

ROGERS WATER UTILITY
PLAN PREPARATION GUIDELINES
AND CHECK LIST

Project: _____

Date: _____ By: _____

GENERAL:

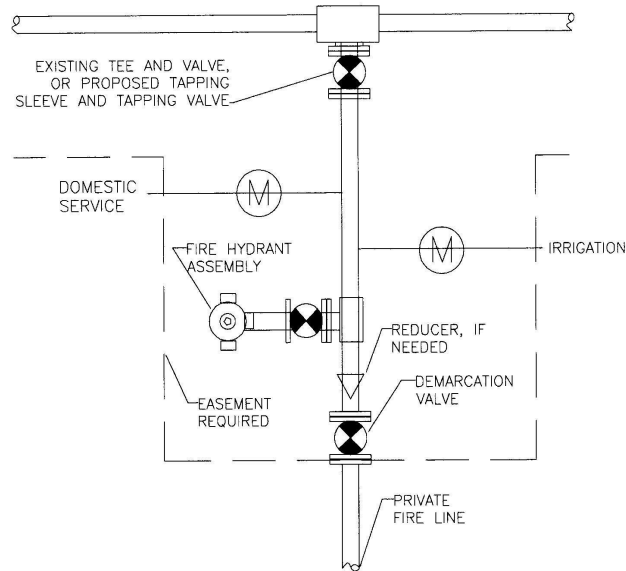
- 1. Engineer should obtain RWU Standard Specifications and RWU Standard Details.
- 2. Include RWU Standard Details in the plan set, without editing. Include a statement on the plans that all materials and methods shall conform to Rogers Utility Standards.
- 3. Plans should be submitted on either 22 "x 34" or 24' x 36" sheets.
- 4. 5 foot separation from water/sewer and storm sewer, gas, electric, street lights & telephone is required, unless specifically approved otherwise.
- 5. Minimum 10 foot horizontal separation between water and sewer mains.
- 6. Minimum 1.5 foot vertical separation between water and sewer mains crossing, with water above sewer, otherwise refer to part XIV-A page 25 of the Arkansas State Board of Health Rules and Regulations pertaining to Public Water Systems, for guidance.
- 7. Water mains are to be placed above storm sewers where they cross. Storm sewers may be placed above sanitary sewer mains.
- 8. Minimum sewer depth is 6 feet, unless specifically approved otherwise.
- 9. Minimum sewer force main depth is 6 feet, unless specifically approved otherwise
- 10. Show other utilities (gas, storm, electric, communication) when parallel with water/sewer.
- 11. Show all utility crossings in profile view.
- 12. Plans submitted for review require engineer's seal & signature on each plan sheet and the firm's Certificate of Authorization will appear on at least the cover sheet.
- 13. Plans should have a location map identifying the project area. If a building plan, an address should also be provided.
- 14. Formal easements, and/or easement dedication plat and/or final plat will be required to dedicate easements for utilities.

- 15. Easement documents are to use language and form as found in the Standard Specifications.
- 16. Easement plat or easement document with sketch to be submitted for review before executing. Submit copy of property deed with easement submittal. RWU will record easements.
- 17. Landscape trees are not allowed to be planted in existing or proposed utility easements.
- 18. Show and identify all water main horizontal/vertical fittings, valves, air release (AR) valve assemblies, and fire hydrant assemblies on the street plan and profile sheets. Specify AR valve assemblies at the high points on the profile and the AR valve assembly must be located near a lot line, if feasible.
- 19. Minimum easement width is 15 feet or two times the maximum depth to the pipe flow line, whichever is greater. Easement boundary will also be a minimum of 7.5' on either side of the main, or depth to pipe whichever is greater.
- 20. Show lot numbers on all water/sewer related drawings.
- 21. Water/sewer must be located a minimum of 7.5 feet from detention basin embankments.
- 22. Show all existing water and sewer lines and easements that affect the project.
- 23. Show water and sewer crossings in storm sewer and street profile.
- 24. Clearly note plan revision dates and locations.
- 25. Show water line and storm sewer crossings in the sanitary sewer profiles. Show sewer line crossings in the water and storm sewer profile.
- 26. All Water and Sewer designs shall be in accordance with RWU Standard Details and example water and sewer plan and profile sheets.
- 27. Provide an overall drawing of the water and sewer system on one sheet showing:
 - A. Streets and Street Names
 - B. Water and Sewer Lines
 - C. Lots and Numbers
 - D. Valves, Fire Hydrants, ARV'S
 - E. Line size and Identification Number or Letter
 - F. Manholes
- 28. Show Sta. Numbers in Water and Sewer plan views.
- 29. Contact RWU to schedule a Pre-Design meeting.
- 30. Label proposed water and sewer lines with a number or letter designation for easy identification.

