NOTICES OF PROPOSED RULEMAKING

Unless exempted by A.R.S. § 41-1005, each agency shall begin the rulemaking process by first submitting to the Secretary of State's Office a Notice of Rulemaking Docket Opening followed by a Notice of Proposed Rulemaking that contains the preamble and the full text of the rules. The Secretary of State's Office publishes each Notice in the next available issue of the *Register* according to the schedule of deadlines for *Register* publication. Due to time restraints, the Secretary of State's Office will no longer edit the text of proposed rules. We will continue to make numbering and labeling changes as necessary.

Under the Administrative Procedure Act (A.R.S. § 41-1001 et seq.), an agency must allow at least 30 days to elapse after the publication of the Notice of Proposed Rulemaking in the *Register* before beginning any proceedings for adoption, amendment, or repeal of any rule. A.R.S. §§ 41-1013 and 41-1022.

NOTICE OF PROPOSED RULEMAKING

TITLE 4. PROFESSIONS AND OCCUPATIONS

CHAPTER 23. BOARD OF PHARMACY

PREAMBLE

1. **Sections Affected** — **Rulemaking Action**

R4-23-901	Amend
R4-23-1001	Repeal
R4-23-1003	Amend
R4-23-1005	Amend
R4-23-1006	Amend

2. **The specific authority for the rulemaking, including both the authorizing statute (general) and the statutes the rules are implementing (specific):**

Authorizing statutes: A.R.S. §§ 32-1904(A)(1), 32-1904(B)(14), and 36-2521

Implementing statutes: A.R.S. §§ 36-2512(B), 36-2513(B), 36-2514(B), 36-2515(B), and 36-2523(A) and (B)

3. **A list of all previous notices appearing in the Register addressing the proposed rule:**

Notice of Rulemaking Docket Opening: 5 A.A.R. 922, March 3, 2000

4. **The name and address of agency personnel with whom persons may communicate regarding the rule:**

Name: Dean Wright, Compliance Officer

Address: Board of Pharmacy
5060 N. 19th Ave., Suite 101
Phoenix, AZ 85015

Telephone: (602) 255-5125, ext. 131

Fax: (602) 255-5740

E-mail: rxcop@uswest.net

5. **An explanation of the rule, including the agency's reasons for initiating the rule:**

During the 5-year rule review in 1997, the Board identified these Sections of rule for amendment to improve clarity, conciseness, and understandability. In addition, subsection R4-23-1003(A) needed additional language to clarify the recordkeeping requirements for a controlled substance inventory.

Section R4-23-901 is amended to include proper citations and remove outdated terminology. Section R4-23-1001 is repealed because the language is outdated and the provisions have not been used in over 14 years. Section R4-23-1003(A)(1) clarifies the controlled substance inventory requirements and the rest of the Section is amended for grammar, style, and format changes to produce a clear, concise, and understandable document. Section R4-23-1005 is amended to include incorporation by reference of relevant sections of the federal code and grammar, style, and format

changes to produce a clear, concise, and understandable document. Section R4-23-1006 is amended for minor style changes and updated citations to produce a clear, concise, and understandable document.

The Board believes that making these rules benefits the public health and safety by establishing clear standards for controlled substances, drug offenses, and penalties.

6. A reference to any study that the agency proposes to rely on in its evaluation of or justification for the rule and where the public may obtain or review the study, all data underlying each study, any analysis of the study, and other supporting material:

Not applicable

7. A showing of good cause why the rule is necessary to promote a statewide interest if the rule will diminish a previous grant of authority of a political subdivision of this state:

Not applicable

8. The preliminary summary of the economic, small business, and consumer impact:

The rule will not have an economic impact except the cost to the Board of Pharmacy and the Secretary of State for writing and publishing the rule. The changes do not impose anything new. The rule clarifies existing requirements. The rule does not impose any new costs on small business or consumers.

9. The name and address of agency personnel with whom persons may communicate regarding the accuracy of the economic, small business, and consumer impact statement:

Name:	Dean Wright, Compliance Officer
Address:	Board of Pharmacy 5060 N. 19th Ave., Suite 101 Phoenix, AZ 85015
Telephone:	(602) 255-5125, ext. 131
Fax:	(602) 255-5740
E-Mail:	rxcop@uswest.net

10. The time, place, and nature of the proceedings for the adoption, amendment, or repeal of the rule or, if no proceeding is scheduled, where, when, and how persons may request an oral proceeding on the proposed rule:

Comments may be written or presented orally. Written comments must be received by 5:00 p.m., Monday, May 8, 2000. An oral proceeding is scheduled for:

Date:	May 8, 2000
Time:	10:00 a.m.
Location:	5060 N. 19th Ave., Suite 101 Phoenix, AZ 85015

A person may request information about the oral proceeding by contacting the person listed above.

11. Any other matters prescribed by statute that are applicable to the specific agency or to any specific rule or class of rules:

Not applicable

12. Incorporations by reference and their location in the rules:

21 C.F.R. § 1308.22 April 1, 1999 (and no future editions or amendments) located at A.A.C. R4-23-1005(A)

21 C.F.R. § 1308.24 April 1, 1999 (and no future editions or amendments) located at A.A.C. R4-23-1005(B)

21 C.F.R. § 1308.32 April 1, 1999 (and no future editions or amendments) located at A.A.C. R4-23-1005(C)

13. The full text of the rules follows:

TITLE 4. PROFESSIONS AND OCCUPATIONS

CHAPTER 23. BOARD OF PHARMACY

ARTICLE 9. PENALTIES AND MISCELLANEOUS

Section
R4-23-901. Penalty for Violations

ARTICLE 10. UNIFORMED CONTROLLED SUBSTANCES AND DRUG OFFENSES

Section
~~R4-23-1001.~~ ~~Character and Fingerprint Identification Required~~ Repealed
R4-23-1003. Records and Order Forms
R4-23-1005. Substances Excepted from the Schedules of Controlled Substances
R4-23-1006. Substances Excepted from Drug Offenses

ARTICLE 9. PENALTIES AND MISCELLANEOUS

R4-23-901. Penalty for Violations
Any person, firm, or corporation violating any of the provisions of ~~these regulations~~ 4 A.A.C. 23 ~~shall be~~ is subject to the penalties in A.R.S. § 32-1996~~, as amended and effective August 11, 1970~~. In addition, ~~persons licensed and~~ a license or permit ~~permits~~ issued under the provisions of ~~the Pharmacy Act shall be~~ A.R.S. Title 32, Chapter 18 is subject to suspension or revocation for violation ~~violations~~ of ~~these regulations~~ 4 A.A.C. 23.

ARTICLE 10. UNIFORMED CONTROLLED SUBSTANCES AND DRUG OFFENSES

~~R4-23-1001.~~ ~~Character and Fingerprint Identification Required~~ Repealed
~~Information concerning character and fingerprint identification shall be furnished at the request of the Board, for persons responsible for ordering, storing, handling, distributing, or directly dispensing controlled substances to show that each is of good moral character and has not violated laws and regulations pertaining to drugs or devices.~~

R4-23-1003. Records and Order Forms
A. Records
1. ~~Inventory upon change of pharmacist-in-charge. An inventory of all controlled substances shall be taken by a pharmacist-in-charge~~ If the pharmacist-in-charge of a pharmacy is replaced by another pharmacist-in-charge, the new pharmacist-in-charge shall complete an inventory of all controlled substances in the pharmacy within ten days of assuming such responsibility. This inventory and any other required controlled substance inventory shall:
   a. Include an exact count of all CII controlled substances;
   b. Include an exact count of all CIII through CV controlled substances or an estimated count if the stock container contains fewer than 1001 units;
   c. Indicate the date the inventory is taken and whether the inventory is taken before opening of business or after close of business for the pharmacy;
   d. Be signed by:
      i. The pharmacist-in-charge; or
      ii. For other required inventories, the pharmacist who does the inventory;
   e. Be kept separately from all other records; and
   f. Be available in the pharmacy for inspection by the Board or its designee for not less than 3 years.
2. ~~Reporting losses of controlled substances.~~ Losses of controlled substances shall be reported:
   a. Within ten days of discovery,
   b. On a DEA form 106,
   c. By the pharmacist-in-charge of a pharmacy or manufacturer,
   d. By the permittee or manager of a full-service wholesaler, and
   e. To the federal Drug Enforcement Administration (DEA), the Narcotic Division of the Department of Public Safety (DPS), and the Board of Pharmacy. A copy of the ~~report~~ DEA form 106 shall be kept on file by the ~~registrant~~ pharmacy permittee. The ~~report~~ DEA form 106 shall ~~show~~ state whether the police investigated the loss.
3. ~~Records of receipts and disposal of controlled substances.~~
   ~~a.~~ Every person manufacturing any controlled substance~~s~~, including ~~the~~ repackaging ~~and~~ or relabeling ~~thereof~~, shall ~~prepare~~ record and retain the ~~date of manufacture~~ manufacturing, repackaging, or relabeling date for each ~~drug manufactured~~ controlled substance.
4. ~~b.~~ Every person selling, delivering, or ~~otherwise~~ disposing of any controlled substance shall ~~prepare or obtain~~ record and retain for not less than ~~three~~ 3 years the following information:

a. ~~i. An adequate record of~~ The ~~kind~~ name, strength, dosage form, and quantity of each ~~drug~~ controlled substance received, sold, delivered, or ~~otherwise~~ disposed ~~of~~;
b. ~~ii.~~ The name, ~~and~~ address, and DEA registration number of the person from whom ~~it was~~ each controlled substance is received;
c. ~~iii.~~ The name, ~~and~~ address, and DEA registration number of the person to whom ~~it was~~ each controlled substance is sold~~,~~ or delivered or ~~otherwise disposed of~~ who disposes of each controlled substance; and
d. ~~iv.~~ The date of each transaction.

B. Order form. For purposes of A.R.S. § 36-2524, "Order Form" means DEA Form 222c.

R4-23-1005. Substances Excepted from the Schedules of Controlled Substances

A. ~~Excepted over-the-counter drugs. A list of~~ All over-the-counter non-narcotic substances containing limited amounts of controlled substances ~~which are excepted from prescription requirements and which~~ that are excluded from all controlled substance schedules by 21 C.F.R. § 1308.22 April 1, 1999 (and no future editions or amendments), incorporated by reference and on file with the Board and ~~may be obtained from the Office of the Arizona State Board of Pharmacy and is on file in~~ the Office of the Secretary of State are excluded from all controlled substance schedules in Arizona.

B. ~~Excepted chemical preparations. A chemical preparation or mixture meeting the following requirements is excepted from all schedules:~~
~~1.~~ ~~It is intended for accredited laboratory, industrial, educational, or special research purposes and is not intended for general administration to a human being or other animal, and which:~~
~~a.~~ ~~Contains No narcotic controlled substance and is packaged in such a form or concentration that the package quantity does not present any significant potential for abuse; or~~
~~b.~~ ~~Contains Either a narcotic or non-narcotic controlled substance and one or more adulterating or denaturing agents in such a manner, combination, quantity, proportion, or concentration, that the preparations or mixtures do not present any potential for abuse, and the narcotic substances cannot in practice be removed; and~~
~~2.~~ ~~Are exempt by federal law.~~ All chemical preparations or mixtures containing 1 or more controlled substances listed in any schedule that are exempted from all controlled substance schedules by 21 C.F.R. § 1308.24 April 1, 1999 (and no future editions or amendments), incorporated by reference and on file with the Board and the Office of the Secretary of State are exempted from all controlled substance schedules in Arizona.

C. ~~Excepted prescription only drugs.~~ All prescription-only drugs ~~which have been~~ that are exempted by 21 C.F.R. § 1308.32 April 1, 1999 (and no future editions or amendments), incorporated by reference and on file with the Board and the Office of the Secretary of State are ~~hereby excepted~~ exempted from all controlled substance schedules ~~of controlled substances~~ in Arizona.

R4-23-1006. Substances Excepted from Drug Offenses

The following materials, compounds, mixtures, or preparations containing any stimulant or depressant substance included in A.R.S. §§ 13-3401(6)(b) or 13-3401(6)(c) are excepted from the definition of dangerous drugs under the authority of A.R.S. § 32-1904(B)(~~12~~14):

1. ~~The~~ Over-the-counter drugs excepted in ~~A.C.R.R.~~ A.A.C. R4-23-1005(A).
2. ~~The~~ Chemical preparations excepted in ~~A.C.R.R.~~ A.A.C. R4-23-1005(B).
3. ~~The~~ Prescription-only drugs excepted in ~~A.C.R.R.~~ A.A.C. R4-23-1005(C).

NOTICE OF PROPOSED RULEMAKING

TITLE 18. ENVIRONMENTAL QUALITY

CHAPTER 9. DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER POLLUTION CONTROL

PREAMBLE

1. Sections Affected	**Rulemaking Action**
Article 1	Amend
R18-9-101	Amend
R18-9-102	Repeal
R18-9-102	New Section
R18-9-103	Repeal
R18-9-103	New Section
R18-9-104	Amend

R18-9-105	Repeal
R18-9-105	New Section
R18-9-106	Repeal
R18-9-106	New Section
R18-9-107	Repeal
R18-9-107	New Section
R18-9-108	Repeal
R18-9-108	New Section
R18-9-109	Repeal
R18-9-109	New Section
R18-9-110	Repeal
R18-9-111	Repeal
R18-9-112	Repeal
R18-9-113	Repeal
R18-9-114	Repeal
R18-9-115	Repeal
R18-9-116	Repeal
R18-9-117	Repeal
R18-9-118	Repeal
R18-9-119	Repeal
R18-9-120	Repeal
R18-9-121	Repeal
R18-9-122	Repeal
R18-9-123	Repeal
R18-9-124	Repeal
R18-9-125	Repeal
R18-9-126	Repeal
R18-9-127	Repeal
R18-9-128	Repeal
R18-9-129	Repeal
R18-9-130	Repeal
Article 2	Amend
R18-9-201	Renumber
R18-9-201	New Section
R18-9-202	Renumber
R18-9-202	New Section
R18-9-203	Renumber
R18-9-203	New Section
R18-9-204	New Section
R18-9-205	New Section
R18-9-206	New Section
R18-9-207	New Section
R18-9-208	New Section
R18-9-209	New Section
R18-9-210	New Section
R18-9-211	New Section
R18-9-212	New Section
R18-9-213	New Section
R18-9-214	New Section
R18-9-215	New Section
R18-9-216	New Section
R18-9-217	New Section
R18-9-218	New Section
R18-9-219	New Section
R18-9-220	New Section
R18-9-221	New Section
R18-9-222	New Section
R18-9-223	New Section
R18-9-224	New Section

R18-9-225	New Section
Article 3	New Article
R18-9-301	New Section
R18-9-302	New Section
R18-9-303	New Section
R18-9-304	New Section
R18-9-305	New Section
R18-9-306	New Section
R18-9-307	New Section
Article 4	New Article
R18-9-401	New Section
R18-9-402	New Section
R18-9-403	New Section
R18-9-404	New Section
R18-9-405	New Section
R18-9-406	New Section
R18-9-407	New Section
R18-9-408	New Section
R18-9-409	New Section
R18-9-410	New Section
R18-9-411	New Section
R18-9-412	New Section
R18-9-413	New Section
R18-9-414	New Section
R18-9-415	New Section
R18-9-416	New Section
R18-9-417	New Section
R18-9-418	New Section
R18-9-419	New Section
R18-9-420	New Section
R18-9-421	New Section
R18-9-422	New Section
R18-9-423	New Section
R18-9-424	New Section
R18-9-425	New Section
R18-9-426	New Section
R18-9-427	New Section
R18-9-428	New Section
R18-9-429	New Section
R18-9-430	New Section
R18-9-431	New Section
R18-9-432	New Section
R18-9-433	New Section
R18-9-434	New Section
R18-9-435	New Section
R18-9-436	New Section
R18-9-437	New Section
R18-9-438	New Section
R18-9-439	New Section
R18-9-440	New Section
R18-9-441	New Section
R18-9-442	New Section
R18-9-443	New Section
R18-9-444	New Section
R18-9-445	New Section
R18-9-446	New Section
R18-9-447	New Section
R18-9-448	New Section
R18-9-449	New Section

R18-9-450	New Section
R18-9-451	New Section
R18-9-452	New Section
Table 1	New Table
Article 5	New Article
R18-9-501	New Section
R18-9-502	New Section
R18-9-503	New Section
Article 8	Repeal
R18-9-801	Repeal
R18-9-802	Repeal
R18-9-803	Repeal
R18-9-804	Repeal
R18-9-805	Repeal
R18-9-806	Repeal
R18-9-807	Repeal
R18-9-808	Repeal
R18-9-809	Repeal
R18-9-810	Repeal
R18-9-811	Repeal
R18-9-812	Repeal
R18-9-813	Repeal
R18-9-814	Repeal
R18-9-815	Repeal
R18-9-816	Repeal
R18-9-817	Repeal
R18-9-818	Repeal
R18-9-819	Repeal

2. The specific authority for the rulemaking, including both the authorizing statute (general) and the statutes the rules are implementing (specific):

Authorizing statute: A.R.S. § 49-203(A)(4)

Implementing statutes: A.R.S. §§ 49-104(B)(10), 49-104(B)(13), and 49-203(A)(10)

3. List of all previous notices appearing in the register addressing the proposed rule:

Notice of Docket Opening: 5 A.A.R. 2014, June 18, 1999

Notice of Docket Opening 6 A.A.R. 1325, April 7, 2000

4. The name and address of agency personnel with whom persons may communicate regarding the rulemaking:

Name: Michele Robertson

Address: Department of Environmental Quality
3033 N. Central Ave.
Phoenix, AZ 85014

Telephone: (602) 207-4428

Fax: (602) 207-4674

5. An explanation of the rule, including the agency's reasons for initiating the rule:

In July, 1997 the Department formed a Unified Water Quality Permit Rewrite Steering Committee composed of 22 members representing several stakeholder organizations that included private businesses, large and small municipalities, county governments and other agencies. ADEQ requested the committee review existing water permitting processes and develop recommendations for process improvements through the consolidation and streamlining of current requirements.

The Steering Committee first met in August, 1997 and members agreed on a consensus model of decision-making with an option for "grudging consent" and submittal of minority opinions. Because of the complexity of technical issues, the necessity for a detailed evaluation of existing requirements and processes, as well as the plan to develop strategies for improvement, the Steering Committee established subcommittees of stakeholders with expertise in specific areas (industrial discharge, wetlands, reclaimed water, mines, wastewater treatment plants).

All Steering Committee meetings were open to the public and attendees were allowed to participate in the discussions. Participation in the subcommittees was open to anyone expressing an interest in becoming involved. The Steering Committee and subcommittees spent approximately a year evaluating existing ADEQ Water Quality Division permitting procedures. Volunteer subcommittee members offered spent a tremendous amount of time developing recommendations that would streamline and enhance the effectiveness of the permitting process for both ADEQ and regulated entities. Subcommittees submitted their recommendations to the Steering Committee for discussion, revision and approval. The Steering Committee wrote its Final Report (Unified Water Quality Permit Rewrite Project, Final Report of the Steering Committee) and transmitted it to ADEQ in August 1998. The Final Report provided a basis for Senate Bill 1379 which became law in August 1999.

Senate Bill 1379 provided statutory changes to pave the way for rule revisions. After passage of the bill, ADEQ reconvened the Steering Committee and the various subcommittees. These groups have continued to meet regularly with ADEQ staff to identify implementation issues that may require further action and to assist in drafting the proposed rule. A particular focus of the subcommittees has been development of numerous general permits to be issued by rule. ADEQ also held meetings around the state in the fall of 1999 to educate stakeholders about the anticipated changes to the Aquifer Protection Permit and sewerage construction programs that will be implemented by this rulemaking. Meetings were held in Yuma, Phoenix, Tucson, Pinetop-Lakeside, Flagstaff, Parker, and Sierra Vista. ADEQ also intends to hold public hearings to discuss the rules with stakeholders and interested parties after the proposed rules are filed.

In proposing these rules the agency is complying with A.R.S. §§ 49-104(B)(10), 49-104(B)(13) and 49-203(A)(4) which require the agency to adopt rules to administer its Aquifer Protection Permit and Sewerage Construction Programs. Furthermore, many of the changes incorporated into the proposed rules were identified in the Department's 5-year rule review report prepared for the Governor's Regulatory Review Council. The proposed rules replace and consolidate the current R18-9-101 et seq. and R18-9-801 et seq., incorporating those aspects of the Sewerage Construction Program that remain relevant into the Aquifer Protection Permit Program. Because of this consolidation and the integration with permits for the use of reclaimed water, ADEQ has named our approach the Unified Water Quality Permit.

The Department expects the proposed rules to ease the regulatory burden currently placed upon entities that discharge pollutants such as mining operations, wastewater treatment facilities, solid waste disposal facilities, large septic tank systems, certain industrial facilities, and most discharges to navigable waters by streamlining some permitting requirements, eliminating others that are redundant and relying on general permits to a much greater extent than previous rules provided.

The major program improvements provided by the proposed rule are summarized below:

(1) The rule eliminates duplicative processes by consolidating design reviews for wastewater treatment facilities into the Aquifer Protection Permit (APP) process as a component of the best available demonstrated control technology (BADCT) demonstration. Current sewerage rules require review and approval of detailed engineering plans prior to construction and operation of all sewage treatment facilities, from the largest municipal wastewater treatment plants to septic tank systems installed at single family residences. For sewage treatment facilities required to get an APP, this review duplicates and overlaps many engineering requirements of the APP program. The proposed rule reduces the number of facilities required to submit complete detailed engineering plans for Department review and approval. As a part of the APP process, the Department will now perform a review only of design reports for most larger facilities. Detailed engineering plan review may still be performed on large facilities when warranted based on criteria clearly specified in the rule.

