

ARTICLE 4. SUBDIVISIONS

R18-5-401. DEFINITIONS

In this Article unless the context otherwise requires:

1. "Approved" or "approval" means approved in writing by the Department.
2. "Condominium" means a subdivision established as a horizontal property regime pursuant to A.R.S. § 33-551 et seq.
3. "Department" means the Department of Environmental Quality or its designated representative.
4. "Garbage" means putrescible animal and vegetable wastes resulting from the handling, preparation, cooking and consumption of food.
5. "Refuse" means all putrescible and nonputrescible solid wastes (except body wastes), including garbage, rubbish, ashes, street cleanings, dead animals, abandoned automobiles, and solid market and industrial wastes.
6. "Subdivision" has the meaning defined in A.R.S. § 32-2101.

Historical Note

Correction in subsection (E) citation to A.R.S. should have read § 32-2101. Amended effective June 21, 1978 (Supp. 78-3).
Former Section R9-8-1011 renumbered without change as Section R18-5-401 (Supp. 89-2).

R18-5-402. APPROVAL OF PLANS REQUIRED

- A. No subdivision or portion thereof shall be sold, offered for sale, leased or rented by any corporation, company or person, or offered to the public in any manner, and no permanent building shall be erected thereon until plans and specifications for the water supply, sewage disposal and method of garbage disposal to be provided in or to serve such subdivision shall have been submitted to and approved by the Department.
- B. The plans of any proposed water supply and sewage disposal system shall be submitted in quadruplicate on a plat of the subdivision as recorded, or as will be recorded, in the office of the county recorder.

Historical Note

Former Section R9-8-1012 renumbered without change as Section R18-5-402 (Supp. 89-2).

R18-5-403. APPLICATION FOR APPROVAL

- A. An application for approval, prepared in duplicate on forms furnished by the Department, shall be filed at the time the plans are submitted for approval. The form shall be completely filled out unless indicated otherwise.
- B. The distance to the nearest public water supply main and to a sewer main of a municipal or community system shall be given.

Historical Note

Former Section R9-8-1013 renumbered without change as Section R18-5-403 (Supp. 89-2).

R18-5-404. SIZE OF LOTS

The minimum size lot approved by the Department will be governed largely by the area necessary for the safe accommodation of individual wells and/or sewage disposal systems. Where both the water supply and sewage disposal system must be developed on the same lot, the minimum size shall be at least one acre, excluding streets, alleys and other rights-of-way. Where water from a central system is provided for residential uses, the lot shall be sufficient to accommodate the sewage disposal system and provide for at least 100 percent expansion of the system based on a four-bedroom house within the bounds of the property allowing a minimum of five feet distance to the property lines. Where lots are zoned for commercial uses, the lot shall be sufficient to accommodate the sewage disposal system and provide for at least 100 percent expansion of the system within the bounds of the property allowing a minimum of five feet distance to the property lines.

Historical Note

Former Section R9-8-1014 renumbered without change as Section R18-5-404 (Supp. 89-2).

R18-5-405. RESPONSIBILITY OF SUBDIVIDER

Where plans for a subdivision include a public water supply system, or public sewerage system, it shall be the responsibility of the subdivider to provide the facilities to each lot in the subdivision prior to human occupancy. The installation of such facilities shall be in accordance with plans, or any revisions thereof, approved by the Department.

Historical Note

Former Section R9-8-1015 renumbered without change as Section R18-5-405 (Supp. 89-2).

R18-5-406. PUBLIC WATER SYSTEMS

- A. Where water from an approved public water system is proposed for use in a subdivision, the inside diameter, length, and location of all proposed and existing water mains and valves necessary to serve each and every lot shall be shown on the subdivision plat. If the existing main to which a connection will be made is not immediately adjacent to the property, the direction and distance shall be indicated on the plat by an arrow or other suitable means.
- B. A letter shall be obtained and submitted with the application for approval of the subdivision from responsible officials of the water system indicating that an agreement has been reached to supply water to each individual lot in the subdivision.