WATER MAINS

- 1. Uncover exiting mains for horizontal and vertical locations at critical locations. Coordinate with RWU to accomplish this.
- 2. Show proposed street grade and finished grade at point of bury in the profile view.
- 3. Water mains are required to extend to the property line/limits of the development.
- 4. Water mains are required to be configured with a looped connection to the existing system with valves, so that 20 or less services will be affected by a line break.
- 5. Depth of bury is to be a minimum of 3.5 feet below street centerline or 3' below point of bury whichever results in the lowest elevation.
- 6. 8" water is minimum size without a hydraulic analysis.
- 7. Anticipate future water extensions and stub out with a plugged valve.
- 8. Lots 65 feet wide and larger will be served by a 1" service line and may have two-5/8" meters – 1 domestic and 1 irrigation.
- 9. All dead end lines require a fire hydrant. Locate this hydrant past the last service.
- 10. Locate valves and Air/Vacuum Valve's near hydrants or by other easily identifiable object.
- 11. Locate water meters and ARV'S near lot lines.
- 12. Show plan & profile for all water lines over 50 feet long.
- 13. Label Fire and Fire Dept. Connection lines as "fire lines" not water lines.
- 14. Provide a profile of the fire line from the main to the riser including thrust restraint details. See Standard Details for Restraint Details.
- 15. Label demarcation valve of fire line.
- 16. Show dimensions of all relevant easements on the plan. (existing and proposed)
- 17. Show meter locations and service line size. Show peak flow for each non-residential meter on plans. RWU staff to size meters based on peak flow.
- 18. RWU makes all connections to exiting lines on a cost plus basis.

- 19. Taps on existing water mains and construction of the meters adjacent to existing mains will be by RWU at the developer's expense.
- 20. Construction of meters larger than 1" will be by RWU at the developer's expense.
- 21. Each commercial or living unit will be individually metered, unless specifically approved otherwise
- 22. Reduced Pressure Principle Backflow Protection Device may be required. Check with the Utility.
- 23. Existing valve boxes may need to be adjusted to grade.
- 24. Maximum length for 6" fire hydrant lead is 20', if longer use 8" pipe.
- 25. Show pressure class and material for all water lines. For normal conditions use ductile iron pressure class 350.
- 26. Maximum length of water service line is 100 feet, main to meter.
- 27. Show Class 7 granular trench backfill full depth under all public paved areas.
- 28. Water services cannot connect to a fire line (Fire line is that portion beyond the demarcation valve).
- 29. When it is necessary to relocate an existing fire hydrant the new hydrant must be in service prior to decommissioning the existing hydrant. When decommissioning an existing hydrant, verify that the valve is restrained back to the tee, close the valve, then remove the hydrant and pipe to the valve, verify that the valve isn't leaking, plug the valve and remove the valve box.
- 30. Show stations and casing invert elevations at both ends of jack and bore casings on water and sewer profiles.
- 31. Verify fire hydrant spacing with Rogers Fire Department.
- 32. Locate fire hydrant inside valve clusters.
- 33. Valves with operating nuts deeper than 4 feet below finished grade require extensions.
- 34. Hydraulic analysis of the fire flows within a proposed subdivision may be required.
- 35. Electric transformers shall not be installed across the water or sanitary sewer main trench.
- 36. Domestic, Irrigation and Fire Line Connection. Example:



“Go-By” Sketch For Domestic, Irrigation, and Fire Line Connections

- 37. Show and call out all valves, fittings and appurtenances in plan and profile view.
- 38. Minimum radius using joint deflection for 8 and 12 Inch Pipe is 290 feet. Use fittings for a shorter radius.