(2) As recommended by the Steering Committee, the rule raises the standard of treatment for new sewage treatment facilities and major expansions of old facilities. Such facilities may experience increased costs to meet the more stringent BADCT requirements. However, the biggest contributors to cost are nitrogen removal and dechlorination- treatments already commonly required in APPs. The proposed rule defines BADCT requirements for wastewater treatment facilities and allows some flexibility to vary from those requirements, if warranted by site conditions. The result is less ambiguity and more uniformity in interpretation of BADCT. This change should reduce the time and effort currently devoted to negotiations between ADEQ staff and the applicant over permit conditions. Improved effluent quality should encourage the use of reclaimed water and contribute to water conservation efforts. In addition, complex sewage treatment facilities with flows between 3,000 and 24,000 gallons per day that qualified for a general permit under the existing rule will now be required to obtain an individual APP. The increased cost to permit these facilities is anticipated to be offset by an improvement in operation, maintenance and dependability that will provide a level of confidence to homeowners who rely on continued performance, as well as to county health officials and other regulators who monitor compliance with permit requirements.

(3) The rule provides a greatly expanded number of general permits that replace individual permits for major industry groups such as mining and other industrial operations. These new general permits rely on clear technical standards in rule to ensure that a discharging facility does not violate Aquifer Water Quality Standards and that the facility employs BADCT in its design, construction, operation and maintenance. Under the current ADEQ statutes and rules, there are sixteen general permits. The proposed rule expands this number to 41, increasing by almost three fold the circumstances under which an applicant may obtain a general permit. General permits are simpler and take fewer hours to process than an individual permit thus reduced cost and expedited processing of these permits results.

To facilitate this large number of general permits, ADEQ has developed 4 types of general permit categories. As described below, the Type 2, 3 and 4 general permits have specified recordkeeping and reporting requirements. Type 1 general permits have no such requirements.

Type 1 General Aquifer Protection Permit - this general permit does not require notice to ADEQ prior to the discharge covered under the permit. There are 9 Type 1 permits that apply to some discharging facilities covered in the existing rule. Dockside facilities and watercraft and earth pit privies have been added.

Type 2 General Aquifer Protection Permit - this general permit requires a Notice of Intent to Discharge Under a General Aquifer Protection Permit (Type 2) be filed with ADEQ prior to discharge. The permittee certifies agreement to comply with the terms and conditions of the specific general permit that applies to the discharge. There are 3 new permits of this type.

Type 3 General Aquifer Protection Permit - this general permit requires an applicant to file Notice of Intent to Discharge Under a General Aquifer Protection Permit (Type 3) and receive written Verification of General Permit Conformance for the discharge. There are 7 new permits of this type.

Type 4 General Aquifer Protection Permit - this general permit requires an applicant to file Notice of Intent to Discharge Under a General Aquifer Protection Permit (Type 4) and receive a written Provisional Verification of General Permit Conformance prior to facility construction and a written Verification of General Permit Conformance prior to any facility discharge. There are 23 new permits of this type.

(4) The onsite program oversees the location, design, installation and maintenance of small sewage treatment and disposal systems which usually serve individual residences. The most common systems utilize a septic tank and a soil absorption trench. The current rules for onsite systems require a general or individual permit and approvals to construct (ATCs) as well as approvals of construction (AOCs). The proposed rule will require a general or individual permit with provisional verification and general permit verification. Counties with delegation agreements will spell out monitoring and reporting as well as operation and maintenance requirements for select systems. The most important change being introduced is the inclusion in rule of technical standards for design approval. Previously, these standards were only in guidance documents. Enforcement was spotty or inconsistent, resulting in the issuance of general permits that could not be directly linked to the technical standards.

6. A reference to any study that the agency proposes to rely on in its evaluation of or justification for the proposed rule and where the public may obtain or review the study, all data underlying each study, any analysis for the study and other supporting material:

None

7. A showing of good cause why the rule is necessary to promote a statewide interest if the rule will diminish a previous grant of authority to a political subdivision of this state:

Not applicable

8. The preliminary summary of the economic, small business, and consumer impact:

The proposed rule is the final product of an extensive stakeholder process that covered a period of nearly three years. The rule does not impose new regulations. Instead, it integrates the regulatory requirements of the Aquifer Protection Permit (APP) Program with those of the Sewerage Construction Program to produce a single, unified water quality permit framework. Integration and consolidation of the different rules will result in a streamlined process for the development and issuance of permits and should, therefore, reduce costs to permit applicants. Although streamlined, the process ensures continued protection of human health and the environment.

Persons Directly Affected by the Proposed Rule

Applicants and Permittees: Applicants and permittees include all types of business owners, small and large, and municipalities required to obtain individual permits for their discharging activities. Those persons who need permits to operate facilities covered by this rule will be aided by allowing many of their previously individually permitted facilities to now be covered by general permits.

State Agencies: The Arizona Department of Environmental Quality is the agency responsible for implementing this rule. Other state agencies will be affected if they are required to obtain an APP for discharging facilities covered by this rule.

The General Public: The increase in numbers of general permits will reduce costs of operating many facilities which will be passed on to consumers. The public's health will also benefit by the requirement of complex sewerage treatment facilities with flows between 3,000 and 24,000 gallons per day to obtain individual APPs. These facilities are increasing in number because they are most commonly used in subdivisions and mobile home parks that have 40 or more units per community. The rules impose more stringent standards on these facilities because individual permits require more scrutiny by permit reviewers to meet BADCT and comply with Aquifer Water Quality Standards at an applicable point of compliance.

For onsite systems nationwide, about one in every four houses rely on some form of onsite system to treat or dispose of "blackwater" from toilets and "graywater" from showers, tubs, sinks, washing machines, dishwashers, water softeners and even garbage disposals. But, according to the U.S. Census Bureau, nearly 40% of new homes (those built in the last four years) had onsite septic systems. And of the 25.6 million U.S. households being served by onsite systems, the majority are in suburbs of metropolitan areas, not in rural areas.

In Arizona, there were 282,897 (17% of the estimated 1.7 million) housing units that had onsite septic tanks or similar systems, according to data extracted from the 1990 US Census. These systems remain the most efficient method of wastewater treatment until a conventional, gravity type sewer system reaches their properties, according to engineers with the National Small Flows Clearinghouse at West Virginia University.

Economic data are unavailable for specific facility types. However, ADEQ expects that the amount of staff time for processing individual APP applications will drop sharply with the implementation of these new general permits. This will directly benefit the permittee by a reduction in permitting fees and ancillary permitting costs, such as consulting fees. It is anticipated that implementation of the proposed rule will result in several economic benefits:

Efficiency will be achieved in a number of ways, including:

1. Elimination of duplicative ATC / AOC processes;
2. Clear definition of BADCT for wastewater treatment plants;
3. Specification of technical standards in rule for onsite wastewater treatment systems;
4. Expansion of the number of new general permits; and
5. Overall reduction in the number of hours needed to obtain a water permit, and therefore, a reduction in the costs to the applicants.

Equity will result from a more uniform implementation and enforcement of the rules to all regulated entities. The proposed rule sets forth clearer technical standards for BADCT and other requirements which are intended to eliminate confusion and inconsistencies within individual permitting groups insofar as the interpretation of requirements are concerned. Clearer standards also remove the disparities between requirements imposed on similar facilities.

Reduced cost will occur by replacing individual permits for certain types of facilities with general permits resulting in reduced permit processing fees and processing times to the applicant.

Effectiveness measures will be enhanced. These measures are defined as the degree to which the Department accomplishes its mission of protecting public health and the environment by preventing inappropriate discharges to the state's groundwater. Focusing on prevention enables the avoidance of multiple costs that accompany environmental clean-ups. For instance, where general permits are converted to individual permits in the 3,000 to 24,000 gpd category, the facility undergoes the scrutiny of a large wastewater treatment plant, including specific operation and maintenance requirements and a certified wastewater treatment plant operator. Cleanup of contaminated groundwater under any circumstances does not come cheap, so that a more effective and enforceable rule makes better economic sense.

The ADEQ Water Permits Section has compiled average work hours needed to process different types of permits (e.g., mining, industrial, wastewater treatment) during the last few fiscal years which will be used to benchmark the process improvements. Each of the stakeholder subcommittees was asked to research one typical case of a permittee/applicant (regulated entity) to show how much in time, money and other resources was spent under the current rules to obtain a water quality permit. Once the data are available, ADEQ will estimate the impact of the recommended rule change for the situations.

The proposed rule will make the regulatory process more effective by focusing on technical standards to achieve pollution prevention up front, instead of relying on a "cure" that is more costly and time-consuming for all involved, especially the system owner. ADEQ has provided federal 319(h) funds to Northern Arizona University in Flagstaff to train potential contractors on design and installation of onsite systems. And although the design approval technical standards could cost system owners more in initial expenditures, the long-term operation and maintenance costs are expected to decline considerably with continuous updates in the use of conventional and alternative technologies.

9. The name and address of agency personnel with whom person may communicate regarding the accuracy of the economic, small business, and consumer impact statement:

Name: Mila Hill

Address: Department of Environmental Quality
3033 N. Central Avenue
Phoenix, AZ 85014

Telephone: (602) 207-4435

Fax: (602) 207-2251

10. The time, place, and nature of the proceedings for the adoption, amendment or repeal of the rule, or, if no proceeding is scheduled, where, when, and how persons may request an oral proceeding on the proposed rule:

Public Hearing

Monday, May 8, 2000, 1:00 p.m.
Yuma Police Department
1500 S. 1st Avenue
Community Room
Yuma, AZ 85364

Public Hearing

Tuesday, May 9, 2000, 11:00 a.m.
Town of Parker
Parker Town Council Chambers
1314 - 11th Street
Parker, AZ 85344

Public Hearing

Thursday, May 11, 2000, 11:00 a.m.
Town of Pinetop-Lakeside
Council Chambers
1360 N. Niels Hansen Lane
Lakeside, AZ 85929

Public Hearing

Monday, May 15, 2000, 4:00 p.m.
City of Sierra Vista Police Station
Training Room
911 Coronado Drive
Sierra Vista, AZ 85635

Public Hearing

Tuesday, May 16, 2000, 12:00 p.m.
State of Arizona
400 W. Congress
North Building, Room 158, 1st Floor
Tucson, AZ 85701

Public Hearing

Friday, May 19, 2000, 11:00 a.m.
Coconino County - Admin. Offices
219 E. Cherry Avenue, lst Floor, Board Room
Flagstaff, AZ 86001

Public Hearing

Monday, May 22, 2000, 6:00 p.m.
ADEQ- Room 1706
3033 North Central Avenue
Phoenix, AZ 85012

11. Any other matters prescribed by statute that are applicable to the specific agency or to any specific rule or class of rules:

A.R.S. § 49-203(A)(10) authorizes the adoption of the proposed R18-9-220, Individual permits: Amendment.

12. Incorporations by reference and their location in the rules:

R18-9-418(D)(4)(b):

ASTM D698-91 (1998), "Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effect (12,400 ft-lbf/ft)", 1998. ASTM, 100 Barr Harbor Dr., Conshohocken, PA 19425-2959, (610)832-9500.

R18-9-425(E)(10):

ASTM F1417-92 (1998), "Standard Test Method for Installation Acceptance of Plastic Gravity Sewer Lines Using Low-Pressure Air", 1998. ASTM, 100 Barr Harbor Dr., Conshohocken, PA 19425-2959, (610)832-9500.

ASTM C924-89 (1997), "Standard Practice for Testing Concrete Pipe Sewer Lines for Low-Pressure Air Test Method", 1997. ASTM, 100 Barr Harbor Dr., Conshohocken, PA 19425-2959, (610)832-9500.

ASTM C828-98, "Standard Test Method for Low-Pressure Air Test of Vitrified Clay Pipe Lines", 1998. ASTM, 100 Barr Harbor Dr., Conshohocken, PA 19425-2959, (610)832-9500.

MAG Standard Spec. 601, Maricopa Association of Governments, 302 N. 1st Avenue, Suite 300, Phoenix, AZ 85003, (602)254-6300.

PC/COT WWM Standard Details 104 and 105, Pima County Wastewater Management, 201 N. Stone Ave, Tucson, AZ 85701-1207. (520)740-6500.

R18-9-425(F)(2):

MAG Standard Details 420, 421, and 422, 1998 with revisions through 2000, Maricopa Association of Governments, 302 N. 1st Avenue, Suite 300, Phoenix, AZ 85003, (602)254-6300.

PC/COT WWM Standard Details 201 through 211, 1994. Pima County Wastewater Management, 201 N. Stone Ave, Tucson, AZ 85701-1207. (520)740-6500.

R18-9-425(F)(3)(b):

ASTM C1244-93, "Standard Test Method for Concrete Sewer Manholes by the Negative Air Pressure (Vacuum) Test", 1993. ASTM, 100 Barr Harbor Dr., Conshohocken, PA 19425-2959, (610)832-9500.

R18-9-427(B)(1):

ASTM D5879-95, "Standard Practice for Surface Site Characterization for Onsite Septic Systems", 1995. ASTM, 100 Barr Harbor Dr., Conshohocken, PA 19425-2959, (610)832-9500.

R18-9-427(B)(2):

ASTM D5921-96, "Standard Practice for Subsurface Site Characterization for Test Pits for Onsite Septic Systems", 1996. ASTM, 100 Barr Harbor Dr., Conshohocken, PA 19425-2959, (610)832-9500.

R18-9-427(B)(3):

ASTM D1452-80 (1995) "Standard Practice for Soil Investigation and Sampling by Auger Borings", 1995. ASTM, 100 Barr Harbor Dr., Conshohocken, PA 19425-2959, (610)832-9500.

R18-9-430(B)(1):

ACI 318-99, "Building Code Requirements for Structural Concrete and Commentary", 1999. American Concrete Institute International, P.O. Box 9094, Farmington Hills, MI, 48333, (248)848-3700.

ACI 350R-89, "Environmental Engineering Concrete Structures," 1989. American Concrete Institute International, P.O. Box 9094, Farmington Hills, MI, 48333, (248)848-3700.

R18-9-430(B)(3):

ASTM C1227-00, "Standard Specifications for Precast Concrete Septic Tanks", 2000. ASTM, 100 Barr Harbor Dr., Conshohocken, PA 19425-2959, (610)832-9500.

IAPMO PS1-99, "Prefabricated Septic Tanks", 1999. International Association of Plumbing & Mechanical Officials, 20001 E. Walnut Dr. South, Walnut, CA, 91789-2825, (800)854-2766, ext 122.

R18-9-434(D)(1)(a):

Pumps rated for effluent service by Underwriters Laboratories (UL), 2000. Standards may be purchased through: Global Engineering Documents, 15 Inverness Way East, Englewood, CO, 80112, (800)854-7179

R18-9-434(D)(2)(d):

American National Standards Institute (ANSI)/National Sanitation Foundation (NSF) Standard 40-1999, "Residential Wastewater Treatment Systems", 1999. Standard may be purchased through: Global Engineering Documents, 15 Inverness Way East, Englewood, CO, 80112, (800)854-7179

R18-9-434(D)(2)(e):

National Electric Code, 1999. National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101, Quincy, MA 02269-9101, (800)344-3555.

National Electrical Manufacturers Association junction boxes rated by UL, 2000. Standards may be purchased through: Global Engineering Documents, 15 Inverness Way East, Englewood, CO, 80112, (800)854-7179

R18-9-434(D)(3)(a):

ASTM C913-98, "Standard Specifications for Precast Concrete Water and Wastewater Structures", 1998. ASTM, 100 Barr Harbor Dr., Conshohocken, PA 19425-2959, (610)832-9500.

R18-9-437(E):

ASTM D2325-68 (1994)e1, "Standard Test Method for Capillary-Moisture Relationships for Coarse- and Medium-Textured by Porous-Plate Apparatus", 1994. ASTM, 100 Barr Harbor Dr., Conshohocken, PA 19425-2959, (610)832-9500.

MAG Standard Specification 795.2, 1998 with revisions through 2000, Maricopa Association of Governments, 302 N. 1st Avenue, Suite 300, Phoenix, AZ 85003, (602)254-6300.

R18-9-438(C), (D)(1), (D)(2)(a), (D)(4), (D)(6), (D)(7), (D)(12), (E)(4):

Wisconsin Mound Manual, 1990. University of Wisconsin-Madison, SSWMP, 1525 Observatory Dr., Room 345, Madison, WI, 53706, (608)265-6595.

R18-9-438(D)(2)(a):

ASTM C33-99ae1, "Standard Specification for Concrete Aggregates", 1999. ASTM, 100 Barr Harbor Dr., Conshohocken, PA 19425-2959, (610)832-9500.

R18-9-439(D)(2):

ASTM C33-99ae1, "Standard Specification for Concrete Aggregates", 1999. ASTM, 100 Barr Harbor Dr., Conshohocken, PA 19425-2959, (610)832-9500.

R18-9-440(D)(2):

ASTM C33-99ae1, "Standard Specification for Concrete Aggregates", 1999. ASTM, 100 Barr Harbor Dr., Conshohocken, PA 19425-2959, (610)832-9500.

R18-9-449(D)(1):

ASTM C33-99ae1, "Standard Specification for Concrete Aggregates", 1999. ASTM, 100 Barr Harbor Dr., Conshohocken, PA 19425-2959, (610)832-9500.

ASTM C117-95, "Standard Test Method for Materials Finer than 75-µm (No. 200) Sieve in Mineral Aggregates by Washing", 1995. ASTM, 100 Barr Harbor Dr., Conshohocken, PA 19425-2959, (610)832-9500.

13. The full text of the rule follows:

ARTICLE 1. AQUIFER PROTECTION PERMITS: GENERAL PROVISIONS

Section

R18-9-101.	Definitions
R18-9-102.	~~Facilities to which the Article does not apply~~Requirement for an Aquifer Protection Permit
R18-9-103.	~~Transition of groundwater quality protection permit program to aquifer protection permit program~~Facilities to Which Articles 1 Through 4 Do Not Apply
R18-9-104.	Transition: Temporary Cessation, Closure, Post-closure
R18-9-105.	~~Class Exemptions~~Continuance, Transition and Unification of Permits
R18-9-106.	~~Determination of Applicability~~Class Exemptions
R18-9-107.	~~Individual permits: Application process~~Determination of Applicability
R18-9-108.	~~Individual permits: Application requirements~~Articles 1 through 4: Interaction With Other Applicable Legal Requirements
R18-9-109.	~~Special provisions: Recharge and underground storage and recovery~~Inspections; Violations and Enforcement
R18-9-110.	~~Individual permit conditions: Alert levels~~ Repealed
R18-9-111.	~~Individual permit conditions: Discharge limitations~~ Repealed
R18-9-112.	~~Individual permit conditions: Monitoring requirements~~ Repealed
R18-9-113.	~~Individual permit conditions: Reporting requirements~~ Repealed
R18-9-114.	~~Individual permit conditions: Contingency plan requirements~~ Repealed
R18-9-115.	~~Individual permit conditions: Compliance schedule~~ Repealed
R18-9-116.	~~Individual permit conditions: Temporary cessation, closure, post-closure~~ Repealed
R18-9-117.	~~Individual permit conditions: Technical and financial capability~~ Repealed
R18-9-118.	~~Individual permit duration~~ Repealed
R18-9-119.	~~Temporary permits~~ Repealed
R18-9-121.	~~Individual permits: Permit actions~~ Repealed
R18-9-122.	~~Consolidation of individual permits~~ Repealed
R18-9-124.	~~Public participation~~ Repealed
R18-9-125.	~~General permits: General provisions~~ Repealed
R18-9-126.	~~General permits: Sewage disposal systems~~ Repealed
R18-9-127.	~~General permits: Recharge pilot projects and underground storage and recovery pilot projects~~ Repealed
R18-9-129.	~~General permits: Other facilities~~ Repealed
R18-9-130.	~~Violations; Enforcement~~ Repealed

ARTICLE 2. AQUIFER PROTECTION PERMITS: INDIVIDUAL PERMITS

Section

R18-9-201.	Individual Permit Application Process
R18-9-202.	Individual Permit Application Requirements: General
R18-9-203.	Individual Permit Application Requirements: Technical
R18-9-204.	Individual Permit Application Requirements: Financial
R18-9-205.	Special Provisions: Underground Storage Facilities Regulated under A.R.S. Title 45.
R18-9-206.	Individual Permit Conditions: Alert Levels
R18-9-207.	Individual Permit Conditions: Discharge Limitations
R18-9-208.	Individual Permit Conditions: Monitoring Requirements
R18-9-209.	Individual Permit Conditions: Monitoring Recordkeeping Requirements
R18-9-210.	Individual Permit Conditions: Reporting Requirements
R18-9-211.	Individual Permit Conditions: Contingency Plan Requirements
R18-9-212.	Individual Permit Conditions: Compliance Schedule
R18-9-213.	Individual Permit Conditions: Temporary Cessation, Closure, Post-closure
R18-9-214.	Individual Permit Conditions: Financial Capability
R18-9-215.	Individual Permit Conditions: Technical Capability
R18-9-216.	Individual Permit Duration

ARTICLE 3. AQUIFER PROTECTION PERMITS: BEST AVAILABLE DEMONSTRATED CONTROL TECHNOLOGY FOR INDIVIDUAL PERMITS

Section

ARTICLE 4. AQUIFER PROTECTION PERMITS: GENERAL PERMITS

Section

ARTICLE ~~2.~~ 5. AGRICULTURAL GENERAL PERMITS

Section

ARTICLE 8. ~~SEWERAGE SYSTEMS~~REPEALED

Section

R18-9-811. ~~Separation of water and sewer mains~~ Repealed
R18-9-812. ~~Tests and records~~ Repealed
R18-9-813. ~~Approval required~~ Repealed
R18-9-814. ~~Limitations to discharges to wells~~ Repealed
R18-9-815. ~~Discharge to creviced formation prohibited~~ Repealed
R18-9-816. ~~Discharge of sewage from watercraft prohibited~~ Repealed
R18-9-817. ~~Acceptable toilets for watercraft~~ Repealed
R18-9-818. ~~Dockside facilities~~ Repealed
R18-9-819. ~~Violations~~ Repealed

ARTICLE 1. AQUIFER PROTECTION PERMITS: GENERAL PROVISIONS

R18-9-101. Definitions

~~In addition to the definitions prescribed in A.R.S. §§ 49-101 and 49-201, the terms of this Article shall have the following meanings:~~

In addition to the definitions provided in A.R.S. § 49-201, the following definitions apply to Articles 1 through 4 of this Chapter:

~~1.~~ "Alert level" means a numeric value, expressing either a concentration of a pollutant or a physical or chemical property of a pollutant, that is established in an individual Aquifer Protection Permit and that serves as an early warning indicating a potential violation of either an Aquifer Water Quality Standard at the applicable point of compliance, or a permit condition.