- C. Where the owner of a subdivision, or other interested person, firm, company or corporation, proposes to develop a source or sources of supply and to construct a distribution system to furnish water to the subdivision, either free or for charge, complete details of the proposed water system including plans and specifications shall be furnished. Department approval of the supply and proposed system shall first be obtained before an approval for the sale of lots will be granted. The installation of such facilities shall be in accordance with the plans, and any revisions thereof, approved by the Department.
- D. Proposed water supply and distribution systems shall comply with A.A.C. Title 18, Chapter 4, Article 2, except those distribution lines which are a common element of a condominium shall be exempt from A.A.C. R18-4-234.
- E. Where water from an approved public water system is proposed for use in a subdivision, the Department shall issue a Certificate of Approval for Sanitary Facilities for a Subdivision only if the applicant has complied with subsections (A) and (B) of this Section and the public water system is either:
 1. in compliance with the provisions of A.A.C. Title 18, Chapter 4, Article 2; or
 2. making satisfactory progress toward compliance with the provisions of A.A.C. Title 18, Chapter 4, Article 2 under a schedule approved by the Department.
- F. The Department shall revoke the Certificate of Approval for Sanitary Facilities for a Subdivision and notify the Department of Real Estate of such action if the public water system in use by the subdivision is creating an environmental nuisance pursuant to A.R.S. § 49-141 and is neither:
 1. in compliance with the provisions of A.A.C. Title 18, Chapter 4, Article 2; nor
 2. making satisfactory progress toward compliance with the provisions of A.A.C. Title 18, Chapter 4, Article 2 under a schedule approved by the Department.

Historical Note

Amended effective June 21, 1978 (Supp. 78-3). Former Section R9-8-1021 renumbered without change as Section R18-5-406 (Supp. 89-2). Amended effective July 25, 1990 (Supp. 90-3).

R18-5-407. PUBLIC SEWERAGE SYSTEMS

- A. Where a public sewerage system is already in existence, or if sewers are proposed and have been approved by the Department, it shall be necessary to show lines indicating the approximate location and size of the sewers on the subdivision plat.
- B. Where the proposed sewers will connect to an existing public sewerage system, a letter from officials of the system shall be required stating that acceptable plans have been submitted and that the subdivider has been granted permission to connect to and become a part of the public sewerage system.
- C. Proposed sewage disposal facilities shall comply with A.A.C. Title 18, Chapter 9, Article 8, except those drain lines which are a common element of a condominium shall be exempt from R18-5-811.
- D. Where a public sewerage system is already in existence, or if sewers are proposed and have been approved by the Department, the Department shall issue a Certificate of Approval for Sanitary Facilities for a Subdivision only if the applicant has complied with subsections (A) and (B) of this Section and the public sewerage system is either:
 1. in compliance with the provisions of A.A.C. Title 18, Chapter 9, Article 8; or
 2. making satisfactory progress toward compliance with the provisions of A.A.C. Title 18, Chapter 9, Article 8 under a schedule approved by the Department.
- E. The Department shall revoke the Certificate of Approval for Sanitary Facilities for a Subdivision and notify the Department of Real Estate of such action if the public sewerage system in use by the subdivision is creating an environmental nuisance pursuant to A.R.S. § 49-141 and is neither:
 1. In compliance with the provisions of A.A.C. Title 18, Chapter 9, Article 8; nor
 2. Making satisfactory progress toward compliance with the provisions of A.A.C. Title 18, Chapter 9, Article 8 under a schedule approved by the Department.

Historical Note

Amended effective June 21, 1978 (Supp. 78-3). Former Section R9-8-1026 renumbered without change as Section R18-5-407 (Supp. 89-2). Amended effective July 25, 1990 (Supp. 90-3).

R18-5-408. INDIVIDUAL SEWAGE DISPOSAL SYSTEMS

- A. Recommendations are found in the engineering bulletins of the Department and such additional requirements as may be provided by local health departments to assist in approval regarding the design, installation and operation of individual sewage disposal systems. Copies of these bulletins may be obtained from the Department.
- B. Where soil conditions and terrain features or other conditions are such that individual sewage disposal systems cannot be expected to function satisfactorily or where groundwater or soil conditions are such that individual sewage disposal systems may cause pollution of groundwater, they are prohibited.
- C. Where such installations may create an unsanitary condition or public health nuisance, individual sewage disposal systems are prohibited.
- D. The use of cesspools is prohibited.
- E. Where an individual sewage disposal system is proposed, the following conditions shall be satisfied:
 1. A geological report shall be made by an engineer, geologist or other qualified person. The geological report shall include results from percolation tests and boring logs obtained at locations designated by the county health departments. There shall be a minimum of one percolation test and boring log per acre, or one percolation test and boring log per lot where