SANITARY SEWER

- 1. Sanitary sewer manhole to be poured over existing sewer main may not have the existing main cut open until approved by RWU.
- 2. Where changes to existing grade necessitate adjustment of existing manholes, required work shall be performed in accordance with RWU Standard Details by the developer’s contractor at developer’s expense. A note on the plans should so state. Show existing and proposed rim elevations.
- 3. Sanitary sewer mains will terminate in manholes.
- 4. The required pipe invert drop across all proposed sewer manholes must be 0.10 ft. Label flow line elevations in and out of manholes for all mains. Label rim elevation, and ring/cover type (i.e. traffic duty, bolt down water tight, etc.). Match pipe crown elevations where pipe diameters change.

- 5. Including the outlet pipe, only four (4) pipe penetrations are allowed in each manhole from mains or services.
- 6. 4" sewer services can connect to mains up to 12" diameter. 4" services to larger than 12" diameter mains must connect to a manhole. Services larger than 4" must connect to a manhole. Maximum length of service line is 100 feet.
- 7. Show and identify all force main horizontal/vertical fittings (applicable for sewer usage), plug valves and air release (AR) valve assemblies on the street/sewer plan and profile sheets. Specify AR valve assemblies at the high points on the profile and the AR valve assembly must be located near the lot line. Also show the force main on the street/sewer plan and profile sheets with the proposed subdivision.
- 8. Provide a plug valve upstream of all AR valve assemblies on sewer force mains.
- 9. Manholes deeper than 14.0 feet, and all manholes on lines larger than 12 inch diameter are required to be six (6) feet in diameter. See Standard Details.
- 10. Sewer mains deeper than 14.0 feet (finish grade to invert) shall be lined ductile iron pipe.
- 11. Sewer mains less than 14.0 feet deep will typically be SDR 26 PVC pipe.
- 12. All sewer lines constructed in fill areas shall be ductile iron.
- 13. On sewer profiles show the size, type of pipe, slope, and distance between manholes.
- 14. Sewer mains are required to extend to the property line / limits of the development.
- 15. Connections to existing mains will be by RWU.
- 16. Show class 7 granular trench backfill full depth under all public paved areas.
- 17. Service lines on sewers greater than 14 feet shall be ductile iron.
- 18. Show invert elevation and line identification for each pipe entering and exiting manholes.
- 19. Show proposed street grade and finished grade at point of bury in the profile view.
- 20. Show dimensions at all relevant easements on the plan. (existing and proposed)
- 21. All manholes in traffic areas shall have traffic rated frames and covers.

BUILDING PLUMBING/FIRE LINES

- 1. Provide the address of the building.
- 2. Provide a site utility plan of the building.
- 3. Provide the proposed use of the building. Some uses will require installation of a oil/grease trap.
- 4. Provide contact information of the Engineer/Architect/Owner.
- 5. Provide plumbing layout diagrams/schematics, and line sizes.
- 6. Provide Fire Riser Diagram. Diagram must show flanged adapter anchored to the 90° ell below with ¾" stainless steel rods. See Standard Details.
- 7. Provide peak water demand for meter sizing on the plans. If separate meter is installed for irrigation, the irrigation line will require an RPZA, and separate peak demand estimate for sizing of the meter.
- 8. Note that an RPZA must be installed before the first branch or tee on the customer's side of the meter, must be above natural grade, and must be accessible RWU personnel for inspection.
- 9. Show proposed meter location(s).
- 10. Reduced Pressure Principle Backflow Prevention device is required on all commercial service lines, and all irrigation lines.
- 11. Depending upon Fire Sprinkler system design and building use, Double Check, Detector Check, or Reduced Pressure Principle Backflow Prevention device will be required. Review the proposed unit with RWU staff to determine if it is approved for the particular installation's configuration. All units must be listed/approved by the University of southern California Foundation for Cross-Connection Control and Hydraulic Research.
- 12. Building with elevator sump pump will require an oil interceptor installed on the effluent line of the pump if it discharges to the sanitary sewer.

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