~~2.~~ "Aquifer Protection Permit" means an individual or general permit issued ~~pursuant to~~ under A.R.S. §§ 49-203, 49-241 through ~~49-251,~~ 49-252, and ~~this Article~~ Articles 1 through 4 of this Chapter.

~~3.~~ "Aquifer Water Quality Standard" means a standard established ~~pursuant to~~ by A.R.S. §§ 49-221 and 49-223.

"ASTM" means the American Society for Testing and Materials.

~~4.~~ "BADCT" means the best available demonstrated control technology, processes, operating methods, or other alternatives to achieve the greatest degree of discharge reduction, determined for a facility by the ~~Director pursuant to~~ Department under ~~A.R.S. § 49-243 (B) and (D)~~ A.R.S. § 49-243.

"Certified Water Quality Management Plan" means a plan prepared by the designated Water Quality Management Planning Agency under Section 208 of the Federal Pollution Control Act (P.L.92-500) as amended by the Clean Water Act of 1987 (P.L. 100-4) and certified by the Governor or the Governor's designee.

"Department" means the Arizona Department of Environmental Quality.

~~5. "Discharge density" means the volume of effluent discharged per unit of time, per unit area of land available to assimilate the discharge. This shall be expressed in gallons per day per acre or in pounds of nitrogen per day per acre.~~

"Design capacity" means the volume of a containment feature at a discharging facility that will accommodate all permitted flows and meet all Aquifer Protection Permit conditions. The total volume of the containment feature is the design capacity plus allowances for appropriate peaking and safety factors to ensure sustained reliable operation.

"Design flow" means the daily flow rate of wastewater that a facility is designed to accommodate on a sustained basis while satisfying all permit discharge limitations and treatment and operational requirements. The design flow incorporates consideration of appropriate peaking and safety factors to ensure sustained reliable operation.

"Direct use site" means an area where the Department allows reclaimed water to be applied or impounded.

"Disposal works" means the system for disposing of treated wastewater generated by the treatment works of a sewage treatment facility or onsite wastewater treatment facility, either by surface or subsurface methods.

~~6.~~ "Drywell" has the same meaning ~~ascribed to it~~ as prescribed in A.R.S. § 49-331(3).

"Facility" means any land, building, installation, structure, equipment, device, conveyance, area, source, activity or practice from which there is, or with reasonable probability may be, a discharge.

"Facility Plan" means the plans, specifications and estimates for proposed sewage treatment or disposal works prepared under Section 201 and 203 of the Federal Water Pollution Control Act (P.L. 92--500) as amended by the Clean Water Act of 1987 (P.L. 100-4), and submitted to the Department by and for a designated management agency.

"Final permit determination" means a written notification to the applicant of the Department's final decision whether to issue or deny an individual or area-wide Aquifer Protection Permit.

~~7.~~ "Groundwater Quality Protection Permit" means a permit regulating the disposal of pollutants that may affect groundwater issued by the Arizona Department of Health Services or the Department ~~pursuant to R9-20-208~~ prior to ~~the effective date of this Article.~~ September 27, 1989.

~~8. "Inert material" means that which is insoluble in water and will not decompose or leach substances to water, such as broken concrete, brick, rock, gravel, sand, and uncontaminated soils.~~

~~9.~~ "Injection well" means a well that receives a discharge through pressure injection or gravity flow.

"MAG Standard Detail" means Maricopa Association of Governments Uniform Standard Details for Public Works Construction issued 1998 including revisions through 2000.

"MAG Standard Specification" means Maricopa Association of Governments Uniform Standard Specifications for Public Works Construction issued 1998 including revisions through 2000.

~~10.~~ "Notice of Disposal (NOD)" means a document submitted to the Department ~~pursuant to R9-20-205 (A)~~ prior to ~~the effective date of this Article~~ September 27, 1989, giving notification of the disposal of pollutants that may affect groundwater. For a facility that has been issued a Groundwater Quality Protection Permit, the Groundwater Quality Protection Permit constitutes the Notice of Disposal.

"Onsite wastewater treatment facility" means a conventional septic tank system or alternative system that is installed at a site to treat and dispose of wastewater of predominantly human origin generated at that site but does not include a pre-fabricated, manufactured treatment works that typically utilizes an activated sludge unit process and has a design flow of 3,000 gallons per day or more.

"PC/COT WWM Standard Detail" means Pima County and City of Tucson Wastewater Management Standard Details for Public Improvements, 1994 Edition.

"Person" has the same meaning as prescribed in A.R.S. § 49-201.

"Pilot project" means a short term, limited scale test designed to gain information regarding site conditions, project feasibility, or application of a new technology.

~~11. "Recharge project" has the meaning ascribed to it in A.R.S. § 45-651(5).~~

"Residential soil remediation level" means the applicable predetermined standard established in 18 A.A.C. 7, Article 2, Appendix A.

"Setback" means a minimum horizontal distance maintained between a feature of a discharging facility and a potential point of impact.

~~12.~~ "Sewage" means untreated wastes from toilets, baths, sinks, lavatories, laundries, and other plumbing fixtures in places of human habitation, employment, or recreation.

"Sewage collection system" means the system of pipelines, conduits, manholes, pumping stations, force mains, and all other structures, devices and appurtenances that collect, contain and conduct sewage from its sources to the entry into a sewage treatment facility or onsite wastewater treatment facility serving sources other than a single residence.

~~13. "Sewage disposal system" means a system for sewage collection, treatment, and discharge by surface or underground methods.~~

"Sewage treatment facility" means a plant or system for sewage treatment and disposal, except an onsite wastewater treatment facility, that consists of treatment works, disposal works, and appurtenant pipelines, conduits, pumping stations and related subsystems and devices.

~~14.~~ "Surface impoundment" means a pit, pond or lagoon, having a surface dimension that is equal to or greater than its depth, that is used for the storage, holding, settling, treatment or discharge of liquid pollutants or pollutants containing free liquids.

~~15.~~ "Temporary cessation" means any cessation of operation of a facility for a period of greater than 60 days but ~~which is not intended to be permanent.~~ no more than 3 years.

~~16. "Underground storage and recovery project" has the meaning ascribed to it in A.R.S. § 45-802.6.~~

"Underground storage facility" has the same meaning as prescribed in A.R.S. § 45-802.01 (20).

"Well" means a bored, drilled or driven shaft, pit or hole whose depth is greater than its largest surface dimension.

~~R18-9-102. Facilities to which the Article does not apply~~

~~This Article shall not apply to any of the following:~~

~~A.~~ ~~Drywells which are used solely to receive storm runoff, except those that drain areas in which hazardous substances are used, stored, loaded, or treated.~~

~~B.~~ ~~The application of nitrogen fertilizers.~~

~~C.~~ ~~Animal feeding operations.~~

~~D.~~ ~~Activities conducted pursuant to a remedial action order issued or a plan approved pursuant to A.R.S. 49-281 through 49-287, and A.A.C. R18-7-101 through R18-7-110.~~

~~E.~~ ~~Any use of pesticides directly in the commercial production of plants and animals which is subject to the Federal Insecticide, Fungicide and Rodenticide Act, (P.L. 92-516; 86 Stat. 975; 7 United States Code 135 et seq., as amended), or A.R.S.~~

~~49-301 through 49-309 and the rules adopted thereunder, or Title 3, Chapter 2, Article 6 of the Arizona Revised Statutes and the rules adopted thereunder.~~

R18-9-102. Requirement for an Aquifer Protection Permit

Any person who discharges or who owns or operates a facility that discharges shall do so only if authorized by an Aquifer Protection Permit under Articles 1 through 4 of this Chapter, unless the facility:

1. Meets the criteria described in R18-9-103;
2. Is exempted by either A.R.S. § 49-250(B) or R18-9-106; or
3. Is not subject to R18-9-105 (A) or (B).

~~**R18-9-103. Transition of groundwater quality protection permit program to aquifer protection permit program**~~

~~**A.** Subject to the other provisions of this Section, a Groundwater Quality Protection Permit issued pursuant to R9-20-201 through R9-20-226 before the effective date of this Article is continued according to the terms of the permit.~~

~~**B.** An owner or operator of a facility for which a Groundwater Quality Protection Permit has been issued shall be deemed to be in compliance with this Article and Title 49, Chapter 2, Article 3, of the Arizona Revised Statutes if both of the following conditions are met:~~

~~1. The owner or operator is in compliance with the conditions of the Groundwater Quality Protection Permit.~~
~~2. The owner or operator is not causing or contributing to the violation of any Aquifer Water Quality Standard.~~

~~**C.** An owner or operator of a facility for which a notice of disposal as required by R9-20-205 has been filed shall be deemed to be in compliance with this Article and Title 49, Chapter 2, Article 3 of the Arizona Revised Statutes if the owner or operator is not causing or contributing to the violation of any Aquifer Water Quality Standard.~~

~~**D.** An owner or operator of a facility which is in existence on the effective date of this Article, which was exempted by R9-20-202B.) before the effective date of this Article, and which is neither exempted under A.R.S. º49-250(B) or R18-9-105 nor is issued a general permit under this Article, shall be deemed to be in compliance with this Article and Title 49, Chapter 2, Article 3 of the Arizona Revised Statutes if the person submits the information described in R18-9-108(A) and (B)(1) through (4) within 90 days after the effective date of this Article.~~

~~**E.** Subsections (B), (C) and (D) shall apply to a person until either of the following occurs:~~

~~1. The owner or operator are issued an Aquifer Protection Permit.~~
~~2. The owner or operator are denied an Aquifer Protection Permit.~~

~~**F.** The Department shall be notified by the transferor and the transferee of any change in the owner or operator of a facility subject to subsections (B), (C) or (D) within ten days after the change occurs. The notice shall include the name of the transferor owner or operator, the name of the transferee owner or operator, and the name and location of the facility.~~

~~**G.** The Department shall maintain a priority list indicating the order in which the facilities subject to subsections (A), (B), (C) and (D) shall be requested to submit permit applications pursuant to R18-9-107. The list shall be available to the public upon request. The list shall be based upon the potential environmental risks to the aquifers of the state and upon the risks to public health posed by the facilities, as determined upon consideration of the following:~~

~~1. The general vulnerability of the aquifer in terms of depth to groundwater and productivity of the aquifer.~~
~~2. Existing aquifer water quality.~~
~~3. The drinking water population potentially affected.~~
~~4. The waste hazard potential of the facility.~~
~~5. The existence of documented pollution problems attributable to the facility.~~
~~6. The status of the facility under R9-20-201 through R9-20-226.~~

~~**H.** A person who has an application for a Groundwater Quality Protection Permit pending on the effective date of this Section shall become subject to this Article and shall be issued an individual Aquifer Protection Permit if a permit is issued.~~

R18-9-103. Facilities To Which Articles 1 Through 4 Do Not Apply

Articles 1 through 4 of this Chapter do not apply to the following:

1. A drywell that is used solely to receive storm runoff, except one that drains areas in which hazardous substances are used, stored, loaded, or treated.
2. Any use of pesticides directly in the commercial production of plants and animals that is subject to the Federal Insecticide, Fungicide and Rodenticide Act, (P.L. 92-516; 86 Stat. 975; 7 United States Code 135 et seq., as amended), or A.R.S. §§ 49-301 through 49-309 and the rules adopted thereunder, or Title 3, Chapter 2, Article 6 of the Arizona Revised Statutes and the rules adopted thereunder.

R18-9-104. Transition: Temporary Cessation, Closure, Post-closure

A. A person who has filed a notice of disposal ~~as required by R18-9-20-205~~ shall notify the ~~Director~~ Department before any temporary cessation. The ~~Director~~ Department shall specify any measures to be taken by the person in order to prevent violations of Aquifer Water Quality Standards at ~~the applicable point of compliance.~~ a point of compliance that is determined by the type of pollutant and nearest down gradient use of the aquifer.

B. A person who has filed a notice of disposal ~~as required by R18-9-20-205~~ and who owns or operates a facility that is required to obtain an individual Aquifer Protection Permit under Title 49, Chapter 2, Article 3 of the Arizona Revised Statutes and Articles 1 through 3 of this Chapter shall submit either an application for an individual Aquifer Protection Permit ~~under Title 49, Chapter 2, Article 3 of The Arizona Revised Statutes and this Article~~ or a closure notification and closure plan according to the schedule and other requirements of A.R.S. § 49-252 if there is a cessation, for ~~a period of at least~~ more than three years, of the activity for which a facility or portion of a facility was designed and operated.

C. A person who has filed a notice of disposal ~~as required by R18-9-20-205~~ and who owns or operates a facility that is required to obtain an individual Aquifer Protection Permit under Title 49, Chapter 2, Article 3 of the Arizona Revised Statutes and Articles 1 through 3 of this Chapter shall notify the Department of the intent to permanently cease operations prior to ceasing an activity for which the facility or a portion of the facility was designed or operated.

~~**D.** A person who has filed a notice of disposal as required by R9-20-205 who ceases, without intending to resume, an activity for which a facility or portion of a facility was designed and operated, or who is deemed subject to the closure requirements of this Section pursuant to subsection (B), and who owns or operates a facility that is required to obtain an individual Aquifer Protection Permit under Title 49, Chapter 2, Article 3 of the Arizona Revised Statutes and this Article shall submit to the Director an application for an individual Aquifer Protection Permit within 90 days following the notification.~~

~~**R18-9-105. Class Exemptions**~~

~~**A.** In addition to the classes or categories of facilities listed in A.R.S. § 49-250(B), the following classes or categories of facilities are exempt from the permit requirements of Articles 1 through 4 of this Chapter.~~

~~1. Facilities that treat, store, or dispose of hazardous waste and have been issued a permit or have interim status, under the Resource Conservation and Recovery Act (P.L. 94-580; 90 Stat. 2796; 42 U.S.C. 6901 et. seq., as amended), or have been issued a permit according to the rules adopted under A.R.S. § 49-922.~~

~~2. Underground storage tanks that contain regulated substances as defined in A.R.S. § 49-1001.~~

~~3. Facilities for the disposal of solid waste, as defined in A.R.S. § 49-701.01, that are located in unincorporated areas and receive solid waste from 4 or fewer households.~~

~~4. Land application of biosolids in compliance with 18 A.A.C. 13, Article 15.~~

R18-9-105. Continuance, Transition and Unification of Permits

A. Transition of Groundwater Quality Protection Permits.

1. Subject to the other provisions of this Section, a Groundwater Quality Protection Permit issued prior to September 27, 1989 is continued according to the terms of the permit.
2. The Department shall consider a facility to which a Groundwater Quality Protection Permit was issued to be in compliance with Articles 1 through 4 of this Chapter and Title 49, Chapter 2, Article 3, of the Arizona Revised Statutes if the facility:
   a. Is in compliance with the conditions of the Groundwater Quality Protection Permit.
   b. Is not causing or contributing to the violation of any Aquifer Water Quality Standard at a point of compliance that is determined by the type of pollutant and nearest down gradient use of the aquifer.

B. Transition of Notices of Disposal. A facility for which a notice of disposal has been filed prior to September 27, 1989 is considered to be in compliance with Articles 1 through 4 of this Chapter and Title 49, Chapter 2, Article 3 of the Arizona Revised Statutes if the facility is not causing or contributing to the violation of any Aquifer Water Quality Standard at a point of compliance that is determined by the type of pollutant and nearest down gradient use of the aquifer.

C. An existing facility that has not filed a Notice of Disposal and does not possess a Groundwater Protection Permit or Aquifer Protection Permit but submitted the information described in applicable Arizona Administrative Code rules prior to December 27, 1989 is considered to be in compliance with Articles 1 through 4 of this Chapter only if the facility has submitted an Aquifer Protection Permit application to the Department prior to the effective date of Articles 1 through 4 of this Chapter.

D. Applicability of subsections (A), (B) and (C). Subsections (A), (B) and (C) shall apply to a facility until the Department:

1. Issues the facility an Aquifer Protection Permit;
2. Denies the facility an Aquifer Protection Permit; or
3. Issues a letter of clean closure approval for the facility under A.R.S. § 49-252.

E. Transfer of ownership or operation. The owner or operator of a facility subject to subsections (A), (B) or (C) shall notify the Department of any change in ownership or operation within ten days after the change occurs. The notice shall include the name of the transferor owner or operator, the name of the transferee owner or operator, and the name and location of the facility.

F. Transition from individual to general Aquifer Protection Permit. To qualify for a general Aquifer Protection Permit established in Article 4 of this Chapter, an owner or operator of a facility who holds or has applied for an individual Aquifer Protection Permit, issued or applied for prior to the effective date of Articles 1 through 4 of this Chapter, or who operates a facility described in subsections (A), (B) or (C) shall submit any information required by Article 4 and adhere to all

applicable general permit conditions. The facility's individual Aquifer Protection Permit will be valid and enforceable until the date the Department receives notification of the activity or, if required, until the date the Department provides a Verification of General Aquifer Protection Permit Conformance. Should the Department not provide the required verification, the facility's individual Aquifer Protection Permit will remain valid and enforceable until its stated date of expiration, if any.

G. Monitoring. When applicable, the Department may amend an individual Aquifer Protection Permit to incorporate monitoring requirements in order to ensure that reclaimed water quality standards developed under A.R.S. § 49-221(E) are met.

H. Transition of Approvals to Construct. Any Approval to Construct issued by the Department to a sewerage system under Arizona Administrative Code regulations in place prior to the effective date of Articles 1 through 4 of this Chapter shall be valid until its stated date of expiration. For an individual Aquifer Protection Permit application in process on the effective date of Articles 1 through 4 of this Chapter, the Department shall accept the Approval to Construct in place of the design report requirements in R18-9-307(A) and R18-9-308. For an onsite wastewater treatment facility with flow of less than 20,000 g.p.d. possessing a valid Approval to Construct, the Department shall provide a Verification of General Aquifer Protection Permit Conformance under R18-9-401(C) as long as the facility is constructed according to the specifications in the Approval to Construct.

~~**R18-9-106. Determination of Applicability**~~

~~**A.** Any person who engages or who intends to engage in an operation or an activity which may result in a discharge which is regulated under this Article may request on a form provided by the Department that the Department determine the applicability of A.R.S. §§ 49-241 through 49-251 and this Article to the operation or activity.~~

~~**B.** A person requesting a determination of applicability shall provide the following information:~~

~~1. The name of the operation or activity.~~
~~2. The location of the operation or activity.~~
~~3. The names of the persons who are engaging or who propose to engage in the operation or activity.~~
~~4. A description of the operation or activity.~~
~~5. A description of the chemical composition and characteristics of materials stored, handled, used or disposed of in the operation or activity.~~
~~6. Any other information required by the Director to make the determination of applicability.~~

~~**C.** Within 45 days after receipt of a request for a determination of applicability, the Department shall advise in writing the person making the request that the operation or activity is described by any one of the following:~~

~~1. Is not subject to the requirements of A.R.S. §§ 49-241 through 49-251 and this Article because the operation or facility does not discharge as described by A.R.S. § 49-241.~~
~~2. Is not subject to the requirements of A.R.S. §§ 49-241 through 49-251 and this Article because the operation or activity is exempted by A.R.S. § 49-250 or R18-9-105.~~
~~3. Is subject to the general permit requirements of A.R.S. §§ 49-241 through 49-251 and this Article.~~
~~4. Is subject to the individual permit requirements of A.R.S. §§ 49-241 through 49-251 and this Article.~~

~~**D.** If, after issuing a determination under this Section, the Department concludes that its determination of applicability or the information relied upon for a determination of applicability is inaccurate, the Department may modify or withdraw its determination after written notice to the person who requested the determination of applicability.~~

R18-9-106. Class Exemptions

Besides the classes or categories of facilities listed in A.R.S. § 49-250(B), the following classes or categories of facilities are exempt from the permit requirements of Articles 1 through 4 of this Chapter.

