removed PVC material option for 1" and 2" water services, and underground vault installation option for meters 3" and larger

Chapter 4

- a. Added option for above-ground pressure regulating stations
- b. Revised pressure control valve design parameters
- c. Added design option for permanent drainage system to be installed in vaults
- d. Added clarification for vault cover materials and load rating
- e. Added requirements for vault ladders, mechanical pressure gauges, and electrical and SCADA equipment

f. Revised Figure 4-1 Typical Pressure Control Station Facility

Chapter 5

- a. Revised mechanical, electrical, instrumentation and control guidelines requirements
- b. Added requirements for discharges emitted from storage facilities, and level float sensors for steel tanks and standpipes
- c. Revised re-chlorination requirements for storage facilities
- d. Added new sections for temperature sensors and weather stations at storage facilities
- e. Added Figure 5-1 Water Quality Monitoring System
- f. Added requirements for prestressed concrete at storage facilities
- g. Revised overflow system design requirements for reinforced concrete and prestressed concrete storage facilities
- h. Added Nitrification Action Plan as Appendix 5-1

Chapter 6

- a. Removed horizontal split case pumps option
- b. Added Figure 6-1 Typical Pump Station Vertical Turbine Configuration
- c. Revised requirements for pump motor shaft from hollow to solid
- d. Added new sections for pump head mounting to a base plate/sole plate, electrical operated valve actuators, programmable logic controllers, and installation testing report for pump efficiency
- e. Revised structural guidelines to refer to adopted San Diego Municipal Codes (SDMC)
- f. Revised electrical, instrumentation and control guidelines
- g. Added requirement for pump station roofing type

Chapter 7

- a. Revised corrosion control design criteria to incorporate most recent methods and standards
- b. Added new sections for wax tape coating for welded steel and ductile iron pipes
- c. Added new section for polyethylene encasement for ductile iron pipes
- d. Added new sections for cathodic protection on welded steel tanks, reservoirs, and buried pipes

Chapter 8

- a. Added reference to American Lifelines Alliance Seismic Guidelines for Water Pipelines
- b. Revised requirements for underground structures to refer to the CBC, ASCE 7, and all other applicable standards for requirements
- c. Added clarification that outlet towers and associated components are under Division of Safety of Dams (DSOD) jurisdiction
- d. Revised requirements for water storage structures to refer to ASCE 7, AWWA, ACI, and all other applicable standards for requirements
- e. Revised requirements for equipment anchorage to refer to the CBC
- f. Revised requirements for existing facilities to refer to CEBC, CBC, and ASCE 41


Chapter 9

- a. Added new chapter for security design criteria

II. Implementation: The new design guidelines shall apply on **June 1, 2021 (Effective Date)** as follows:

1. Private Projects Submitted to Development Services Department:
 - a. Projects submitted on or after June 1, 2021 shall comply with the new design guidelines.
 - b. Projects currently in review and have not had permits issued by June 1, 2021 shall comply with the new design guidelines.
 - c. Projects with permits issued on or before June 1, 2021 shall be allowed to comply with the previous design guidelines.
2. City Projects that have final design signed and stamped by the DCE:
 - a. Projects that will be advertised after June 1, 2021 shall comply with the new design guidelines.
 - b. Projects that are advertised on or before June 1, 2021 shall be allowed to comply with the previous design guidelines.
 - c. Projects that have advertised on or before June 1, 2021 but have not started construction by December 31, 2021 shall comply with the new design guidelines.

Please notify your Project Managers, designers, consultants, and maintenance and operation crews of the new standards. If you need additional information, please contact Tung Phung at (858)-292-6425 or tphung@sandiego.gov.



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