lots are larger than one acre, except when it can be shown by submission of other reliable data that soil conditions are such that individual disposal systems could reasonably be expected to function properly on each lot in the proposed subdivision. The Department may require additional tests when it deems necessary. The approval of a subdivision, based upon such reports, shall not extend to the plat if it is further subdivided or lot lines are substantially relocated.

2. Results of all tests shall be submitted to the Department and the local health department for review and approval of the subdivision for the use of individual sewage disposal systems.
3. Such approval must be obtained in writing from the local health department and a copy of the approval shall be submitted to the Department with the subdivision application for approval.

Historical Note

Former Section R9-8-1027 renumbered without change as Section R18-5-408 (Supp. 89-2).

R18-5-409. REFUSE DISPOSAL

- A. The storage, collection, transportation and disposal of refuse and other objectionable wastes shall be governed by A.A.C. Title 18, Chapter 8, Article 5.
- B. Where an approved community or private refuse collection service is available, arrangements shall be made to have this service furnished to the subdivision. A letter, from the community or private collection company, stating that the collection service will be made available to the subdivision, is required.
- C. Where refuse collection service is not available, it will be the responsibility of the subdivider to notify each purchaser or tenant that the hauling of all refuse is an individual responsibility and that all refuse must be properly stored pending removal and disposed of at disposal areas specified in the plan approved by the Department.
- D. Where a collection service or an existing approved disposal area is not available to the subdivision, a plan approval will not be granted unless a separate disposal area is provided by the subdivider or arrangements are made to utilize a new, conveniently located disposal area. Such arrangements shall include, but not be limited to, the written permission of the person responsible for the operation of the new site.

Historical Note

Former Section R9-8-1031 renumbered without change as Section R18-5-409 (Supp. 89-2).

R18-5-410. CONDOMINIUMS

- A. New water distribution lines and new wastewater drain lines which are to be used as a common element of a condominium and are not under the ownership and control of a public utility shall be constructed in accordance with applicable provisions of the Uniform Plumbing Code adopted by reference in A.A.C. R9-1-412(D), including the minimum standards for construction contained therein.
- B. Plans to be submitted shall include inside diameter, length and location of all proposed and existing common usage water distribution lines and inside diameter, length, slope and location of all proposed and existing common usage wastewater drain lines necessary to serve each and every unit. Plans and specifications should be submitted with sufficient detail to indicate compliance with subsection (A) above.
- C. Appropriate sections of the covenants shall be submitted that indicate adequate provisions have been made for the maintenance of water distribution lines and wastewater drain lines in common usage.
- D. Approval of existing housing to be converted to condominiums is conditioned upon the water distribution system and wastewater drainage system being:
 1. Approved in writing at the time of original construction by the local building inspection authority, or
 2. Currently operating under a permit issued by a local building inspection authority, or
 3. Certified to be adequate by an Arizona registered professional engineer who has affixed his signature and seal to as-built plans submitted for approval.

Historical Note

Adopted effective June 21, 1978 (Supp. 78-3). Former Section R9-8-1032 renumbered without change as Section R18-5-410 (Supp. 89-2).

R18-5-411. VIOLATIONS

Any person, firm, company or corporation who offers for sale, lease or rent any tract of land contrary to these regulations shall be prosecuted in accordance with A.R.S. § 49-142 or as otherwise may be provided by law.

Historical Note

Adopted effective June 21, 1978 (Supp. 78-3). Former Section R9-8-1036 renumbered without change as Section R18-5-411 (Supp. 89-2). Amended effective April 2, 1990 (Supp. 90-2).

ARTICLE 5. MINIMUM DESIGN CRITERIA

Article 5, consisting of R18-5-501 through R18-5-509, recodified from 18 A.A.C. 4, Article 5 at 10 A.A.R. 585, effective January 30, 2004 (Supp. 04-1).