1. Facilities that treat, store, or dispose of hazardous waste and have been issued a permit or have interim status, under the Resource Conservation and Recovery Act (P.L. 94-580; 90 Stat. 2796; 42 U.S.C. 6901 et. seq., as amended), or have been issued a permit according to the rules adopted under A.R.S. § 49-922.
2. Underground storage tanks that contain regulated substances as defined in A.R.S. § 49-1001.
3. Facilities for the disposal of solid waste, as defined in A.R.S. § 49-701.01, that are located in unincorporated areas and receive solid waste from 4 or fewer households.
4. Land application of biosolids in compliance with 18 A.A.C. 13, Article 15.

~~**R18-9-107. Individual permits: Application process**~~

~~**A.** Any person who owns or operates a facility that discharges shall obtain an individual Aquifer Protection Permit, unless the facility is subject to a general permit issued by this Article, or is exempted by either A.R.S. § 49-250(B) or R18-9-105. A person who is required to obtain an individual Aquifer Protection Permit and who is not subject to R18-9-103(A) and (B), (C) or (D) shall not discharge after the effective date of this Article without an individual Aquifer Protection Permit.~~

~~**B.** A person who is required to obtain an individual Aquifer Protection Permit shall submit a permit application to the Department according to the following:~~

~~1. For a new facility for which the owner or operator is not subject to R18-9-103(A) and (B), (C) or (D), not later than 180 days before the date on which the facility is expected to begin discharging.~~

~~2. For a new facility for which the owner or operator is subject to R18-9-103(A) and (B), (C) or (D), within 90 days after receipt of a written request from the Director.~~
~~3. For an existing facility, within 90 days after receipt of a written request from the Director.~~

~~**C.** In the case of a permit application to be submitted at the request of the Director, the Director may establish a permit application schedule upon the request of the applicant if the applicant can show that more time is needed to gather and compile data as required by R18-9-108. A permit application schedule established by the Director shall require the submission of information as expeditiously as is practicable. If a permit application schedule provides that actions be taken during a period that exceeds 90 days after the date of receipt of a written request for the submission of an application, the schedule shall set forth interim requirements and the dates for their achievement. If the time necessary for completion of any interim requirements is more than six months and is not readily divisible into stages for completion, the schedule shall contain interim dates for submission of reports on progress toward completion of the interim requirements and shall indicate a projected completion date. Within 30 days after a date specified in a permit application schedule, an applicant shall submit to the Department a report indicating whether the action or actions to be taken as of that date were taken.~~

~~**D.** Upon request by the applicant, the Department shall schedule and hold a preapplication conference with an applicant to discuss any of the requirements of this Article. In addition, an applicant may submit to the Department for review and comment a proposal for meeting any of the informational requirements of this Article. The Department shall comment on the proposal within 30 days after receipt of the proposal.~~

~~**E.** Within 30 days after receipt of an application for an individual Aquifer Protection Permit, the Director shall notify the applicant in writing whether the application is complete. If the application is incomplete, the notification shall include a listing of additional information which is required to process the application and a time for the submission of the additional information. Within 20 days of receipt of the resubmitted application, the Director shall determine if the resubmitted application is complete.~~

~~**F.** Within 90 days after receipt of a complete application, the Director shall notify the applicant, in writing and by certified mail, of the preliminary decision either to deny the application or to issue an individual Aquifer Protection Permit. If, during this 90 day period, the Director determines there to be technical deficiencies in the application, the Director immediately shall give the applicant written notification of these deficiencies and give the applicant an opportunity to cure the deficiencies. The number of days between notification of the applicant and the submission of additional information or a response by the applicant shall not be included within the 90 days allowed the Director for notification of the applicant of the Director's decision to deny an application or to issue an individual Aquifer Protection Permit.~~

~~**G.** At its earliest opportunity, the Department shall make available to the applicant a copy of the draft of the individual Aquifer Protection Permit.~~

~~**H.** Within 30 days after the notification of the applicant required by subsection (F), the Director, in accordance with R18-1-401 and R18-9-124, shall cause to be published a notice of the preliminary decision to issue or deny an individual Aquifer Protection Permit.~~

~~**I.** Within 45 days after the publication of the public notice, a decision whether to conduct a public hearing shall be made by the Department. If a hearing is to be held, the Department shall schedule the hearing to begin on or before 75 days from the close of public comment established in the public notice required by subsection (H). The hearing record shall be closed within seven days after the close of the hearing.~~

~~**J.** Except as otherwise provided in this subsection, the Director shall issue or deny an individual Aquifer Protection Permit within 30 days after the close of the public comment period established in the public notice required by subsection (H), or, if a public hearing is held, within 45 days after the public hearing record is closed. The Director immediately shall give the applicant written notification of the final decision to issue or deny an individual Aquifer Protection Permit. The Director may extend the final decision deadline for not more than 90 days after the close of the public comment period, or, if a public hearing is held, after the public hearing record is closed, if the Director determines that additional information is required to make the decision whether to issue or deny a permit. The Director shall give the applicant written notification of a decision to extend the final decision deadline.~~

~~**K.** If an individual Aquifer Protection Permit is denied, the Director shall advise the applicant of the reasons for the decision in writing.~~

R18-9-107. Determination of Applicability

A. Any person who engages or who intends to engage in an operation or activity that may result in a discharge that is regulated under Articles 1 through 4 of this Chapter may request on a form provided by the Department that the Department determine the applicability of A.R.S. §§ 49-241 through 49-252 and Articles 1 through 4 of this Chapter to the operation or activity.

B. A person requesting a determination of applicability shall provide the following information:
1. The name of the operation or activity.
2. The location of the operation or activity.
3. The names of the persons who are engaging or who propose to engage in the operation or activity.
4. A description of the operation or activity.

5. A description of the volume, chemical composition and characteristics of materials stored, handled, used or disposed in the operation or activity.
6. Any other information required by the Department to make the determination of applicability.

C. Within 45 days after receipt of a request for a determination of applicability, the Department shall advise in writing the person making the request that the operation or activity is described by any one of the following:

1. Is not subject to the requirements of A.R.S. §§ 49-241 through 49-252 49-251 and Articles 1 through 4 of this Chapter because the operation or facility does not discharge as described by A.R.S. § 49-241.
2. Is not subject to the requirements of A.R.S. §§ 49-241 through 49-252 49-251 and Articles 1 through 4 of this Chapter because the operation or activity is exempted by A.R.S. § 49-250 or R18-9-106 or is specifically listed in R18-9-103 as a facility not subject to these rules.
3. Is eligible for a general permit under A.R.S. §§ 49-245.01, 49-245.02 or 49-247 or Article 4 of this Chapter, specifying the particular general permit that may apply, provided the person meets the conditions of the general permit.
4. Is subject to the individual permit requirements of A.R.S. §§ 49-241 through 49-252 and Articles 1 through 3 of this Chapter. this Article.

D. If, after issuing a determination of applicability, under this Section, the Department concludes that its determination or the information relied upon for the determination is inaccurate, the Department may modify or withdraw its determination upon written notice to the person who requested the determination of applicability.

~~R18-9-108. Individual permits: Application requirements~~

~~A.~~ ~~A person applying for an individual Aquifer Protection Permit shall provide the Director with all of the following information on a form provided by the Department:~~

~~1. The name and mailing address of the applicant.~~
~~2. The name and mailing address of the owner of the facility.~~
~~3. The name and mailing address of the operator of the facility.~~
~~4. The legal description of the location of the facility.~~
~~5. Expected operational life of the facility.~~
~~6. Any other federal or state environmental permits issued to the applicant.~~

~~B.~~ ~~For purposes of this subsection and subsection (C), "known"; means that knowledge that the applicant actually has or could reasonably be expected to have. Except as otherwise provided in R18-9-109(A), a person applying for an individual Aquifer Protection Permit shall provide the Director with all of the following information as attachments to the form described in subsection (A).:~~

~~1. Two copies of a topographic map, or other appropriate map approved by the Department, of the facility location and contiguous land area, showing the known use of adjacent properties and all known water well locations found within one-half mile of the facility, and accompanied by a description of well construction details and well uses, if available.~~
~~2. Two copies of a facility site plan which shows all known property lines, structures, water wells, injection wells, and drywells and their uses, topography and the location points of discharge. The facility site plan shall also include all known borings unless the Director determines that borings are numerous and that the requirement can be satisfied by a narrative description of the number and location of the borings.~~
~~3. Two copies of the facility design plans indicating proposed or as-built design details and proposed or as-built configuration of basins, ponds, waste storage areas, drainage diversion features, or other engineered elements of the facility affecting discharge.~~
~~4. A summary of the known past facility discharge activities and the proposed facility discharge activities, indicating all of the following:~~
~~a. The chemical, biological, and physical characteristics of the discharge.~~
~~b. The rates, volumes, and frequency of the discharge for each facility.~~
~~c. The location of the discharge.~~
~~5. A description of the BADCT to be employed in the facility. The applicant shall submit in support of the proposed BADCT a statement of the technology which will be employed to meet the requirements of A.R.S. § 49-243(B). This statement shall describe the alternative discharge control measures considered, the technical and economic advantages and disadvantages of each alternative, and the justification for selection or rejection of each alternative. The applicant shall evaluate each alternative discharge control technology, relative to the amount of discharge reduction achievable, site specific hydrologic and geologic characteristics, other environmental impacts, and water conservation or augmentation. The economic impact of implementation of each alternative control technology shall be evaluated on an industry-wide basis. In addition, a statement for a facility in existence on the effective date of this Article shall reflect consideration of the factors listed in A.R.S. § 49-243(B)(1)(a) through (h).~~
~~6. A demonstration that the facility will not cause or contribute to a violation of Aquifer Water Quality Standards at the applicable point of compliance. The demonstration shall propose the point or points of compliance for the facility based on A.R.S. § 49-244. If an Aquifer Water Quality Standard for a pollutant has been exceeded in an aquifer, the application shall also include a demonstration that no additional degradation of the aquifer, relative to that pollutant~~

and determined at the applicable point of compliance, will occur as a result of the discharge from the proposed facility.

7. A demonstration that the person applying for the individual Aquifer Protection Permit is technically capable of fully carrying out the conditions of the permit. A person applying for an individual Aquifer Protection Permit may make the demonstration required by this subsection by submitting the following information for each person principally responsible for designing, constructing, or operating the facility:
   a. Any pertinent licenses or certifications held by the person.
   b. Any professional training relevant to the design, construction, or operation of the facility.
   c. Any work experience relevant to the design, construction, or operation of the facility.
8. A demonstration that the person applying for the individual Aquifer Protection Permit is financially capable of constructing, operating, closing, and assuring proper post-closure care of the facility in compliance with Title 49, Chapter 2, Article 3 of the Arizona Revised Statutes, this Article, and the conditions of the individual Aquifer Protection Permit. The person applying for an individual Aquifer Protection Permit shall submit all of the following in support of the demonstration of financial capability as described in this paragraph:
   a. An estimate of the total cost of constructing, operating, closing, and assuring proper post-closure care in compliance with Title 49, Chapter 2, Article 3 of the Arizona Revised Statutes, this Article, and the conditions of the individual Aquifer Protection Permit.
   b. A statement by the chief financial officer of the applicant that the applicant is financially capable of meeting the costs described in subparagraph (a). The statement shall specify in detail the financial arrangements for meeting the closure and post-closure plans submitted pursuant to paragraph (2) of subsection (C).
   c. For a person other than a state or federal agency or a county, city, town or other local governmental entity, the demonstration of financial capability shall be further supported by any one of the following:
      i. The most recent copy of the person's 10K form filed pursuant to section 13 or 15(d) of the Federal Securities and Exchange Act of 1934 (c. 404, Title I; 48. Stat. 894-95; 15 United States Code 78m and 78o, as amended).
      ii. A report that contains all of the following information:
         (a) A description of the person's status as a corporation, partnership, or other legal entity.
         (b) A description of the person's business.
         (c) An indication of the person's net worth, including a description of major assets and liabilities.
         (d) A brief description of any judgment exceeding $100,000.00 rendered against the person during the five years preceding the date of the application.
         (e) A brief description of any bankruptcy or insolvency proceedings instituted by the person during the five years preceding the date of the application.
         (f) If the person is a corporation, the names of its executive officers and their dates of birth.
      iii. Evidence of a bond, insurance, or a trust fund assuring that the applicant will be financially capable of meeting the closure and post-closure requirements of the individual Aquifer Protection Permit.
   9. A brief description of any action for the enforcement of any federal or state law, rule or regulation, or any county, city or local government ordinance relating to the protection of the environment, instituted against the person during the five years preceding the date of application.
   10. Evidence that the facility complies with applicable municipal or county zoning ordinances and regulations.

C. In addition to the information required by subsections (A) and (B), a person applying for an individual Aquifer Protection Permit shall provide any of the following information which the Director may request if necessary in order to determine whether to issue an individual Aquifer Protection Permit.

1. A hydrogeologic study which defines the discharge impact area for the operational life of the facility and which demonstrates that the facility will not cause or contribute to a violation of an Aquifer Water Quality Standard at the applicable point of compliance. If an Aquifer Water Quality Standard for a pollutant has been exceeded in an aquifer, the hydrogeologic study shall also include a demonstration that no additional degradation of the aquifer, relative to that pollutant and determined at the applicable point of compliance, will occur as a result of the discharge of the proposed facility. The hydrogeologic study, upon a request by the Director, shall include any of the following:
   a. A description of the surface and subsurface geology, including a description of all borings.
   b. The location of any perennial or ephemeral surface water bodies.
   c. The characteristics of the aquifer and geologic units with limited permeability, including depth, hydraulic conductivity, and transmissivity.
   d. Rates, volumes, and directions of surface water and groundwater flow, including hydrographs, if available, and equipotential maps.
   e. The location of the 100-year flood plain and an assessment of the 100-year flood surface flow and potential impacts on the facility.

~~f. A documentation of the existing quality of the water in the aquifers underlying the site, including, where available, the method of analysis and quality assurance and quality control procedures associated with the documentation.~~
~~g. A documentation of the extent and degree of any known soil contamination in the vicinity of the facility.~~
~~h. An assessment of the potential of the discharge to cause the leaching of pollutants from surface soils or vadose materials.~~
~~i. Any anticipated changes in the water quality expected as a result of the discharge.~~
~~j. A description of any expected changes in the elevation and flow directions of the groundwater that may be caused by the facility.~~
~~k. A map of the facility's discharge impact area.~~
~~l. The criteria and methodologies used to determine the discharge impact area.~~
~~m. The proposed location of each point of compliance.~~

~~2. A detailed proposal indicating the alert levels, discharge limitations, monitoring requirements, contingency plans, compliance schedules, and temporary closure, closure, and post-closure plans which the applicant proposes to satisfy the requirements of Title 49, Chapter 2, Article 3 of the Arizona Revised Statutes and this Article.~~

~~3. Any other relevant information needed by the Director to determine whether to issue a permit.~~

~~**D.** A person applying for an individual Aquifer Protection Permit shall certify in writing that the information submitted in the application is true and accurate to the best of the applicant's knowledge.~~

R18-9-108. Articles 1 through 4: Interaction With Other Applicable Legal Requirements

The rules established in Articles 1 through 4 of this Chapter do not supersede, restrict or negate the authority of any federal agency, state agency, city or county authority to administer, delegate or enforce laws, statutes, rules or ordinances within their respective jurisdiction.

~~**R18-9-109. Special provisions: Recharge and underground storage and recovery**~~

~~**A.** A person who is applying for an individual Aquifer Protection Permit for a facility that is a recharge or an underground storage and recovery project shall provide the Director with the information described in R18-9-108(A), (B) and (C), except for that information described in R18-9-108(B)(5).~~

~~**B.** When the Department receives an application for an individual Aquifer Protection Permit for a facility that is a recharge project or an underground storage and recovery project, the Department shall administer the application process described in this Article in coordination with the recharge and underground storage and recovery permit processes administered by the Department of Water Resources. The Department shall advise the Department of Water Resources of each permit application received for an individual Aquifer Protection Permit for a facility that is a recharge project or an underground storage and recovery project.~~

R18-9-109. Inspections; Violations and Enforcement

A. Inspections of permitted facilities shall only be made by personnel of the Department or its designated representative. The Department shall notify the permittee of any unsatisfactory conditions with recommendations for correction.

B. Except as otherwise provided in R18-9-413, any person who owns or operates a facility contrary to a provision of Articles 1 through 4 of this Chapter, who violates a condition of an Aquifer Protection Permit, or who violates a Groundwater Protection Permit continued by R18-9-105(A) is subject to the enforcement actions prescribed in Title 49, Chapter 2, Article 4 of the Arizona Revised Statutes.

~~**R18-9-110. Individual permit conditions: Alert levels**~~

~~**A.** An individual Aquifer Protection Permit shall prescribe an alert level based on the site-specific conditions described by the applicant in the application submitted pursuant to R18-9-108 or otherwise known by the Director.~~

~~**B.** An alert level prescribed in an individual permit may be based on a pollutant which indicates the potential appearance of another pollutant.~~

~~**C.** An individual permit may prescribe the measurement of an alert level at the point of release, the point of compliance, or any intervening point.~~

~~**D.** An individual Aquifer Protection Permit shall require notification of the Department as described by R18-9-113 and the implementation of the appropriate parts of the contingency plan as described in R18-9-114 if an alert level is exceeded.~~

~~**R18-9-111. Individual permit conditions: Discharge limitations~~

~~**A.** An individual Aquifer Protection Permit shall prescribe discharge limitations based on the considerations described in A.R.S. § 49-243(A), (B), (C) and (D).~~

~~**B.** An individual Aquifer Protection Permit shall require notification of the Department as described in R18-9-113 and the implementation of the appropriate parts of a contingency plan as described in R18-9-114 if a discharge limitation is exceeded.~~

R18-9-112. Individual permit conditions: Monitoring requirements

A. An individual Aquifer Protection Permit shall require that the permittee conduct any monitoring activity necessary to assure compliance with any other Aquifer Protection Permit condition, with the applicable water quality standards established pursuant to A.R.S. §§ 49-221 and 49-223, and with A.R.S. § 49-241 through 49-251.

B. An individual Aquifer Protection Permit shall specify all of the following:

1. The type and method of monitoring to be conducted.
2. The frequency of monitoring.
3. Any requirements for the installation, use, or maintenance of monitoring equipment.
4. The intervals at which monitoring results shall be reported to the Department.

C. An individual Aquifer Protection Permit shall require that a permittee make, for each sample taken or measurement made as required by the individual Aquifer Protection Permit, a monitoring record consisting of all of the following:

1. The date, time, and exact place of a sampling or measurement and the name of each individual who performed the sampling or measuring.
2. The procedures used to collect the sample or make the measurement.
3. The date on which sample analysis was completed.
4. The name of each individual or laboratory who performed the analysis.
5. The analytical techniques or methods used to perform the sampling and analysis.
6. The chain of custody records.
7. Any field notes relating to the information described in Paragraphs (1) through (6)

D. An individual Aquifer Protection Permit shall require that a permittee retain or have access to a monitoring record made pursuant to subsection (C) for a period of 10 years after the date of the sample or measurement.

R18-9-113. Individual permit conditions: Reporting requirements

A. An individual Aquifer Protection Permit shall require that a permittee give written notice to the Director 180 calendar days before any major modification to the facility, as described in A.R.S. § 49-201(18).

B. Except as otherwise provided in R18-9-114(B), an individual Aquifer Protection Permit shall require that a permittee notify the Director within five days after becoming aware of a violation of a permit condition or that an alert level has been exceeded.

C. An individual Aquifer Protection Permit shall require that a permittee submit a written report within 30 days after the permittee becomes aware of the violation of a permit condition. The report shall document all of the following:

1. A description of the violation and its cause.
2. The period of violation, including exact date(s) and time(s), if known, and the anticipated time period during which the violation is expected to continue.
3. Any action taken or planned to mitigate the effects of the violation, or to eliminate or prevent recurrence of the violation.
4. Any monitoring activity or other information which indicates that any pollutants would be reasonably expected to cause a violation of an Aquifer Water Quality Standard.
5. Any malfunction or failure of pollution control devices or other equipment or process.

D. An individual Aquifer Protection Permit shall require that a permittee shall notify the Director within five days after the occurrence of any one of the following:

1. The filing of bankruptcy by the permittee.
2. The entry of any order or judgment against the permittee for the enforcement of any environmental protection statute and in which monetary damages or civil penalties are imposed.

R18-9-114. Individual permit conditions: Contingency plan requirements

A. An individual Aquifer Protection Permit shall require that a contingency plan specify, in a manner consistent with this Section, the actions to be taken in the event of a discharge that results in any one of the following:

1. Violation of a permit condition.
2. Violation of an Aquifer Water Quality Standard.
3. An alert level having been exceeded.
4. An imminent and substantial endangerment to the public health or the environment.

B. An individual Aquifer Protection Permit shall require that a contingency plan contain all of the following:

1. A plan to provide emergency response on a 24-hour basis in the event that a condition arises which results in an imminent and substantial endangerment to the public health or the environment.
2. The designation of an emergency response coordinator to be responsible for activation of the contingency plan and emergency response measures.
3. A requirement that the emergency response coordinator notify the Department immediately in the event that emergency response measures are taken or those portions of a contingency plan that address an imminent and substantial endangerment are activated.

4. A list of names, addresses and telephone numbers of persons to be contacted in the event that an imminent and substantial endangerment to the public health or the environment arises.
5. A general description of the procedures, personnel and equipment to be used to assure appropriate mitigation of unauthorized discharges.

