



WATER AND SANITARY SEWER CONSTRUCTION DRAWING REQUIREMENTS

Detailed construction drawings for system extensions shall be prepared for approval with a submittal to the Authority. All construction drawings submitted shall be in strict compliance with the ACWWA Engineering Standards and shall meet special conditions that may be reasonably required. The design and installation of all facilities shall insure development of an integrated system. No work shall commence on any facilities until the construction drawings are approved in writing by the Authority General Manager. Construction drawings are only valid for six (6) months from the approval date. All final plans shall contain, but are not limited to, the following information:

I. SHEETS

The following items are the minimum required for each sheet of the plan set:

- Size – All sheets shall be 24" x 36"
- Stamped Plans – All sheets shall be signed and stamped by the Design Engineer.
- Scale – No greater than 1"=100' on any sheet. Also, a bar scale shall be shown on each sheet.
- North Arrow – All design sheets shall have the north arrow oriented toward the top or right of the sheet.
- Legend of Symbols
- Key Map
- Benchmarks

A. Title Sheet shall contain:

1. Name of Project
2. Development Name and Filing Number
3. Sheet Index
4. Legend
5. Vicinity Map
6. Agency List
7. Name and Address of Developer or Owner
8. Name and Address of Engineer
9. Signature line for Development Project Manager
10. Professional Engineer's Seal and Signature
11. Signature line for Fire Marshall on all water main construction drawings showing required fire flow.
12. "ACWWA # " to be assigned by review engineer.

B. Notes Sheet shall contain:

1. General Construction notes
2. Water notes
3. Sewer notes
4. Typical street or easement section showing location of utilities
5. Quantities List – table of quantities for water and sewer pipes, valves, manholes, and all related appurtenances.

C. Overall Utility Plan shall contain:

1. Locations, horizontal alignment, and dimensions of dedicated streets, easements (including ownership and bk/pg or reception # information) and right-of-ways.
2. Street names, or letters if names have not been assigned.
3. Lots to be served.
4. All existing or proposed curb and gutter and pavement(hatched so it is distinguishable).
5. All existing or proposed utilities with correct sizes.

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6. All existing or proposed obstructions such as vaults or manholes, catch basins, traffic islands, etc.
7. The proposed alignment of the water mains and sewer mains and the location of all existing and proposed facilities such as valves, fire hydrants, fittings, vaults and/or manholes, cleanouts, meter pits, water service lines, sewer service lines, and taps.
 - i. For water main or water service line construction, the overall must show any existing valve that can be used to isolate the proposed mains or service lines from the existing system during construction.
8. Any gas, electric, cable TV, and/or telephone lines that will be impacted by the proposed construction.
9. Existing and proposed contours (min. 2' contours)
10. Scale shall be no smaller that 1" = 100' (i.e. 1"=200' is not acceptable)

C. Water Plan (Potable and Nonpotable) shall contain:

In plan view:

1. Locations, dimensions, ownership, and recording information of existing dedicated streets, easements, and rights-of-way.
2. Location and dimensions of proposed easements.
3. Lot lines and lot labels.
4. Lots to be served.
5. Size and location (by station) of services.
6. All existing and proposed curb & gutter, pavement (hatched to be distinguished from unpaved areas), and sidewalks.
7. All existing utilities with correct sizes (shaded lightly and dashed).
8. Nearest upstream and downstream line valve.
9. Proposed alignment of the water main and the location of all proposed water facilities such as valves, fire hydrants, fittings, kickblocks, rodding, and etc.
10. Location and size of all meters for domestic and irrigation connections. If behind fences location of remote for easy reading.
11. Key Map
12. North arrow
13. Bar Scale
14. Pipe or street centerline stationing
15. Vertical information at utility crossings (smaller than 8")
16. A minimum scale of 1"=50'

In profile view (for 8" or larger)

1. Pipe or street centerline stationing.
2. Vertical alignment of waterline and all appurtenances.
3. All other existing and proposed utilities that cross the water line.
4. Top of pipe and bottom of pipe elevations at all utility crossings.
5. Pipe sizes, lengths, depths, slopes, elevations, and top of pipe elevations on all fittings.
6. Existing and proposed ground lines
7. A minimum scale of 1"=50' horizontal and 1"=5' vertical

E. Sanitary Sewer Plan shall contain:

SAME AS WATER PLAN EXCEPT **ALL SIZES** OF SEWER MUST BE PROFILED.

F. Detail sheet(s)

1. All details shall be ACWWA standard details and specifications given shall conform to the Authority Engineering Standards.

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2. Detail sheets containing non-standard details shall be signed and stamped by a Colorado Professional Engineer.

II. PRECEDENCE OF CONSTRUCTION DOCUMENTS

- A. Addenda and modifications to the drawings and specifications take precedence over the original documents.
- B. Should there be a conflict within the specifications or on the drawings, the Authority Engineer or Manager shall decide which stipulation will provide the best installation and his decision shall be final.
- C. In the drawings calculated dimensions shall take precedence over scaled dimensions and noted material over graphic indication.

III. MISCELLANEOUS

- A. Dedicated streets, right-of-ways, easements and planned development complexes shall conform to the requirements of Arapahoe County Standards. A copy of the recorded subdivision plat, easements or right-of-ways shall be furnished to the Authority.
- B. Minimum easement width for one utility shall be 30 feet. Easement width for more than one utility shall be determined by ACWWA.

IV. VARIANCES

- A. Any request for a variance from the requirements of these Standard Specifications shall be submitted in writing to the Authority Manager. Each variance request shall include a detailed description of the proposed variance together with the Customer's Professional Engineer's analysis of the impact of the variance. Variances from the "Engineering Standards" or the "Rules and Regulations" must be approved by ACWWA's Board of Directors. The decision of the Authority Engineer to grant or deny any variance will be final.

For submittal procedures refer to Section 11 of ACWWA Rules and Regulations