R18-5-501. SITING REQUIREMENTS

To the extent practicable, a new public water system or an extension to an existing public water system shall be geographically located to avoid a site which is:

1. Subject to a significant risk from earthquakes, floods, fires, or other disasters which could cause a breakdown of the public water system or portion thereof; or
2. Within the flood plain of a 100-year flood, except for intake structures and properly protected wells.

Historical Note

Section recodified from R18-4-501 at 10 A.A.R. 585, effective January 30, 2004 (Supp. 04-1).

R18-5-502. MINIMUM DESIGN CRITERIA

- A. A public water system shall be designed using good engineering practices. A public water system which is designed in a manner consistent with the criteria contained in Engineering Bulletin No. 10, "Guidelines for the Construction of Water Systems," issued by the Arizona Department of Health Services, May 1978 (and no future editions), which is incorporated herein by reference and on file with the Office of the Secretary of State, shall be considered to have been designed using good engineering practices. Other system designs shall be approved if the applicant can demonstrate that the system will function properly and may be operated reliably in compliance with this Chapter. Minimum design criteria which are not subject to modification are listed in this Section.
- B. A potable water distribution system shall be designed to maintain and shall maintain a pressure of at least 20 pounds per square inch at ground level at all points in the distribution system under all conditions of flow.
- C. Water and sewer mains shall be separated in order to protect public water systems from possible contamination. All distances are measured perpendicularly from the outside of the sewer main to the outside of the water main. Separation requirements are as follows:
1. A water main shall not be placed:
 - a. Within 6 feet, horizontal distance, and below 2 feet, vertical distance, above the top of a sewer main unless extra protection is provided. Extra protection shall consist of constructing the sewer main with mechanical joint ductile iron pipe or with slip-joint ductile iron pipe if joint restraint is provided. Alternate extra protection shall consist of encasing both the water and sewer mains in at least 6 inches of concrete for at least 10 feet beyond the area covered by this subsection (C)(1)(a).
 - b. Within 2 feet horizontally and 2 feet below the sewer main.
 2. No water pipe shall pass through or come into contact with any part of a sewer manhole. The minimum horizontal separation between water mains and manholes shall be 6 feet, measured from the center of the manhole.
 3. The minimum separation between force mains or pressure sewers and water mains shall be 2 feet vertically and 6 feet horizontally under all conditions. Where a sewer force main crosses above or less than 6 feet below a water line, the sewer main shall be encased in at least 6 inches of concrete or constructed using mechanical joint ductile iron pipe for 10 feet on either side of the water main.
 4. The separation requirements do not apply to building, plumbing, or individual house service connections.
 5. Sewer mains (gravity, pressure, and force) shall be kept a minimum of 50 feet from wells unless the following conditions are met:
 - a. Water main pipe, pressure tested in place to 50 psi without excessive leakage, is used for gravity sewers at distances greater than 20 feet from water wells; or
 - b. Water main pipe, pressure tested in place to 150 psi without excessive leakage, is used for pressure sewers and force mains at distances greater than 20 feet from water wells. "Excessive leakage" means any amount of leakage which is greater than that permitted under the AWWA Standard applicable to the particular pipe material or valve type.
 6. Requests for authorization to use alternate construction techniques, materials, and joints shall be reviewed by the Department, and such requests may be approved on a case-by-case basis.
- D. A public water system shall not construct or add to its system a well which is located:
1. Within 50 feet from existing sewers unless the sewer main has been constructed in accordance with subsection (C)(5)(a) or (b) of this Section;
 2. Within 100 feet of any existing septic tank or subsurface disposal system;
 3. Within 100 feet of a discharge or activity which is required to obtain an Individual Aquifer Protection Permit, pursuant to A.R.S. §§ 49-241(A) through 49-251;
 4. Within 100 feet of an underground storage tank as defined in A.R.S. § 49-1001; or
 5. Within 100 feet of hazardous waste facilities operated by large quantity generators and treatment, storage, and disposal facilities regulated under the Arizona Hazardous Waste Management Act, A.R.S. § 49-921 et seq.

Historical Note

Section recodified from R18-4-502 at 10 A.A.R. 585, effective January 30, 2004 (Supp. 04-1).