C. Contingency plans required by the Federal Water Pollution Control Act (P.L. 92-500; 86 Stat. 816; 33 United States Code 1251, et seq., as amended) or the Resource Conservation Recovery Act (P.L. 94-580; 90 Stat. 2796; 42 United States Code 6901 et seq., as amended) may be amended to meet the requirements of this Section and submitted to the Department for approval in lieu of a separate aquifer protection contingency plan.

D. An individual permit may require that a contingency plan provide for any one or more of the following actions to be taken in the event of a discharge that results in any of the conditions described in subsection (A):
1. Verification sampling.
2. Further monitoring.
3. The submission of reports describing the causes, impacts, or mitigation of the discharge.
4. Submission of a proposed corrective action plan for approval by the Director as described by this Paragraph. The Director shall approve the proposed corrective action plan if the corrective action plan returns the facility to compliance with the facility's permit conditions, this Article and Title 49, Chapter 2, Article 3 of the Arizona Revised Statutes.

E. A permittee shall maintain at least one copy of the contingency plan required by the individual Aquifer Protection Permit at the location where the day-to-day decisions regarding the operation of the facility are made. A permittee shall advise all employees responsible for the operation of the facility of the location of copies of the contingency plan.

F. A permittee shall revise promptly all copies of the contingency plan upon any change in the information contained in the contingency plan.

R18-9-115. Individual permit conditions: Compliance schedule

A. A compliance schedule established in an individual Aquifer Protection Permit shall require compliance as expeditiously as is practicable. If a compliance schedule provides that actions be taken during a period that exceeds one year from the date of permit issuance, the schedule shall set forth interim requirements and the dates for their achievement. If the time necessary for completion of any interim requirements is more than one year and is not readily divisible into stages for completion, the permit shall contain interim dates for submission of reports on progress toward completion of the interim requirements and shall indicate a projected completion date. Within 30 days after a date specified in a compliance schedule, a permittee shall submit to the Department a report indicating whether the action or actions to be taken as of that date were taken.

B. In determining the requirements of and length of a compliance schedule for a facility, the Director shall consider all of the following factors:
1. The character and impact of the discharge.
2. The nature of construction or activity required by the permit.
3. The number of persons affected or potentially affected by the discharge.
4. The current state of treatment technology.
5. The age of the facility.

C. An individual Aquifer Protection Permit shall not establish a compliance schedule for a new facility for which the owner or operator is not subject to R18-9-10(A) and (B) unless the facility will employ BADCT and will not exceed Aquifer Water Quality Standards when the facility begins to discharge. The requirement of this subsection that a facility employ BADCT does not apply to a recharge project or an underground storage and recovery project.

R18-9-116. Individual permit conditions: Temporary cessation, closure, post-closure

A. An individual Aquifer Protection Permit shall require that the permittee notify the Director before any temporary cessation of operations at the facility. An individual Aquifer Protection Permit shall specify any measures to be taken by the permittee if there is any temporary cessation of operations at a facility.

B. An individual Aquifer Protection Permit shall require that a permittee notify the Director of the permittee's intent to cease operations prior to ceasing, without intent to resume, an activity for which the facility was designed or operated.

C. An individual Aquifer Protection Permit shall require that a permittee who ceases, without intending to resume, an activity for which a facility was designed and operated, submit to the Director for approval a closure plan within 90 days following the notification. A closure plan shall describe all of the following:
1. The approximate quantities and the chemical, biological, and physical characteristics of the materials to be removed from the facility.
2. The destination of the materials to be removed from the facility and an indication that placement of the materials at that destination is approved.
3. The approximate quantities and the chemical, biological, and physical characteristics of the materials that will remain at the facility.

4. The methods to be used to treat any materials remaining at the facility.
5. The methods to be used to control the discharge of pollutants from the facility.
6. Any limitations on future land or water uses created as a result of the facility's operations or closure activities.
7. The methods to be used to secure the facility.
8. An estimate of the cost of closure.
9. A schedule for implementation of the closure plan and the submission of a post-closure plan.

D. Within 60 days after receipt of a complete closure plan, the Director shall approve or reject the closure plan. The Director shall approve a closure plan that eliminates, to the greatest extent practicable, any reasonable probability of further discharge from the facility and of exceeding Aquifer Water Quality Standards at the applicable point of compliance.

E. An individual Aquifer Protection Permit may prescribe any part of a closure plan submitted pursuant to subsection (C).

F. An individual Aquifer Protection Permit shall require that a permittee submit to the Director for approval, and shall adhere to, a post-closure monitoring and maintenance plan for a facility, unless the Director determines that the closure of the facility will eliminate, to the greatest degree practicable, any reasonable probability of further discharge from the facility and of exceeding Aquifer Water Quality Standards at the applicable point of compliance. The post-closure plan shall describe all of the following:

1. The duration of post-closure care.
2. The monitoring procedures to be implemented by the permittee, including monitoring frequency, type, and location.
3. A description of the operating and maintenance procedures to be implemented for maintaining aquifer quality protection devices, such as liners, treatment systems, pump-back systems, and monitoring wells.
4. A schedule and description of physical inspections to be conducted at the facility following closure.
5. An estimate of the cost of post-closure maintenance and monitoring.
6. A description of limitations on future land or water uses, or both, at the facility site as a result of facility operations.

G. Within 60 days after receipt of complete post-closure plan, the Director shall approve or reject the post-closure plan. The Director shall approve a post-closure plan that eliminates, to the greatest extent practicable, any reasonable probability of further discharge from the facility and of exceeding Aquifer Water Quality Standards at the applicable point of compliance.

H. An individual Aquifer Protection Permit may prescribe any part of a post-closure plan submitted pursuant to subsection (F).

I. An individual Aquifer Protection Permit shall require that the permittee give the Department written notice that a closure plan or a post-closure plan has been implemented fully.

R18-9-117. Individual permit conditions: Technical and financial capability

A. An individual Aquifer Protection Permit shall require that a permittee have and maintain the technical and financial capability necessary to fully carry out the terms and conditions of the permit.

B. The Director may establish any of the permit conditions described in R18-9-109 through R18-9-116 on the basis of the Director's evaluation of the permittee's technical or financial capability necessary to carry out the terms and conditions of the individual Aquifer Protection Permit.

C. An individual Aquifer Protection Permit shall require that a permittee maintain any bond, insurance policy, or trust fund provided under R18-9-108(B)(8)(c)(iii) or R18-9-121(A). A bond, insurance policy, or trust fund required to be maintained under this subsection shall remain in effect for the duration of the permit.

R18-9-118. Individual permit duration

Subject to modification or revocation as provided in this Article, and except as otherwise provided in R18-9-119, an individual Aquifer Protection Permit issued under this Article shall be valid for a specified term not to exceed the operational life of the facility and any period during which the facility is subject to a post-closure plan pursuant to R18-9-116(F) through (H).

R18-9-119. Temporary permits

A. The Director may waive any or all of the application requirements, the application process, or the individual permit conditions described in this Article in issuing a temporary individual Aquifer Protection Permit to a person for the operation of a facility to be used for the remediation of an accidental discharge of a pollutant.

B. Subject to the other provisions of this subsection, the Director may postpone any or all of the public notice or public hearing requirements of this Article and issue a temporary individual Aquifer Protection Permit in order to prevent a discharge or if circumstances which could not have been foreseen or controlled by the applicant do not allow the timely preparation and issuance of an individual Aquifer Protection Permit. Public notice shall not be postponed beyond 30 days after the issuance of the temporary individual Aquifer Protection Permit.

C. A temporary individual Aquifer Protection Permit issued under this Section shall be issued for a period not to exceed one year and shall not be renewed.

R18-9-121. Individual permits: Permit actions

A. The Director shall issue an individual Aquifer Protection Permit if the Director determines, based upon the information obtained by or made available to the Department, that the applicant will comply with A.R.S. § 49-241 through 49-251 and this Article. The Director may issue an individual Aquifer Protection Permit conditioned upon the applicant providing evidence of a bond, an insurance policy, or a trust fund covering the costs of meeting the closure and post-closure requirements of the individual Aquifer Protection Permit if the Director otherwise would have denied the permit under paragraph (2) of subsection (B) on the basis that the applicant was financially incapable of meeting the closure and post-closure requirements of the individual Aquifer Protection Permit.

B. The director may deny an individual Aquifer Protection Permit if the Director determines upon completion of the application process described in R18-9-107 and R18-9-108 any one of the following:

1. That the applicant has failed or refused to correct deficiencies in the permit application.
2. That the applicant has failed to demonstrate that the facility and the operation thereof will comply with the requirements of A.R.S. § 49-241 through 49-251 and this Article. This determination shall be based on the information submitted in the Aquifer Protection Permit application, in addition to any information submitted to the Department pursuant to a public hearing, or any relevant information which is otherwise developed or acquired by the Department.
3. That the applicant has provided false or misleading information to the Department.

C. The Director may modify an individual Aquifer Protection Permit based upon a request or upon the Director's initiative. A request for permit modification shall be in writing and shall contain the facts and reasons which justify the request. The Director may modify an individual Aquifer Protection Permit if the Director determines any one or more of the following:

1. That material and substantial alterations or additions to a permitted facility justify a change in permit conditions.
2. That the discharge from the facility violates or could reasonably be expected to violate any Aquifer Water Quality Standard.
3. That rule or statutory changes have occurred, such as to require a change in the permit.
4. That there has been a change of an applicable point of compliance.

D. Notwithstanding subsection (G) and R18-9-124(F), and with the written concurrence of the permittee, the Director may make minor modifications to the individual Aquifer Protection Permit without giving public notice or conducting a public hearing, for any of the following reasons:

1. To correct typographical errors.
2. To increase the frequency of monitoring or reporting.
3. To change an interim compliance date in a compliance schedule if the permittee can show just cause and that the new date does not interfere with the attainment of a final compliance date requirement.
4. To change construction requirements, if the alteration complies with the requirements of this Article and provides equal or better performance.
5. To replace monitoring equipment, including wells, if such replacement results in equal or greater monitoring effectiveness.

E. The Director may transfer an individual Aquifer Protection Permit if the Director determines that the proposed transferee will comply with A.R.S. §§ 49-241 through 49-251 and this Article. A permittee is responsible for complying with permit conditions, A.R.S. §§ 49-241 through 49-251, and this Article, regardless of whether the permittee has sold or otherwise disposed of the facility, until the Director transfers a permit pursuant to this subsection.

F. The Director may suspend or revoke an individual Aquifer Protection Permit or Groundwater Quality Protection Permit, for any of the following reasons:

1. Noncompliance by the permittee with any applicable provision of Title 49, Chapter 2, Article 3 of the Arizona Revised Statutes, this Article, or any permit condition.
2. The permittee's misrepresentation or omission of any fact, information, or data related to an Aquifer Protection Permit application or permit conditions.
3. If the Director determines that the permitted activity is causing or may cause a violation of any Aquifer Water Quality Standard.
4. If a permitted discharge has the potential to cause or will cause imminent and substantial endangerment to public health or the environment.

G. The Director shall issue a public notice of all proposed permit actions pursuant to R18-9-124.

R18-9-122. Consolidation of individual permits

The Director may consolidate into a single document, and may issue as a single permit, any number of individual Aquifer Protection Permits for which any one applicant applies if the facilities for which the permits are sought are part of the same project or operation, if the facilities are located in a contiguous geographic area, and if the applications for the facilities are submitted simultaneously. Under the circumstances described in this Section, the Director may also consolidate those permit conditions that have general applicability to the facilities for which permits are sought.

R18-9-124. Public participation

A. On a monthly basis, the Director shall cause to be posted in the offices of each county department of health and each council of governments lists of all applications for individual Aquifer Protection Permits, of the notifications received pursuant to R18-9-116(C), and of the proposed permit actions, received or initiated by the Department during the previous month.

B. In addition to the information required to be published in a public notice; any public notice issued under this Article shall include a description of the procedure for 2 copies of particular proposed permit action notices.

MISSING TEXT!!!

E. If two or more proposed permit actions have similar effective dates and are located in the same vicinity, public notices of the proposed actions may be combined and issued as a single notice.

F. The Department shall conduct a public hearing on a proposed permit action if the Director determines either of the following:

1. That significant public interest exists.
2. That significant issues or information have been brought to the attention of the Department which have not been considered previously in the permitting process.

G. Public notice of any public hearing held pursuant to this Article shall be made according to R18-1-401 and the public hearing shall be conducted as a general public hearing pursuant to R18-1-402. When a public hearing is conducted, written public comment shall be accepted until the close of the hearing record as specified by the person presiding at the public hearing.

H. At the same time that the Department notifies an applicant of the final permit determination, the Department shall send notice of such determination, through regular mail, to affected state and local agencies, and to persons who submitted comments or attended a public hearing on the permit action, or who made written requests to receive the final permit determination.

I. The Director shall respond in writing to all written comments submitted during the written public comment period.

R18-9-125. General permits: General provisions

A. The Director may revoke a person's general permit and require the person to obtain an individual Aquifer Protection Permit pursuant to A.R.S. º49-245(B) and this Article for any of the following reasons:

1. The person has failed to comply with the terms and conditions of the General Permit as described in this Article.
2. The discharge from a facility subject to a General Permit causes or contributes to the violation of an Aquifer Water Quality Standard.

B. The Director may revoke a General Permit for all facilities within a specific geographic area if the Director determines that the cumulative effects of the facilities subject to the general permit are such that any water quality standard established pursuant to A.R.S. §§ 49-221 and 49-223 may be violated due to geologic or hydrologic conditions.

C. The Director shall notify a permittee, by certified mail, of the Department's decision to revoke a person's General Permit, and of the requirement to apply for an individual Aquifer Protection Permit pursuant to this Article.

D. The issuance of a General Permit under this Article, pursuant to A.R.S. º49-245, does not affect or modify in any way the obligations or liability of any person for any damages, injury, or loss, resulting from a discharge.

R18-9-126. General permits: Sewage disposal systems

A. A General Permit is issued for sewage disposal systems which have flows of less than 2000 gallons per day, which are in compliance with R18-9-801 through R18-9-819, and which receive materials which conform to paragraph (1) of subsection (D).

B. A General Permit is issued for sewage disposal systems which have flows greater than or equal to 2000 gallons per day but less than 20,000 gallons per day, which are approved by the Department, the Arizona Department of Health Services, or a county health department pursuant to R18-9-804 and R18-9-805 prior to the effective date of this Article and which are in compliance with the provisions of R18-9-804 and R18-9-805.

C. A general permit is issued for sewage disposal systems which have flows greater than or equal to 2000 gallons per day but less than 20,000 gallons per day, which are approved pursuant to R18-9-804 and R18-9-805 after the effective date of this Article, and which meet all of the following conditions:

1. The subsurface disposal system is located in a soil which has a percolation rate faster than 60 minutes per inch but not faster than one minute per inch.
2. The discharge density of effluent from the sewage disposal system, when based on the average daily sewage flow figures found in Appendix I, is not greater than:
   a. 1,200 gallons, or the equivalent of 0.4002 lbs. of total nitrogen, per day per acre, where the nitrate concentration (as nitrogen) of the ambient groundwater is 3.0 mg/l or less;
   b. 800 gallons, or the equivalent of 0.2668 lbs. of total nitrogen, per day per acre, where the nitrate concentration (as nitrogen) of the ambient groundwater is greater than 3.0 mg/l and less than or equal to 5.0 mg/l; or

c. 400 gallons, or the equivalent of 0.1334 lbs. of total nitrogen, per day per acre, where the nitrate concentration (as nitrogen) of the ambient groundwater is greater than 5.0 mg/l and less than or equal to 7.0 mg/l.

3. The bottom of subsurface disposal system is at least:
   a. 40 feet above the static groundwater level where the soil percolation rate is slower than or equal to one minute per inch but faster than two minutes per inch.
   b. 10 feet above the static groundwater level where the soil percolation rate is slower than or equal to two minutes per inch but faster than 10 minutes per inch.
   c. 5 feet above the static groundwater level where the soil percolation rate is slower than or equal to 10 minutes per inch.

D. The materials received by any sewage disposal system subject to a General Permit issued by this Section shall conform to both of the following:
1. The materials are typical sewage and do not include motor oil, gasoline, paints, varnishes, solvents, pesticides, fertilizers, or other materials not generally associated with toilet flushing, food preparation, laundry and personal hygiene.
2. Commercial operations utilizing hazardous substances or creating hazardous wastes, as defined in A.R.S. § 49-921(5), do not dispose of such materials into the system.

R18-9-127. General permits: Recharge pilot projects and underground storage and recovery pilot projects

A. A General Permit is issued for recharge pilot projects and underground storage and recovery pilot projects which meet all of the following conditions:
1. Not more than 10,000 acre feet of water shall be applied or injected at the facility site over a two-year period.
2. Site-specific hydrogeologic data for the development of an individual Aquifer Protection Permit for the project is obtained in the course of operating the facility. This condition is satisfied if the permittee does both of the following:
   a. Drills, and completes by the end of the first quarter after the first application or injection of water at the facility site, a sufficient number of monitoring wells to adequately assess the impact of the discharge on aquifer water quality.
   b. Samples quarterly by the monitoring wells described in subparagraph (a).
3. The source water to be used for recharge or underground storage is either of the following:
   a. Water conveyed by way of the Central Arizona Project Aqueduct or through a natural river drainage system.
   b. Any water, other than that described in subparagraph (a), which does not violate Aquifer Water Quality Standards or any applicable surface water quality standards, except that water that is not delivered directly to the saturated zone may exceed any standards for bacteria and turbidity.
4. The source water to be used for recharge or underground storage is not effluent dominated water, as defined by R18-11-201(7), at the point of diversion.
5. The point of diversion to the recharge or underground storage and recovery facility is not within five miles downstream from the surface discharge from a wastewater treatment plant.
6. Prior to commencement of operation, the operator notifies the Department of the intent to conduct a pilot recharge project or underground storage and recovery project.
7. Prior to commencement of operation, the operator identifies the information to be collected in coordination with the Department of Water Resources and the Department.
8. The operator holds a permit issued according to Title 45, Chapter 2, Article 13, or Chapter 3, Article 1 of the Arizona Revised Statutes.
9. The project is not located within one-half mile from any hazardous waste landfill, sanitary landfill, any site on the National Priority List under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (P.L. 96-510; 94 Stat. 2767; 42 United States Code 9601 et seq., as amended), or any known location of a hazardous substance disposal.

B. Pilot projects shall be limited to a duration of two years commencing with the first application or injection of water at the facility site. Upon written request, the Department may issue an extension of this time limit, not to exceed one year, if the water to be recharged or stored has not been available to conduct the project.

C. Unless an extension described in subsection (B) has been granted, the applicant shall submit to the Department, a closure plan or a notice of intent to apply for an individual permit at least 30 days prior to the end of the time limit prescribed in subsection (B). A notice of intent to apply for an individual Aquifer Protection Permit shall include a schedule for the timely submittal of the permit application.

R18-9-129. General permits: Other facilities

A. A General Permit is issued for the discharge of wash water from sand and gravel operations, and placer mining operations, if only physical processes are employed and no hazardous substances, other than those naturally existing in the sand and gravel or the placer material, have been added or exposed during the processing or removal of the sand and gravel.

B. A General Permit is issued for discharges from hydrostatic tests of drinking water distribution systems, and of other pipelines not previously used for the transmission of fluids, if all of the following conditions are met:

~~1. The quality of the source water does not violate any Aquifer Water Quality Standard.~~
~~2. The discharge is not to a Water of the United States, as defined in 40 CFR 122.2.~~
~~3. The test site is restored to its natural grade.~~

~~**C.** A General Permit is issued for discharges from hydrostatic tests of pipelines previously used for transmission of fluids, other than those previously used for drinking water distribution systems, if all of the following conditions are met:~~
~~1. All liquid discharged is contained in an impoundment which is lined with flexible geomembrane material having a thickness of at least 10 mils.~~
~~2. The liner material is placed over a layer, at least three inches in thickness, consisting of well-sorted sand or finer grained material, or over an underliner determined by the Director to provide equal or better protection.~~
~~3. Within 60 days after the end of the hydrostatic test, all test waters are evaporated, or removed from the impoundment to a treatment works or landfill approved to accept such material. Other methods for removal of the test waters must have the prior written approval of the Director.~~
~~4. The liner is removed and disposed of at an approved landfill unless the liner can be reused at another test location without a reduction in integrity.~~
~~5. The test site is restored to its natural grade.~~

~~**D.** A General Permit is issued for facilities which, for purposes of water quality sampling, hydrologic parameter testing, well development or redevelopment, receive water, drilling fluids or drill cuttings from a well, if the discharge is to the same aquifer in approximately the same location from which the water supply was withdrawn originally.~~

~~**E.** A General Permit is issued for injection wells, surface impoundments, and leach lines receiving discharge from only filter backwash from potable water treatment systems, condensate from refrigeration units, overflows from evaporative coolers, heat exchange system return water, or swimming pool filter backwash, where the discharge is less than 1,000 gallons per day.~~

~~**F.** A General Permit is issued for lined evapotranspiration beds receiving sewage which are issued an Approval to Construct pursuant to R18-9-804 and R18-9-805, and which are inspected and leak tested by the Department or its designated representative during construction.~~

~~**G.** A General Permit is issued for disposal of material that contains only uncontaminated soil, cement, bricks, or other similar inert material.~~

~~**H.** A General Permit is issued to facilities used for transportation of water for beneficial use, or pumped from the groundwater, which contain effluent from any wastewater treatment facility if all of the conditions are met:~~
~~1. The effluent is added for the purpose of delivery to a reuse, recharge, or underground storage and recovery facility that has a permit.~~
~~2. The transportation facility is concrete-lined.~~
~~3. The effluent does not exceed any Aquifer Water Quality Standard, except those standards for turbidity and bacteria.~~
~~4. The volumes and rates of effluent added do not exceed that necessary to meet the requirements of the permitted reuse, recharge, or underground storage and recovery facility.~~

~~**I.** A general permit is issued for surface impoundments which meet all of the following conditions:~~
~~1. The surface impoundments receive only filter backwash from potable water treatment systems.~~
~~2. The surface impoundments are constructed and operated pursuant to R18-4-231 and R18-4-265.~~
~~3. The surface impoundments are lined with a material having a permeability not greater than 1 x 10-6 cm/sec.~~

~~**R18-9-130. Violations; Enforcement**~~

~~Any person who owns or operates a facility contrary to the provisions of this Article, who violates the conditions specified in a permit issued pursuant to this Article, or who violates any Groundwater Protection Permit continued pursuant to R18-9-103(A) is subject to the enforcement actions prescribed in Title 49, Chapter 2, Article 4 of the Arizona Revised Statutes.~~

ARTICLE 2. AQUIFER PROTECTION PERMITS: INDIVIDUAL PERMITS

R18-9-201. Individual Permit Application Process

A. Preapplication conferences. Upon request by the applicant, the Department shall schedule and hold a preapplication conference with an applicant to discuss any of the requirements of Articles 1 through 3 of this Chapter.

B. Permit applications. A person who is required to obtain an individual Aquifer Protection Permit shall submit a permit application to the Department. The owner or operator of a facility subject to R18-9-105 (A), (B) or (C) shall submit a permit application to the Department within 90 days of notification from the Department.

C. Administrative completeness review. Upon receipt of an individual Aquifer Protection Permit application, the Department shall review the application to determine its administrative completeness following the requirements of A.R.S. § 41-1074 and A.A.C. R18-1-503.

D. Substantive review. Upon receipt of an individual Aquifer Protection Permit application the Department shall review the application to determine its substantive adequacy following the requirements of A.R.S. § 41-1075 and A.A.C. R18-1-504.

E. Draft permits. At its earliest opportunity, the Department shall provide the applicant a copy of the draft of the individual Aquifer Protection Permit.

F. Public participation. Upon provision of the draft permit to the applicant the Department, following R18-9-224 shall cause to be published a notice of the preliminary decision to issue or deny an individual Aquifer Protection Permit within a period of time that allows the Department to meet the licensing timeframe requirements of A.A.C. R18-1-501 et seq. Besides the public notice described in R18-9-224 the Department shall also publish the notice of the preliminary decision as a legal notice at least once, in one or more newspapers of general circulation in the county concerned.

G. Public hearing. After the publication of the public notice, the Department shall decide whether to conduct a public hearing following R18-9-225(C). If the Department decides to hold a public hearing the Department shall schedule the hearing following R18-9-225(D).

H. Final permit issuance or denial. Except as otherwise provided in this Section, the Department shall give the applicant written notification of its final decision to issue or deny the permit application within the overall licensing timeframe requirements of A.A.C. R18-1-501 et seq.

I. If the Department denies an individual Aquifer Protection Permit application the Department shall provide the applicant with a written notification that explains the following:

1. The reasons for the denial with references to the statutes or rules on which the denial is based.
2. The applicant's right to appeal the denial including the number of days the applicant has to file a protest challenging the denial and the name and telephone number of the Department contact person who can answer questions regarding the appeals process.
3. The applicant's right to request an informal settlement conference under A.R.S. §§ 41-1092.03(A) and 41-1092.06.

R18-9-202. Individual permit application requirements: General

A. A person applying for an individual Aquifer Protection Permit shall provide the Department with all of the following information on a form provided by the Department:

1. The name and mailing address of the applicant.
2. The name and mailing address of the owner of the facility.
3. The name and mailing address of the operator of the facility.
4. The legal description of the location of the facility.
5. Expected operational life of the facility.
6. Any other federal or state environmental permits issued to the applicant.

B. A person applying for an individual Aquifer Protection Permit shall provide the Department with a copy of the certificate of disclosure of violations required by A.R.S. § 49-109.

C. A person applying for an individual Aquifer Protection Permit shall provide the Department with evidence that the facility complies with applicable municipal or county zoning ordinances, codes and regulations.

D. A person applying for an individual Aquifer Protection Permit shall certify in writing that the information submitted in the application is true and accurate to the best of the applicant's knowledge.

R18-9-203. Individual permit application requirements: Technical

For purposes of this Section, "known" means that knowledge that the applicant actually has or could reasonably be expected to have. Except as otherwise provided in R18-9-205(A), a person applying for an individual Aquifer Protection Permit shall provide the Department with two copies of all of the following information as attachments to the form described in R18-9-202.

1. A topographic map, or other appropriate map approved by the Department, of the facility location and contiguous land area, showing the known use of adjacent properties and all known water well locations found within 1/2 mile of the facility, and accompanied by a description of well construction details and well uses, if available.
2. A facility site plan that shows all known property lines, structures, water wells, injection wells, and drywells and their uses, topography and the location of points of discharge. The facility site plan shall also include all known borings unless the Department determines that borings are numerous and that the requirement can be satisfied by a narrative description of the number and location of the borings.
3. The facility design documents indicating proposed or as-built design details and proposed or as-built configuration of basins, ponds, waste storage areas, drainage diversion features, or other engineered elements of the facility affecting discharge. When formal as-built submittals are not available the applicant shall provide documentation, sufficient to allow evaluation of those elements of the facility affecting discharge, following the demonstration requirements of A.R.S. § 49-243(B). An applicant seeking an Aquifer Protection Permit for a sewage treatment facility shall submit design documents following R18-9-305.
4. A summary of the known past facility discharge activities and the proposed facility discharge activities, indicating all of the following:
   a. The chemical, biological, and physical characteristics of the discharge.
   b. The rates, volumes, and frequency of the discharge for each facility.
   c. The location of the discharge.

5. A description of the BADCT to be employed in the facility. The applicant shall submit in support of the proposed BADCT a statement of the technology, processes, operating methods or other alternatives that will be employed to meet the requirements of A.R.S. § 49-243(B), (G) or (P), as applicable. This statement shall describe the alternative discharge control measures considered, the technical and economic advantages and disadvantages of each alternative, and the justification for selection or rejection of each alternative. The applicant shall evaluate each alternative discharge control technology, relative to the amount of discharge reduction achievable, site specific hydrologic and geologic characteristics, other environmental impacts, and water conservation or augmentation. The economic impact of implementation of each alternative control technology shall be evaluated on an industry-wide basis. Also, a statement for a facility in existence on September 27, 1989, shall reflect consideration of the factors listed in A.R.S. § 49-243(B)(1)(a) through (h). When Article 3 applies to a facility, meeting the applicable Article 3 requirements shall satisfy the information submittal requirements of this subsection.
6. The demonstration shall propose the point or points of compliance for the facility based on A.R.S. § 49-244. The applicant shall also demonstrate either:
   a. That the facility will not cause or contribute to a violation of Aquifer Water Quality Standards at the applicable point of compliance, or
   b. If an Aquifer Water Quality Standard for a pollutant has been exceeded in an aquifer at the time of permit issuance, that no additional degradation of the aquifer, relative to that pollutant and determined at the applicable point of compliance, will occur as a result of the discharge from the proposed facility.
7. A demonstration that the person applying for the individual Aquifer Protection Permit is technically capable of fully carrying out the conditions of the permit. A person applying for an individual Aquifer Protection Permit may make the demonstration required by this subsection by submitting the following information for each person principally responsible for designing, constructing, or operating the facility:
   a. Any pertinent licenses or certifications held by the person.
   b. Any professional training relevant to the design, construction, or operation of the facility.
   c. Any work experience relevant to the design, construction, or operation of the facility.
8. A contingency plan meeting the requirements of R18-9-211 below.
9. A hydrogeologic study that defines the discharge impact area for the permitted duration of the facility. Depending on the quantity and characteristics of the pollutants discharged, the methods of disposal and site conditions, the Department may allow the applicant to submit an abbreviated hydrogeologic study or, if warranted, no hydrogeologic study. Information from a previous study of the affected area may be included to meet a requirement of the hydrogeologic study. A hydrogeologic study shall demonstrate either:
   a. That the facility will not cause or contribute to a violation of Aquifer Water Quality Standards at the applicable point of compliance, or
   b. If an Aquifer Water Quality Standard for a pollutant has been exceeded in an aquifer at the time of permit issuance, that no additional degradation of the aquifer, relative to that pollutant and determined at the applicable point of compliance, will occur as a result of the discharge from the proposed facility. The hydrogeologic study, upon a request by the Department, shall include any of the following:
      i. A description of the surface and subsurface geology, including a description of all borings.
      ii. The location of any perennial or ephemeral surface water bodies.
      iii. The characteristics of the aquifer and geologic units with limited permeability, including depth, hydraulic conductivity, and transmissivity.
      iv. Rates, volumes, and directions of surface water and groundwater flow, including hydrographs, if available, and equipotential maps.
      v. The precise location or estimate of the location of the 100-year flood plain and an assessment of the 100-year flood surface flow and potential impacts on the facility.
      vi. A documentation of the existing quality of the water in the aquifers underlying the site, including, where available, the method of analysis and quality assurance and quality control procedures associated with the documentation.
      vii. A documentation of the extent and degree of any known soil contamination in the vicinity of the facility.
      viii. An assessment of the potential of the discharge to cause the leaching of pollutants from surface soils or vadose materials.
      ix. Any anticipated changes in the water quality expected as a result of the discharge.
      x. A description of any expected changes in the elevation and flow directions of the groundwater that may be caused by the facility.
      xi. A map of the facility's discharge impact area.
      xii. The criteria and methodologies used to determine the discharge impact area.
      xiii. The proposed location of each point of compliance.

10. A detailed proposal indicating the alert levels, discharge limitations, monitoring requirements, compliance schedules, and temporary closure, closure, and post-closure strategies or plans that the applicant proposes to satisfy the requirements of Title 49, Chapter 2, Article 3 of the Arizona Revised Statutes and Articles 1 through 3 of this Chapter.
11. Any other relevant information needed by the Department to determine whether to issue a permit.

R18-9-204. Individual Permit Application Requirements: Financial

A. Cost Estimates. A person applying for an individual Aquifer Protection Permit shall demonstrate the financial capability to construct, operate, close, and assure proper post-closure care of the facility in compliance with Title 49, Chapter 2, Article 3 of the Arizona Revised Statutes, Articles 1 through 3 of this Chapter, and the conditions of the individual Aquifer Protection Permit.

1. A person applying for an individual Aquifer Protection Permit shall submit all of the following cost estimates:
   a. Total cost of facility construction.
   b. The operation and maintenance costs of those elements of the facility demonstration following A.R.S. § 49-243(B).
   c. The cost of closure of described in R18-9-213(C).
   d. The cost of post-closure monitoring and maintenance described in R18-9-213(F).
2. The cost estimate shall be derived from competitive bids, take off's or specifications, prepared by an engineer, contractor or accountant and representative of regional fair market costs.

B. Financial Demonstration. The applicant's chief financial officer shall submit a statement indicating that the applicant is financially capable of meeting the costs described in subsection (A).

1. The statement shall specify in detail alternate financial arrangements for meeting the estimated closure and post-closure costs, according to the plans submitted under R18-9-203(10) and assure that the applicant will make financial resources available to the Department at any time during the permit life if needed to conduct closure or post-closure care.
2. Any applicant other than a state or federal agency or county, city, town or other local government entity, shall further support the demonstration of financial capability with any one of the following:
   a. If a publicly traded corporation, the latest fiscal year-end copy of the person's 10K Form filed following section 13 or 15(d) of the Federal Securities and Exchange Act of 1934 (c.404, title 1; 48, Stat 894-95;15 United States Code 78m and 78o, as amended).
   b. If a non-publicly traded corporation, a report that contains all of the following information:
      i. A description of the person's status as a corporation.
      ii. A description of the person's business.
      iii. Signed and dated copies of the person's U.S. tax returns with all schedules from the two previous tax years and a copy of the most recent year-end financial statement.
      iv. A brief description of any civil judgement against the applicant in the last five years preceding the date of the application exceeding $100,000.
      v. A brief description of any bankruptcy proceedings instituted by the person during the five years preceding the date of the application.
      vi. If the person is a non-publicly traded corporation, the names of its executive officers and their dates of birth.
      vii. If the person is a partnership, limited liability entity, the names of its principals who own more than 20% interest in the business entity.

C. The Department may consider the applicant unable to demonstrate the financial capability necessary to fully carry out the terms and conditions of the permit if any one of the following conditions exists.

1. For a publicly traded corporation:
   a. The 10K Form indicates that the company received an adverse opinion, disclaimer of opinion, or other qualified opinion from the independent certified public accountant auditing its financial statements.
   b. Standard and Poor's or Moody's Investors Services has assigned the applicant an unsecured debt rating less than investment grade. Unacceptable ratings are Standard and Poor's: BB, B, CCC, C, D or Speculative; Moody's Investors Services: Ba, B, Caa, Ca C, or Speculative or lack of an unsecured credit rating by either Standard and Poor's or Moody's Investor's Service.
   c. Lack of assets in the United States equal to at least 90% of the total closure and post-closure care cost estimates.
2. For a non-publicly traded corporation, lack of:
   a. A financial statement prepared by an independent certified public accountant, including all balance sheet notes and schedules;
   b. Assets located in the United States amounting to at least 90% of total assets or less than 6 times the costs of closure and post-closure care; or
   c. Net working capital and tangible net worth of at least 6 times the costs of closure and post-closure care.

D. In place of the financial demonstration described in subsection (B) an applicant may submit evidence of a financial assurance mechanism. The Department shall consider the applicant to meet the requirements of subsection (B) if the applicant

submits evidence of one of the following financial assurance mechanisms, sufficient to cover the cost of meeting the terms and conditions of the Aquifer Protection Permit.

1. Performance surety bond.
2. Certificate of deposit.
3. Trust fund with pay-in period.
4. Irrevocable letter of credit.
5. Insurance policy.
6. Deposit with the state treasurer.
7. Guarantee.
8. Additional financial assurance mechanisms that may be acceptable to the Department.

R18-9-205. Special Provisions: Underground Storage Facilities Regulated under A.R.S. Title 45.

A. A person applying for an individual Aquifer Protection Permit for an underground storage facility shall provide the Department with the information described in R18-9-202 through R18-9-204, except for that information described in R18-9-203(5).

B. When the Department receives an application for an individual Aquifer Protection Permit for an underground storage facility, the Department shall process the application in coordination with the underground storage facility permit processes administered by the Department of Water Resources. The Department shall advise the Department of Water Resources of each permit application received for an individual Aquifer Protection Permit for an underground storage facility.

R18-9-206. Individual Permit Conditions: Alert Levels

A. An individual Aquifer Protection Permit shall prescribe alert levels based on the site-specific conditions described by the applicant in the application submitted under R18-9-202 or otherwise known by the Department.

B. An individual Aquifer Protection Permit may prescribe an alert level based on a pollutant that indicates the potential appearance of another pollutant.

C. An individual Aquifer Protection Permit may prescribe the measurement of an alert level at a location appropriate for the discharge activity, considering the physical, chemical and biological characteristics of the discharge, the particular treatment process and site specific conditions.

D. An individual Aquifer Protection Permit shall require notification to the Department described in R18-9-210 and the implementation of the appropriate parts of the contingency plan described in R18-9-211 if an alert level is exceeded.

R18-9-207. Individual permit conditions: Discharge limitations

A. An individual Aquifer Protection Permit may prescribe discharge limitations based on the considerations described in A.R.S. § 49-243.

B. An individual Aquifer Protection Permit shall require notification to the Department described in R18-9-210 and the implementation of the appropriate parts of a contingency plan described in R18-9-211 if a discharge limitation is exceeded.

R18-9-208. Individual permit conditions: Monitoring requirements

A. An individual Aquifer Protection Permit may require that the permittee conduct any monitoring activity necessary to assure compliance with Aquifer Protection Permit conditions, with the applicable water quality standards established following A.R.S. §§ 49-221 and 49-223, with A.R.S. §§ 49-241 through 49-244, and A.R.S. §§ 49-250 through 49-252.

B. If monitoring is required under subsection (A), an individual Aquifer Protection Permit shall specify all of the following:

1. The type and method of monitoring to be conducted.
2. The frequency of monitoring.
3. Any requirements for the installation, use, or maintenance of monitoring equipment.
4. The intervals at which monitoring results shall be reported to the Department.

R18-9-209. Individual permit conditions: Monitoring recordkeeping requirements

A. An individual Aquifer Protection Permit shall require that a permittee make, for each sample taken or measurement made as required by the individual Aquifer Protection Permit, a monitoring record consisting of all of the following:

1. The date, time, and exact place of a sampling or measurement and the name of each individual who performed the sampling or measuring.
2. The procedures used to collect the sample or make the measurement.
3. The date sample analysis was completed.
4. The name of each individual or laboratory who performed the analysis.
5. The analytical techniques or methods used to perform the sampling and analysis.
6. The chain of custody records.
7. Any field notes relating to the information described in subsections (A)(1) through (6).

B. An individual Aquifer Protection Permit shall require that a permittee retain or have access to a monitoring record made following subsection (A) for a period of 10 years after the date of the sample or measurement.

R18-9-210. Individual permit conditions: Reporting requirements

A. Except as otherwise provided in R18-9-211(B), an individual Aquifer Protection Permit shall require that a permittee notify the Department within 5 days after becoming aware of a violation of a permit condition or that an alert level has been exceeded.

B. An individual Aquifer Protection Permit shall require that a permittee submit a written report within 30 days after the permittee becomes aware of the violation of a permit condition. The report shall document all of the following:

1. A description of the violation and its cause.
2. The period of violation, including exact date(s) and time(s), if known, and the anticipated time period the violation is expected to continue.
3. Any action taken or planned to mitigate the effects of the violation, or to eliminate or prevent recurrence of the violation.
4. Any monitoring activity or other information that indicates that any pollutants would be reasonably expected to cause a violation of an Aquifer Water Quality Standard.
5. Any malfunction or failure of a pollution control device or other equipment or process.

C. An individual Aquifer Protection Permit shall require that a permittee notify the Department within 5 days after the occurrence of any one of the following:

1. The permittee's filing of bankruptcy.
2. The entry of any order or judgment against the permittee for the enforcement of any environmental protection statute in which monetary damages or civil penalties are imposed.

D. An individual Aquifer Protection Permit shall specify the format for submitting results from monitoring conducted under R18-9-208.

R18-9-211. Individual permit conditions: Contingency plan requirements

A. An individual Aquifer Protection Permit shall require a contingency plan that specifies, in a manner consistent with this Section, the actions to be taken in the event of a discharge that results in any of the following:

1. Violation of a permit condition;
2. Violation of an Aquifer Water Quality Standard;
3. An exceedance of an alert level; or
4. An imminent and substantial endangerment to the public health or the environment.

B. An individual permit may require and a contingency plan may provide for any one or more of the following actions to be taken in the event of a discharge that results in any of the conditions described in subsection (A):

1. Verification sampling.
2. Notification to downstream or downgradient users who may be directly affected by the discharge.
3. Further monitoring that may include increased frequency, additional constituents, or additional monitoring locations.
4. Inspection, testing, or maintenance of discharge control features of the facility.
5. For sewage treatment works, pretreatment evaluation.
6. Preparation of a hydrogeologic study to assess the extent of soil, surface water, or aquifer impact.
7. Corrective action that may include any of the following measures:
   a. Control of the source of any unauthorized discharge.
   b. Soil cleanup to comply with soil remediation levels.
   c. Cleanup of affected surface waters to comply with surface water quality standards.
   d. Cleanup of affected parts of the aquifer to comply with aquifer water quality standards.
   e. Mitigation measures to limit the impact of pollutants on existing uses of the aquifer.

C. Each corrective action proposed under subsection (B)(7) shall be approved by the Department. Emergency response provisions and corrective actions specifically identified in the contingency plan submitted with a permit application may be approved by the Department during the application review process. Corrective actions other than those already identified in the contingency plan may also be proposed to the Department by the permittee when a discharge results in any of the conditions identified in subsection (A). The Department shall approve a proposed corrective action if it returns the facility to compliance with the facility's permit conditions, Articles 1 through 4, and Title 49, Chapter 2, of the Arizona Revised Statutes. Approved corrective action measures may be incorporated by the Department into the Aquifer Protection Permit.

D. A contingency plan shall contain emergency response provisions to address an imminent and substantial endangerment to the public health or the environment including:

1. 24-hour emergency response measures.
2. An emergency response coordinator responsible for implementing the contingency plan.
3. Immediate notification to the Department of any emergency response measures.

4. A list of names, addresses and telephone numbers of persons to be contacted in the event that an imminent and substantial endangerment to the public health or the environment arises.
5. A general description of the procedures, personnel and equipment to be used to assure appropriate mitigation of unauthorized discharges.

E. A contingency plan required by the Federal Water Pollution Control Act (P.L. 92-500; 86 Stat. 816; 33 United States Code 1251, et seq., as amended) or the Resource Conservation Recovery Act (P.L. 94-580; 90 Stat. 2796; 42 United States Code 6901 et seq., as amended) may be amended to meet the requirements of this Section and submitted to the Department for approval in place of a separate aquifer protection contingency plan.