R18-5-503. STORAGE REQUIREMENTS

- A. The minimum storage capacity for a CWS or a noncommunity water system that serves a residential population or a school shall be equal to the average daily demand during the peak month of the year. Storage capacity may be based on existing consumption and phased as the water system expands.

- B. The minimum storage capacity for a multiple-well system for a CWS or a noncommunity water system that serves a residential population or a school may be reduced by the amount of the total daily production capacity minus the production from the largest producing well.

Historical Note

Section recodified from R18-4-503 at 10 A.A.R. 585, effective January 30, 2004 (Supp. 04-1).

R18-5-504. PROHIBITION ON THE USE OF LEAD PIPE, SOLDER, AND FLUX

Construction materials used in a public water system, including residential and non-residential facilities connected to the public water system, shall be lead-free as defined at R18-4-101. This Section shall not apply to leaded joints necessary for the repair of cast iron pipes.

Historical Note

Section recodified from R18-4-504 at 10 A.A.R. 585, effective January 30, 2004 (Supp. 04-1).

R18-5-505. APPROVAL TO CONSTRUCT

- A. The Department shall only approve an addition or a water main extension to a public water system that is in compliance with this Chapter or is making satisfactory progress towards compliance under a schedule approved by the Department. The Department shall approve a properly designed modification that can be expected to return a public water system to compliance.
- B. A person shall not start to construct a new public water system, modify an existing facility, including an extension to an existing public water system, or make an alteration that will affect the treatment, capacity, water quality, flow, distribution, or operational performance of a public water system before receiving an Approval to Construct from the Department. Designing or consulting engineers may confer with the Department before proceeding with detailed designs of complex or innovative facilities. The following provisions shall apply:
1. An application for Approval to Construct, including the following documents and data, shall be submitted to the Department:
 - a. Detailed construction plans of the site and work to be done, presented in legible form and of sufficient scale, to establish construction requirements to facilitate effective review;
 - b. Complete specifications to supplement the plans;
 - c. A design report that describes the proposed construction and basis of design, provides design data and other pertinent information that defines the work to be done, and establishes the adequacy of the design to meet the system demand;
 - d. Analyses of a proposed new source of water that include:
 - i. Microbiological; physical; radiochemical; inorganic, organic, and volatile organic chemicals; and
 - ii. Microscopic particulates if the source meets the criteria of R18-4-301.01(A); and
 - e. Other pertinent data required to evaluate the application for Approval to Construct.
 2. All plans, specifications, and design reports submitted for a public water system shall be prepared by, or under the supervision of, a professional engineer registered in Arizona and have the seal and signature of the engineer affixed to them, except that an engineer not registered in Arizona may design a water treatment plant or additions, modifications, revisions, or extensions, which include extensions to potable water distribution systems, if the total cost of the construction does not exceed \$12,500 for material, equipment, and labor, as verified by a cost estimate submitted with plan documents.
 3. An existing public water system shall be exempt from the plan review requirements of this Article if the public water system is in compliance with this Chapter or is making satisfactory progress towards compliance under a schedule approved by the Department if the applicable structural revision, addition, extension, or modification:
 - a. Has a project cost of \$12,500 or less; or
 - b. Is made to a water line that:
 - i. Is not for a subdivision requiring plat approval by a city, town, or county;
 - ii. Has a project cost of more than \$12,500 but less than \$50,000; and
 - iii. Has a design that is sealed and signed by a professional engineer registered in Arizona and the construction of which is reviewed for conformance with the design by a professional engineer registered in Arizona.
 4. Upon completion of a project exempt from the plan review requirements of this Article pursuant to subsection (B)(3), the public water system shall submit a notice of compliance which contains:
 - a. A fair market value cost estimate for the project,
 - b. The name of the design engineer and the review engineer, and
 - c. The project completion date and the total construction time.
- C. The Department shall act upon a complete Approval to Construct application submitted for approval within 30 days after its receipt.
- D. The Department shall issue an Approval to Construct only when the following conditions have been met:
1. Plans and specifications submitted to the Department demonstrate that the proposed public water system reasonably can be expected to comply with this Chapter, including the MCLs in Article 2; and

2. The water system is in compliance with this Chapter or reasonably can be expected to return to compliance with this Chapter as a result of the proposed construction.
- E. An Approval to Construct becomes void if an extension of time is not granted by the Department within 90 days after the passage of one of the following:
1. Construction does not begin within one year after the date the Approval to Construct is issued, or
 2. There is a halt in construction of more than one year, or
 3. Construction is not completed within three years after the date construction begins.