F. A permittee shall maintain at least 1 copy of the contingency plan required by the individual Aquifer Protection Permit at the location where the day-to-day decisions regarding the operation of the facility are made. A permittee shall advise all employees responsible for the operation of the facility of the location of copies of the contingency plan.

G. A permittee shall promptly revise the contingency plan upon any change to the information contained therein.

R18-9-212. Individual permit conditions: Compliance schedule

A. A compliance schedule established in an individual Aquifer Protection Permit shall require compliance as expeditiously as is practicable. If a compliance schedule provides that actions be taken during a period that exceeds one year from the date of permit issuance, the schedule shall set forth interim requirements and the dates for their achievement. If the time necessary for completion of any interim requirements is more than one year and is not readily divisible into stages for completion, the permit shall contain interim dates for submission of reports on progress toward completion of the interim requirements and shall indicate a projected completion date. Within 30 days after a date specified in a compliance schedule, a permittee shall submit to the Department a report indicating whether the action or actions to be taken as of that date were taken. After reviewing any compliance schedule activity the Department may amend the Aquifer Protection Permit accordingly.

B. In determining the requirements of and length of a compliance schedule for a facility, the Department shall consider all of the following factors:
1. The character and impact of the discharge.
2. The nature of construction or activity required by the permit.
3. The number of persons affected or potentially affected by the discharge.
4. The current state of treatment technology.
5. The age of the facility.

C. An individual Aquifer Protection Permit may establish a compliance schedule for a new facility not subject to R18-9-105(A) or (B) as long as the facility will employ BADCT and will not exceed Aquifer Water Quality Standards when the facility begins to discharge.

R18-9-213. Individual permit conditions: Temporary cessation, closure, post-closure

A. An individual Aquifer Protection Permit shall require that the permittee notify the Department before any temporary cessation of operations at the facility. An individual Aquifer Protection Permit shall specify any measures to be taken by the permittee if there is any temporary cessation of operations at a facility. In those instances where it is not possible to specify such measures in advance, an individual Aquifer Protection Permit may require the permittee to submit for Department approval the specifications of measures to be taken upon temporary cessation.

B. An individual Aquifer Protection Permit shall require that a permittee notify the Department of the permittee's intent to cease operations prior to ceasing, without intent to resume, an activity for which the facility was designed or operated.

C. An individual Aquifer Protection Permit shall require a permittee who ceases, without intending to resume, an activity for which a facility was designed and operated, to submit to the Department for approval a closure plan within 90 days following the notification of intent to cease operations. A closure plan shall describe all of the following:
1. The approximate quantities and the chemical, biological, and physical characteristics of the materials to be removed from the facility.
2. The destination of the materials to be removed from the facility and an indication that placement of the materials at that destination is approved.
3. The approximate quantities and the chemical, biological, and physical characteristics of the materials that will remain at the facility.
4. The methods to be used to treat any materials remaining at the facility.
5. The methods to be used to control the discharge of pollutants from the facility.
6. Any limitations on future land or water uses created as a result of the facility's operations or closure activities.
7. The methods to be used to secure the facility.
8. An estimate of the cost of closure.
9. A schedule for implementation of the closure plan and the submission of a post-closure plan.
10. Any other relevant information the Department determines to be necessary.

D. An individual Aquifer Protection Permit may prescribe any part of a closure plan submitted under subsection (C).

E. Upon receipt of a complete closure plan, the Department shall follow § 49-252. The public notice requirements of R18-9-224 shall apply to the Department's approval of a closure plan as clean closure under this subsection. If the Department determines that the proposed closure plan does not achieve clean closure, the public participation requirements of R18-9-225 shall apply to a permit amendment or issuance of an individual Aquifer Protection Permit.

F. Post-closure monitoring and maintenance activities required by § 49-252(E) shall be described in a plan submitted to, and approved by, the Department. The plan shall describe all of the following:

1. The duration of post-closure care.
2. The monitoring procedures to be implemented by the permittee, including monitoring frequency, type, and location.
3. A description of the operating and maintenance procedures to be implemented for maintaining aquifer quality protection devices, such as liners, treatment systems, pump-back systems, and monitoring wells.
4. A schedule and description of physical inspections to be conducted at the facility following closure.
5. An estimate of the cost of post-closure maintenance and monitoring.
6. A description of limitations on future land or water uses, or both, at the facility site as a result of facility operations.

G. An individual Aquifer Protection Permit may prescribe any part of a post-closure plan submitted under subsection (F).

H. An individual Aquifer Protection Permit shall require that the permittee give the Department written notice that a closure plan or a post-closure plan has been implemented fully.

R18-9-214. Individual permit conditions: Financial capability

A. An individual Aquifer Protection Permit shall require that a permittee have and maintain the financial capability necessary to fully carry out the terms and conditions of the permit. The Department may use funds from a financial assurance mechanism provided by a permittee following R18-9-204(D) to cover the costs of carrying out the terms and conditions of the permit.

B. The Department may establish any of the permit conditions described in Articles 1 through 3 of this Chapter on the basis of the Department's evaluation of the applicant's financial capability to carry out the terms and conditions of the individual Aquifer Protection Permit.

C. A permittee that demonstrates financial capability by providing evidence of a financial assurance mechanism shall maintain one of the mechanisms described in subsection R18-9-204(D) for the duration of the permit or until the permittee is able to demonstrate the financial capability necessary to fully carry out the terms and conditions of the permit. A permittee may substitute one financial mechanism for another described in subsection R18-9-204(D) with prior Department approval.

D. The Department may request demonstration of financial capability throughout the duration of an individual Aquifer Protection Permit. If, subsequent to issuing an Aquifer Protection Permit, the Department determines that a permittee is not able to maintain the financial capability necessary to fully carry out the terms and conditions of the permit, the Department shall require the permittee to provide evidence of a financial assurance mechanism described in R18-9-204(D).

E. The Department may exempt from the financial capability requirements of this Article, in whole or in part, any person who demonstrates that a requirement established in this Article is duplicative of a financial capability demonstration already made to the state or federal government.

R18-9-215. Individual permit conditions: Technical capability

A. An individual Aquifer Protection Permit shall require that an applicant have and demonstrate the ability to maintain the technical capability necessary to fully carry out the terms and conditions of the permit, including a demonstration that the facility will be operated by a certified operator if the facility is required to have a certified operator under R18-5-101 et seq.

B. The Department may establish any of the permit conditions described in Articles 1 through 3 of this Chapter on the basis of the Department's evaluation of the applicant's technical capability to carry out the terms and conditions of the individual Aquifer Protection Permit.

R18-9-216. Individual permit duration

Except as otherwise provided in R18-9-217, an individual Aquifer Protection Permit shall be valid for a specified term not to exceed the operational life of the facility and any period during which the facility is subject to a post-closure plan following R18-9-213(F) through (H).

R18-9-217. Temporary permit

A. The Department may waive or postpone any part of the application process, application requirement, or individual permit condition described in Articles 1 through 3 of this Chapter in issuing a temporary individual Aquifer Protection Permit to either of the following:

1. A pilot project necessary to develop data for an Aquifer Protection Permit application for the full-scale project.
2. A temporary facility with a discharge that lasts no more than six months.

B. The Department may postpone public participation requirements of this Article and issue a temporary individual Aquifer Protection Permit. Notification of the opportunity for public participation shall not be postponed beyond 30 days follow-

ing issuance of the permit. The Department may modify or revoke the temporary individual Aquifer Protection Permit after consideration of public comments.

C. A temporary individual Aquifer Protection Permit issued under this Section shall be issued for a period not to exceed one year and shall not be renewed more than once.

R18-9-218. Individual Permit: Issuance

The Department shall issue an individual Aquifer Protection Permit if the Department determines, based upon the information obtained by or made available to the Department, that the applicant will comply with A.R.S. §§ 49-241 through 49-252 and Articles 1 through 3 of this Chapter.

R18-9-219. Individual permit: Denial

The Department may deny an individual Aquifer Protection Permit application if the Department determines upon completion of the application process that the applicant has done any of the following:

1. Failed or refused to correct deficiencies in the permit application.
2. Failed to demonstrate that the facility and the operation thereof will comply with the requirements of A.R.S. §§ 49-241 through 49-252 and Articles 1 through 3 of this Chapter. This determination shall be based on the information submitted in the Aquifer Protection Permit application, in addition to any information submitted to the Department following a public hearing, or any relevant information that is otherwise developed or acquired by the Department.
3. Provided false or misleading information to the Department.

R18-9-220. Individual permit: Amendment

A. The Department may amend an individual Aquifer Protection Permit based upon a request or upon the Department's initiative. A request for permit amendment shall be submitted in writing on a form provided by the Department, and shall contain the facts and reasons that justify the request. The Department shall process amendment requests following the licensing timeframes of R18-1-501 et seq.

B. Significant permit amendment. The Department may make a significant amendment to an individual Aquifer Protection Permit if the Department determines that a change to the permit is justified because:

1. Part or all of an existing facility becomes a new facility following A.R.S. § 49-201.
2. A physical change in a permitted facility or a change in its method of operation will result in:
   a. An increase of 10% or more in the permitted volume of pollutants discharged, except for a sewage treatment facility.
   b. An increase in design flow of a sewage treatment facility as follows:

Permitted Design Flow	% increase in design flow
Greater than 500,000 gallons per day but less than or equal to 5 million gallons per day	6%
Greater than 5 million gallons per day but less than or equal to 50 million gallons per day	4%
Greater than 50 million gallons per day	2%

   c. Discharge of an additional pollutant not allowed by a facility's original individual Aquifer Protection Permit. The Department may consider the addition of a pollutant with a chemical composition substantially similar to a pollutant the permit already allows to be discharged to be an "other" amendment.
   d. Any increase, not expressly allowed in a facility's individual Aquifer Protection Permit, that brings the level of a pollutant to within 80% or more of an Aquifer Water Quality Standard at the point of compliance.
   e. Any increase in the concentration of a pollutant listed in A.R.S. § 49-243(I).
3. The facility's discharge violates or could reasonably be expected to cause or contribute to a violation of an Aquifer Water Quality Standard at the applicable point of compliance.
4. The permittee has requested monitoring changes, not otherwise specified in the individual Aquifer Protection Permit, that will reduce the frequency in monitoring or reporting or that will reduce the number of pollutants monitored and the permittee has demonstrated that such changes will not affect its ability to remain in compliance with Articles 1 through 3 of this Chapter.
5. It is necessary to change the designation of a point of compliance.
6. The permittee has requested less stringent discharge limitations and has demonstrated that such changes will not affect its ability to remain in compliance with Articles 1 through 3 of this Chapter.

7. It is necessary to make an addition to or a substantial change in closure requirements or to provide for post-closure maintenance and monitoring.
8. Material and substantial alterations or additions to a permitted facility justify a change in permit conditions.

C. Minor permit amendment. The Department may, with the written concurrence of the permittee, make a minor amendment to the individual Aquifer Protection Permit for any of the following reasons:
1. To correct a typographical error.
2. To increase the frequency of monitoring or reporting, or to revise a laboratory method.
3. To change non-technical administrative information, excluding a permit transfer.
4. To correct minor technical errors such as errors in calculation, locational information and citations of construction specifications.
5. To make a discharge limitation more stringent.
6. To insert calculated alert levels or other permit limits into a permit based on monitoring subsequent to permit issuance, when the method of calculation was set forth in the original permit.

D. "Other" permit amendment. The Department may make an "other" amendment to an individual Aquifer Protection Permit based upon a request or upon the Department's initiative. A request for an "other" amendment shall be in writing and shall contain the facts and reasons that justify the request. The Department may make an "other" amendment to an individual Aquifer Protection Permit if the Department determines that the amendment at issue does not meet the criteria of a significant or minor permit amendment as described in this Section. An "other" amendment to an individual Aquifer Protection Permit includes but is not limited to the following:
1. A change in a construction requirement or operational practice, if the alteration complies with the requirements of Articles 1 through 3 of this Chapter and provides equal or better performance.
2. To change an interim or final compliance date in a compliance schedule if the Department determines just cause exists for changing the date.
3. A change in a permittee's financial assurance mechanism.
4. Transfer by amendment described in R18-9-221.
5. To replace monitoring equipment, including a well, if such replacement results in equal or greater monitoring effectiveness.
6. Any increase in the volume of pollutants discharged that is less than that described in subsection (B)(2)(a) and (b).
7. That rule or statutory changes have occurred, such as to require a change in the permit.

E. In order to obtain a permit amendment, the Department shall require a permittee to submit only that information the Department determines relevant to the amendment itself.

F. The public notice and public participation requirements of R18-9-224 and R18-9-225 apply to a significant amendment. The public notice requirements of R18-9-224 apply to an "other" amendment. A minor amendment requires neither public notice nor public participation.

R18-9-221. Individual Permit: Transfer

A. A permittee may transfer an individual Aquifer Protection Permit to a new permittee only if the Department has amended the permit to identify the new permittee and to hold the new permittee responsible for all conditions therein.

B. The transfer of an existing permit to a new permittee shall be done according to the following:
1. The new permittee shall notify the Department of the transfer and shall include a written agreement between the existing and new permittee indicating a specific date for transfer of all permit responsibility, coverage, and liability between them.
2. The new permittee shall demonstrate the technical and financial capability necessary to fully carry out the terms and conditions of the permit according to the requirements of R18-9-203, R18-9-204, R18-9-214 and R18-9-215.
3. The new permittee shall provide the Department with a copy of the certificate of disclosure of violations required by A.R.S. § 49-109.
4. A permittee is responsible for complying with permit conditions, A.R.S. §§ 49-241 through 49-252, and Articles 1 through 3 of this Chapter, regardless of whether the permittee has sold or otherwise disposed of the facility, until the Department transfers the permit under the conditions of this Section.

R18-9-222. Individual Permit: Revocation

The Department may suspend or revoke an individual Aquifer Protection Permit or Groundwater Quality Protection Permit, for any of the following reasons:
1. Noncompliance by the permittee with any applicable provision of Title 49, Chapter 2, Article 3 of the Arizona Revised Statutes, Articles 1 through 3 of this Chapter, or any permit condition.
2. The permittee's misrepresentation or omission of any fact, information, or data related to an Aquifer Protection Permit application or permit conditions.
3. If the Department determines that the permitted activity is causing or will cause a violation of any Aquifer Water Quality Standard at a point of compliance.

4. If a permitted discharge is causing or will cause imminent and substantial endangerment to public health or the environment.

R18-9-223. Consolidation of Aquifer Protection Permits

The Department may consolidate into a single individual Aquifer Protection Permit, any number of individual or general Aquifer Protection Permits if the facilities are part of the same project or operation and are located in a contiguous geographic area or if the facilities are part of an area under the jurisdiction of a single political subdivision. The Department may also consolidate those permit conditions that have general applicability to the facilities. All applicable individual Aquifer Protection Permit requirements established in Articles 1 through 3 of this Chapter apply to the consolidation of Aquifer Protection Permits.

R18-9-224. Public Notice

A. On a monthly basis, the Department shall provide written notification of the following:
1. All applications for individual Aquifer Protection Permits;
2. All applications for temporary Aquifer Protection Permits;
3. Preliminary and final decisions whether to issue or deny an individual or temporary Aquifer Protection Permit application, received, initiated or made by the Department;
4. Closure plans received under R18-9-213(C);
5. "Other" and Significant Aquifer Protection Permit amendments;
6. Permit revocations; and
7. Clean closure approval

B. On a monthly basis, the Department shall provide written notification of the items described in subsection (A) to the following:
1. Each county department of health, environmental services or comparable department,
2. Each council of governments,
3. Any affected federal, state and local agency, and
4. Any person who has requested, in writing, notification of the activities described in this subsection.

C. The Department may also post, on a monthly basis, the information referred to in this subsection on the Department web site: www.adeq.state.az.us.

R18-9-225. Public Participation

A. The Department shall allow public participation prior to making a significant permit amendment or final permit determination. At a minimum, public participation shall consist of a period in which the public may submit written comments to the Department. Public participation may also include a public hearing if, following subsection (C) below, the Department considers a public hearing to be appropriate.

B. The Department shall publish its preliminary decision regarding a significant permit amendment or final permit determination following R18-1-401(A).

C. Except as otherwise provided in subsection (E), any written public comment period shall extend for no more than 30 calendar days after the date of the first publication of the notice described in subsection (B).

D. The Department shall conduct a public hearing to address its preliminary decision regarding a significant permit amendment or final permit determination if the Department determines either of the following:
1. That significant public interest in a public hearing exists.
2. That significant issues or information have been brought to the attention of the Department that have not been considered previously in the permitting process.

E. The Department shall provide notice of any public hearing regarding a significant permit amendment or final permit determination following R18-1-401(B) and (C) and conduct the public hearing as a general public hearing following R18-1-402. When the Department conducts a public hearing, the Department shall accept written public comment until the close of the hearing record as specified by the person presiding at the public hearing.

F. At the same time that the Department notifies a permittee of a significant permit amendment or an applicant of the final permit determination, the Department shall send notice of such amendment or determination, through regular mail, to affected state and local agencies, and to persons who submitted comments or attended a public hearing on the significant permit amendment or final permit determination, or who made written requests to receive the final permit determination.

G. The Department shall respond in writing to all written comments submitted during the written public comment period.

ARTICLE 3. AQUIFER PROTECTION PERMITS: BEST AVAILABLE DEMONSTRATED CONTROL TECHNOLOGY FOR INDIVIDUAL PERMITS

R18-9-301. Applicability to Sewage Treatment Facilities

Unless otherwise noted, the requirements described in this Article apply to all sewage treatment facilities, public and private, and any other facilities that treat wastewater containing a component of sewage.

R18-9-302. BADCT - General Considerations and prohibitions

A. The Department may specify in an individual Aquifer Protection Permit alert levels, discharge limitations, design specifications and operation and maintenance requirements based upon information provided following A.R.S. § 49-243(B)(1).

B. The Department may specify adherence to an operation and maintenance manual as an Aquifer Protection Permit condition.

C. No person shall install, allow to be installed, or maintain connections between any part of a sewage treatment facility and a potable water supply or public water supply, in such manner that sewage or wastewater may find its way into, or otherwise contaminate, any potable or public water supply.

D. Bypassing of untreated sewage from a sewage treatment facility is prohibited.

E. Sewage or wastewater dispensed to a direct use site from a sewage treatment facility is regulated by the reclaimed water quality standards developed under A.R.S. § 49-221(E) and reclaimed water permit requirements developed under A.R.S. § 49-203(A)(6).

F. Preparation, transport, or land application of any biosolids generated by a sewage treatment facility is regulated by Arizona Administrative Code, Title 18, Chapter 13, Article 15.

G. The Department will not publish a preliminary decision to issue an individual Aquifer Protection Permit for a sewage treatment facility that is not in conformance with the Certified Water Quality Management Plan and Facility Plan.

H. The owner or operator of a sewage treatment facility shall ensure setbacks from the nearest adjacent property line following the table below:

Sewage Treatment Facility Design Flow (gallons per day)	**No Noise, Odor or Aesthetic Controls**	**Full Noise, Odor and Aesthetic Controls**
3,000 - 24,000	250	25
24,000 - 100,000	350	50
100,000 - 500,000	500	100
500,000 - 1,000,000	750	250
greater than 1,000,000	1,000	350

1. Full noise, odor and aesthetic controls means all treatment components are fully enclosed, odor scrubbers are installed on all vents, and fencing aesthetically acceptable to the area surrounds the facility
2. Setbacks may be decreased if the applicant has obtained setback waivers from affected property owners in which the property owner acknowledges awareness of the established setbacks, basic design of the wastewater treatment facility, and the potential for noise and odor generation.

R18-9-303. Treatment performance requirements

A. The BADCT requirements described in this Section apply to any new sewage treatment facility with a design flow of 3,000 gallons per day or more unless the discharge from the facility is covered by a general permit under Article 4 of this Chapter.

B. The Department shall consider a sewage treatment facility that minimizes discharge on the basis that all flows, wastes, and wastewater in the treatment works and disposal works are contained in structures that meet the requirements specified in subsection (C)(7) to meet the BADCT requirements of this Article.

C. A new sewage treatment facility shall achieve the following performance requirements upon release of the treated wastewater at the outfall:

1. Treatment to secondary treatment levels by meeting the following criteria:
   a. 5-day biochemical oxygen demand (BOD5) less than 30 mg/l (30-day average) and 45 mg/l (7-day average), or carbonaceous biochemical oxygen demand (CBOD5) less than 25 mg/l (30-day average) or (40 mg/l (7-day average);
   b. Total suspended solids (TSS) less than 30 mg/l (30-day average) and 45 mg/l (7-day average);
   c. pH maintained between 6.0 and 9.0 standard units; and
   d. In addition to the treatment levels in subsections (a) and (b), treatment shall achieve a removal efficiency of 85% for BOD5 or CBOD5 and TSS.
2. Secondary treatment by waste stabilization ponds is not considered BADCT unless an applicant demonstrates to the Department that site specific hydrologic and geologic characteristics and other environmental factors are sufficient to justify use of such a lagoon.