Historical Note

Section recodified from R18-4-505 at 10 A.A.R. 585, effective January 30, 2004 (Supp. 04-1).

R18-5-506. COMPLIANCE WITH APPROVED PLANS

All construction shall conform to approved plans and specifications. In order to make a change in an approved design that will affect water quality, capacity, flow, sanitary features, or performance, a public water system shall submit revised plans and specifications to the Department for review, together with a written statement regarding the reasons for the change. The public water system shall not proceed with the construction affected by the design change without written approval from the Department. Revisions not affecting water quality, capacity, flow, sanitary features, or performance may be permitted during construction without further approval if record drawings documenting these changes, prepared by a professional engineer registered in Arizona, are submitted to the Department under R18-5-508.

Historical Note

Section recodified from R18-4-506 at 10 A.A.R. 585, effective January 30, 2004 (Supp. 04-1).

R18-5-507. APPROVAL OF CONSTRUCTION

- A. A person shall not operate a newly constructed facility until an Approval of Construction is issued by the Department.
- B. The Department shall not issue an Approval of Construction on a newly constructed public water system, an extension to an existing public water system, or any alteration of an existing public water system that affects its treatment, capacity, water quality, flow, distribution, or operational performance unless the following requirements have been met:
1. A professional engineer registered in Arizona or a person under the direct supervision of a professional engineer registered in Arizona, has completed a final inspection and submitted a Certificate of Completion on a form approved by the Department to which the seal and signature of the professional engineer registered in Arizona have been affixed;
 2. The construction conforms to approved plans and specifications, as indicated in the Certificate of Completion, and all changes have been documented by the submission of record drawings under R18-5-508;
 3. An operations and maintenance manual has been submitted and approved by the Department if construction includes a new water treatment facility; and
 4. An operator, who is certified by the Department at a grade appropriate for each facility, is employed to operate each water treatment plant and the potable water distribution system.
- C. The Department may conduct the final inspection required in subsection (B)(1), at a public water system's request, if both of the following notification requirements are met:
1. The public water system notifies the Department at least seven days before beginning construction on a public water system installation, change, or addition that is authorized by an Approval to Construct; and
 2. The public water system notifies the Department of completion of construction at least 10 working days before the expected completion date.

Historical Note

Section recodified from R18-4-507 at 10 A.A.R. 585, effective January 30, 2004 (Supp. 04-1).

R18-5-508. RECORD DRAWINGS

- A. A professional engineer registered in Arizona shall clearly and accurately record or mark, on a complete set of working project drawings, each deviation from the original plan and the dimensions of the deviation. The set of marked drawings becomes the record drawings, reflecting the project as actually built.
- B. The professional engineer registered in Arizona shall sign, date, and place the engineer's seal on each sheet of the record drawings and submit them to the Department upon completion of the project. The record drawings shall be accompanied by an Engineer's Certificate of Completion, signed by the professional engineer registered in Arizona, and submitted on a form approved by the Department for any project inspected under R18-5-507(B).
- C. Quality control testing results and calculations, including pressure and microbiological testing, and disinfectant residual records, shall be submitted with the Engineer's Certificate of Completion together with field notes and the name of the individual witnessing the tests.

Historical Note

Section recodified from R18-4-508 at 10 A.A.R. 585, effective January 30, 2004 (Supp. 04-1).

R18-5-509. MODIFICATION TO EXISTING TREATMENT PROCESS

Before a public water system may make a modification to its existing treatment process, the public water system shall submit and obtain the Department's approval for a detailed plan that explains the proposed modifications and the safeguards that the public water system will implement to ensure that the quality of the water served by the system will not be adversely affected by the modification. The public water system shall comply with the provisions in the approved plans.

Historical Note

Section recodified from R18-4-509 at 10 A.A.R. 585, effective January 30, 2004 (Supp. 04-1).