3. Total nitrogen in the treated wastewater less than 10 mg/l (5-month rolling geometric mean). Upon demonstration by an applicant and with appropriate monitoring requirements in the individual Aquifer Protection Permit, the Department may approve soil-aquifer treatment for the removal of total nitrogen, as an alternative to meeting the performance requirement of 10 mg/l, if the soil-aquifer treatment process will produce a total nitrogen concentration of less than 10 mg/l in the wastewater that percolates to groundwater.
4. Pathogen removal:
   a. For a sewage treatment facility with a design flow of less than 250,000 gallons per day, a fecal coliform limit of 200 colony forming units per 100 ml (7-sample median) and 800 colony forming units per 100 ml (single sample maximum) shall apply if:
      i. Depth to the seasonally high groundwater table is greater than 20 feet, and
      ii. The system is not located above karstic or fractured bedrock.
   b. For any other sewage treatment facility, a fecal coliform limit using the membrane filter technique of 2.2 colony forming units per 100 ml (7-sample median) and less than 23 colony forming units per 100 ml (single sample maximum), or equivalent numbers using the multiple tube fermentation method shall apply. Unit treatment processes such as chlorination-dechlorination, ultraviolet, and ozone may be used to achieve this standard, dependent on the method of disposal.
   c. Upon demonstration by an applicant and with appropriate monitoring requirements specified in the individual Aquifer Protection Permit, the Department may approve a greater fecal coliform limit for a facility using subsurface infiltration as the method of wastewater disposal if site characteristics will produce in the wastewater that percolates to groundwater a fecal coliform level that meets the limits specified in subsection (C)(4)(b).
5. Unless regulated by A.R.S. § 49-243(I), performance requirements for all other constituents regulated under R18-11-406(B) through (E) are set at the numeric aquifer water quality standard.
6. Removal of constituents regulated under A.R.S. § 49-243(I) shall be to the greatest extent practicable regardless of cost.
   a. For trihalomethane compounds generated as disinfection byproducts, using chlorination, dechlorination, ultraviolet, or ozone as the disinfection system shall satisfy this requirement.
   b. For other pollutants regulated by A.R.S. § 49-243(I), an industrial pretreatment program shall satisfy this requirement.
7. A maximum seepage rate of less than 550 gallons per day per acre is required for all containment structures within the treatment works.

D. Treated wastewater discharge limitations and associated monitoring specified in this Section shall be incorporated into the individual Aquifer Protection Permit to ensure compliance with BADCT.

E. Any alternative that allows less stringent performance than established in this Section shall be formally requested and justified by the applicant based on the criteria specified in A.R.S. § 49-243(B)(1), including consideration of site-specific hydrologic and geologic characteristics and other environmental factors, facility size, method of wastewater disposal or direct use, proportion of sewage to total industrial wastewater volume and the seasonality of the service area for the sewage treatment facility. If a request involves treatment or disposal works that are a demonstration, experimental, or pilot project, the Department will take into account such factors and may issue an individual Aquifer Protection Permit that places greater reliance on monitoring to ensure operational capability.

R18-9-304. Information submittal requirements

A. The applicant shall submit a design report sealed by a Professional Engineer registered in Arizona. The design report shall provide the following design information:
1. Wastewater characterization including quantity, quality, seasonality and impact of increased flows as the facility reaches design flow.
2. The proposed method of disposal including solids management.
3. Description of the treatment unit processes and containment structures including diagrams and calculations that demonstrate that design meets BADCT requirements and will achieve treatment levels specified in R18-9-303. Where soil aquifer treatment or other aspects of site conditions are used to meet BADCT, performance of the site shall be documented in the design report or the hydrogeologic report.
4. Description of planned normal operation.
5. Description of operation and maintenance and a draft operation and maintenance manual, and description of contingency and emergency operation of the system.
6. Description of construction management controls.
7. Description of the system startup plan including pre-operational testing, expected treated wastewater characteristics and monitoring requirements during startup, expected timeframe for meeting performance requirements specified in R18-9-303(C), and any other special startup conditions that may merit consideration in the individual Aquifer Protection Permit.
8. Site diagram depicting compliance with the setback requirements established in R18-9-302(H).

9. An applicant seeking a permit for a sewage treatment facility with design flow under one million gallons per day shall submit a design report and engineering plans and specifications for the plant. The Department may waive this requirement if the Department has previously approved engineering plans and specifications submitted by the same owner or operator for a sewage treatment facility with design flow of more than 1 million gallons per day.
10. A certification by the applicant's Professional Engineer, registered in Arizona, that all other aspects of the design, including pipe coding, auxiliary power sources, and separation requirements, comply with applicable statutes, rules, and codes.

B. In addition to the financial and technical capability requirements specified in Article 2, the following requirements apply if construction or expansion of a private sewage treatment facility has been approved for treatment of sewage from a subdivision following R18-5-402, except that these requirements do not apply to a subdivision that has been approved to use an onsite wastewater treatment facility as defined in A.R.S. § 49-201 for sewage disposal:

1. If responsibility for operation of the private sewage treatment facility is to be conveyed to a homeowner's association or a private operator after construction, the applicant shall demonstrate that the homeowner's association or private operator will be technically capable of carrying out all terms and conditions of the permit and all treatment performance requirements specified in R18-9-303.
2. If responsibility for operation of the private sewage treatment facility is to be conveyed to a homeowner's association or a private operator after construction, the applicant shall demonstrate that the homeowner's association or private operator will be financially capable of carrying out all terms and conditions of the permit and all treatment performance requirements specified in R18-9-303, including monitoring and recordkeeping requirements, and assuring that the system will be under continuous operational control by the correct classification of certified operator as specified in Arizona Administrative Code, Title 18, Chapter 5, Article 1.

R18-9-305. Application Review and Approval

A. The Department may review the engineering plans and specifications and comment on the design report and the engineering plans and specifications to ensure that the BADCT provisions of this Article are met.

B. The Department may request and review engineering plans and specifications in addition to a design report for a sewage treatment facility with design flow of 1 million gallons per day or greater under any of the following conditions:

1. The design report fails to provide sufficient detail to determine adequacy of the proposed sewage treatment facility design.
2. The described design is innovative and does not reflect treatment technologies generally accepted as demonstrated within the industry.
3. The Department's calculations of removal efficiencies based on the design report show that the treatment plant cannot achieve BADCT performance levels.
4. The design report does not demonstrate:
   a. Protection from physical damage from a 100-year flood,
   b. Ability for continuous operation during a 25-year flood, or
   c. Provision for a standby power source.
5. The design report shows inconsistency in sizing or compatibility between two or more unit process components of the sewage treatment facility.
6. The designer of the facility has:
   a. Designed a sewage treatment facility of a similar size on less than 3 previous occasions;
   b. Designed a sewage treatment facility that has been the subject of a Department enforcement action due to the plant design; or
   c. Been found by the Board of Technical Registration to have violated any provision of A.R.S. § 32-101 et seq.
7. The permittee seeks to expand its sewage treatment facility and the Department believes that BADCT requires upgrades to the design that have not been described and evaluated in the design report.

C. The Department shall review engineering plans and specifications in addition to a design report upon request by an applicant seeking a permit for a sewage treatment facility, regardless of its flow.

D. Field Inspection. The Department may inspect an applicant's facility at any time without notice, to ensure that construction generally conforms to the design report.

R18-9-306. BADCT for an Existing Sewage Treatment Facility

For an existing sewage treatment facility, BADCT demonstration shall conform with the following:

1. The applicant shall identify 1 or more alternative design improvements that bring the facility closer to or within the treatment performance requirements specified in R18-9-303.
2. The BADCT demonstration submittal shall identify those alternatives for improving the quality of the treated wastewater that may be less expensive than the number of gallons of design flow times $0.05 per gallon.
3. Alternatives selected as BADCT give preference to measures that will provide the greatest improvement toward meeting the treatment performance requirements specified in R18-9-303.

R18-9-307. BADCT for Expansion of a Permitted Sewage Treatment Facility

For an expansion of a sewage treatment facility with an individual Aquifer Protection Permit, the BADCT demonstration shall conform with all of the following:

1. For those portions of the facility that conformed to BADCT for new facilities at the time of last permit issuance, the new facility BADCT provisions of R18-9-303(C) shall continue to apply to them;
2. For those portions of the facility that represent the addition of a process or major piece of production equipment, building, or structure that is physically separated from a facility and that causes discharge, the new facility BADCT provisions of R18-9-303(C) shall apply to that addition;
3. For those portions of the facility that have not yet been required to conform to BADCT for new facilities, the new facility BADCT provisions of R18-9-303(C) shall apply if the facility or portion thereof has undergone or will undergo any of the changes identified in R18-9-220(B)(2); and
4. For expansions not covered by subsections (1), (2), or (3), the BADCT for existing facilities in R18-9-306 shall apply.

ARTICLE 4. AQUIFER PROTECTION PERMITS: GENERAL PERMITS

R18-9-401. General Aquifer Protection Permits Types 1 through 4

A. General Aquifer Protection Permit: Type 1. A person may discharge under a Type 1 General Aquifer Protection Permit and does not have to provide notice of such discharge to the Department provided:

1. The discharge is specifically authorized in this Article by a Type 1 General Aquifer Protection Permit and
2. The discharge complies with applicable requirements of this Article, including specific terms and conditions of the applicable Type 1 General Aquifer Protection Permit.

B. General Aquifer Protection Permit: Type 2. A person may discharge under a Type 2 General Aquifer Protection Permit after filing with the Department a Notice of Intent to Discharge Under a General Aquifer Protection Permit (Type 2) provided all of the following requirements are met:

1. The person submits, either by certified mail, application in person at the Department, or other method approved by the Department, the notice of intent on a form provided by the Department.
2. The discharge meets all of the conditions of a Type 2 General Aquifer Protection Permit established in the Article.
3. The notice of intent includes the following:
   a. Name, address, and telephone number of the applicant.
   b. Name, address, and telephone number of the contact person familiar with the operation of the facility.
   c. Name, position, address, and telephone number of the owner or operator of the facility with overall responsibility for compliance with the permit.
   d. Location of discharge area or areas, specified by county, nearest community, Township, Range, Section, 1/4, 1/4, 1/4, and latitude and longitude coordinates.
   e. A narrative description of the facility or project including expected dates of operation, rate and volume of discharge.
   f. Any submission of information required by the applicable General Aquifer Protection Permit established in this Article.
   g. A listing of any other federal or state environmental permits issued for or needed by the facility, including any individual Aquifer Protection Permit, Groundwater Quality Protection Permit or Notice of Disposal that may have previously authorized the discharge.
   h. A signature on the notice of intent certifying that the permittee agrees to comply with all requirements of this Article, including specific terms and conditions of the applicable General Aquifer Protection Permit.
   i. The applicable permit fee pursuant to R18-14-101 et seq. and this rule.

C. General Aquifer Protection Permit: Type 3.

1. A person may discharge under a Type 3 General Aquifer Protection Permit after filing with the Department a Notice of Intent to Discharge Under a General Aquifer Protection Permit (Type 3) and receiving from the Department a written Verification of General Permit Conformance for the subject discharge.
2. The applicant shall submit the Notice of Intent to Discharge Under a General Aquifer Protection Permit (Type 3) on a form provided by the Department and provide the information specified in R18-9-401(B)(3).
3. After reviewing all required information if the Department determines that the discharge conforms with terms and conditions of a Type 3 General Aquifer Protection Permit and all other applicable requirements of this Article, the Department will issue the Verification of General Permit Conformance within 45 business days of receiving a complete notice of intent.
4. If the Department determines on the basis of its review or an inspection that the discharge will not conform to the terms and conditions of the applicable Type 3 General Aquifer Protection Permit or other applicable requirements of this Article, the Department will notify the applicant of its decision not to issue the Verification of General Permit Conformance. If the Department makes such a determination, the applicant is not authorized to discharge under the

Type 3 General Aquifer Protection Permit. A decision not to issue a Verification of General Permit Conformance is an appealable agency action under A.R.S. §§ 41-1092 through 41-1092.12.

5. If the Department does not issue the Verification of General Permit Conformance within 45 business days and does not notify the applicant that it will not issue the verification, the verification automatically becomes effective after 45 business days.

D. General Aquifer Protection Permit: Type 4.

1. A person may discharge under a Type 4 General Aquifer Protection Permit after filing with the Department a Notice of Intent to Discharge Under a General Aquifer Protection Permit (Type 4) and receiving from the Department a written Provisional Verification of General Permit Conformance prior to facility construction and a written Verification of General Permit Conformance prior to any discharge from the facility.
2. The applicant shall submit the Notice of Intent to Discharge Under a General Aquifer Protection Permit (Type 4) on a form provided by the Department and provide the information specified in R18-9-401(B)(3).
3. After reviewing all required information, including design plans, specifications or other documents, if the Department determines that the discharge conforms with the terms and conditions of a Type 4 General Aquifer Protection Permit and all other applicable requirements of this Article, the Department will issue the Provisional Verification of General Permit Conformance within 45 business days of receiving a complete notice of intent.
4. A person seeking to discharge at a new facility under a Type 4 General Aquifer Protection Permit shall not commence construction of the facility or otherwise prepare the facility for discharge until the Department has provided the written Provisional Verification of General Permit Conformance.
5. If the Department determines on the basis of its review or an inspection that the discharge will not conform to the terms and conditions of the applicable Type 4 General Aquifer Protection Permit or other applicable requirements of this Article, the Department will notify the applicant of its decision and not issue the Provisional Verification of General Permit Conformance or Verification of General Permit Conformance. If the Department makes such a determination, the applicant is not authorized to construct in the case of a Provisional Verification of General Permit Conformance, or discharge in the case of a Verification of General Permit Conformance, under the Type 4 General Aquifer Protection Permit. A decision not to issue a Provisional Verification or Verification of General Permit Conformance is an appealable agency action under A.R.S. §§ 41-1092 through 41-1092.12.
6. Once the Department issues the Provisional Verification of General Permit Conformance, the applicant has two calendar years to complete any construction or other preparations to discharge. If the Department has not received a request to issue the Verification of General Permit Conformance within the prescribed period, the Provisional Verification of General Permit Conformance expires. The applicant is not authorized to discharge or continue construction and shall submit a new notice of intent to begin or continue construction.
7. If the Department does not issue the Provisional Verification of General Permit Conformance within 45 business days and does not notify the applicant that it will not issue the verification, one of the following applies:
   a. The Department shall notify the applicant that it needs more time to complete its review and that it will refund 1/2 the fee submitted with the notice of intent. If the Department provides this notification, the Department may take an additional 45 business days to complete its review and issue the Provisional Verification of General Permit or notify the applicant that it will not issue the provisional verification.
   b. The Provisional Verification and Verification of General Permit Conformance automatically become effective and the discharge is authorized under the general permit.
8. The Department will not provide the written Verification of General Permit Conformance to an onsite wastewater treatment facility or sewage collection system until the requirements of the specific Type 4 General Aquifer Protection Permit and this Article are satisfied. The general permit may require 1 or more of the following:
   a. A final construction inspection conducted by the Department or its designee,
   b. A signed and sealed Engineer's Certificate of Completion, and
   c. Other documentation as required by the Type 4 General Aquifer Protection Permit.

R18-9-402. General permits: Point of Compliance

The point of compliance is the point at which compliance with aquifer water quality standards shall be determined. Except as provided in this subsection or otherwise stated in a specific general permit, the applicable point of compliance at a facility that operates under a general permit established in this Article shall be a vertical plane downgradient of the facility that extends through the uppermost aquifers underlying that facility. The point of compliance is the limit of the pollutant management area. The pollutant management area is the limit projected in the horizontal plane of the area on which pollutants are or will be placed. If the facility is located within a larger pollutant management area established under an individual Aquifer Protection Permit issued to the same person, the applicable point of compliance is the limit of the pollutant management area established in the individual Aquifer Protection Permit.

R18-9-403. General permits: Public Notice

The public notice requirements of this Chapter shall not apply to general permits.

R18-9-404. General permits: Duration

Except where otherwise stated, general permits established under this Article are valid for the life of the facility, including any closure activities required by a specific general permit. For general permits established with a duration of less than the life of the facility, the duration of the permit shall be based on the date of receipt by the Department of the Notice of Intent to Discharge Under a General Permit.

R18-9-405. General permits: Renewal

Except as otherwise provided, general permits established with durations of less than the operational life of the facility shall be renewed at least 90 days prior to the expiration date of the general permit. The application for renewal shall be submitted on a form provided by the Department with any applicable fee following R18-14-101 et seq.

R18-9-406. General permits: Transfer

If a change of ownership occurs for a facility permitted under a Type 2, Type 3 or Type 4 General Aquifer Protection Permit, the permittee shall provide notice of transfer to the Department by certified mail within 15 days following the change of ownership. The notice of transfer shall be submitted with any applicable fee following A.A.C. R18-14-101 et seq. and shall note any changed information on the Notice of Intent to Discharge Under a General Aquifer Protection Permit originally submitted to the Department. The Department may require submittal of further information with the notice of transfer if authorized by the specific general permit. For a facility discharging under a Type 3 or Type 4 General Aquifer Protection Permit, the Department may instruct the permittee to submit a new notice of intent and obtain new Department verifications under R18-9-401 (C) or 401 (D), as applicable, if the Department determines that the volume or characteristics of the discharge have substantially changed.

R18-9-407. General permits: Recordkeeping

If required by the general permit, recordkeeping may include, but is not limited to, the following:

1. Retaining construction drawings and as-built drawings, if available.
2. Keeping a log book or similar documentation to record inspection results, repair and maintenance activities, monitoring results and facility closure.
3. Retaining records for a specific period of time and making them available to the Department on request.

R18-9-408. General permits: Facility Expansion

A. A facility permitted under a Type 2 General Aquifer Protection Permit may be expanded if the permittee provides by certified mail prior to the expansion an updated Notice of Intent to Discharge Under a General Aquifer Protection Permit (Type 2), a certification signed by the facility owner stating that the expansion will continue to meet all the conditions of the applicable general permit, and any applicable fee established by A.A.C. R18-14-101 et seq.

B. A facility permitted under a Type 3 or Type 4 General Aquifer Protection Permit may be expanded contingent on submittal and satisfactory review by the Department of a new Notice of Intent to Discharge Under a General Aquifer Protection Permit (Type 3 or Type 4). The person submitting the notice of intent for the expansion may reference the previous notice of intent submittal where the previous information is identical, but shall provide full and detailed information for any changed items. The notice of intent submittal also shall include any applicable fee established by R18-14-101 et seq. and a certification signed by the facility owner stating that the expansion will continue to meet all of the conditions of the applicable general permit. Upon receiving the notice of intent submittal, the Department will follow review and verification procedures as described in R18-9-401(C) or R18-9-401(D), as applicable.

R18-9-409. General permits: Closure

A. In addition to closure requirement specified in a General Aquifer Protection Permit and any applicable provisions of A.R.S. § 49-252, a facility that operates under an General Aquifer Protection Permit shall:

1. Remove any material that may contribute to a continued discharge.
2. Eliminate, to the greatest degree practicable, any reasonable probability of further discharge from the facility and of exceeding Aquifer Water Quality Standards at the applicable point of compliance.
3. Post closure care or maintenance activities.
4. Submittals of information to the Department relating to the closure.

B. The Department may direct the permittee to perform further closure activities if necessary to ensure protection of the aquifer.

R18-9-410. General permits: Revocation

A. The Department may revoke a person's general Aquifer Protection Permit and may require the person to obtain an individual Aquifer Protection Permit pursuant to A.R.S. § 49-245(B) for any of the following reasons:

1. The person has failed to comply with the terms and conditions of the general permit as described in this Article.
2. The discharge activity conducted under the terms of a general permit causes or contributes to the violation of an aquifer water quality standard at the applicable point of compliance.

B. The Department may revoke general aquifer protection permits for any or all facilities within a specific geographic area if the Department determines that the cumulative discharge of such facilities has violated or will violate an aquifer water quality standard established pursuant to A.R.S. §§ 49-221 and 49-223 due to geologic or hydrologic conditions. For revocations of general permits for onsite wastewater treatment facilities, the Department may, consolidate aquifer protection permits and issue a single individual Aquifer Protection Permit to a political subdivision that has jurisdiction over the area under R18-9-222. In such an area, the Department may order cessation or allow continuation of any or all discharges for the revoked general permits while the Department is processing the application for the single individual Aquifer Protection Permit.

C. The Department shall notify a permittee, by certified mail, of the Department's decision to revoke their general permit.

R18-9-411. General Permits: Fees

The Department may assess and collect fees according to the terms of A.R.S. § 49-242 and R18-14-101 et. seq. for the review, processing, inspection, renewal and transfer of any Type 2, Type 3, and Type 4 General Aquifer Protection Permit. A delegated agency administering any part of this Article under A.R.S. § 49-107 may assess and collect fees provided in R18-14-101 et seq. or establish an alternative fee schedule as allowed by A.R.S. § 49-112.

R18-9-412. General Permits: Technical Capability

The Department may withhold a Verification of General Aquifer Protection Permit Conformance from a person that fails to demonstrate to the Department's satisfaction possession of the technical capability to fully carry out the conditions of the applicable general permit. The Department shall base its determination of a person's technical capability on the information submitted following R18-9-401(B)(3) and the applicable general permit.

R18-9-413. General Permits: Violations; Enforcement

A. Any person who owns or operates an onsite wastewater treatment facility contrary to the provisions of a Type 4 General Aquifer Protection Permit under this Article is subject to the enforcement actions prescribed in A.R.S. § 49-261;

B. The Department may enforce these rules against the permittee or a person who designed, constructed or maintained the onsite wastewater treatment facility if an action of the person caused or contributed to a violation of a term or condition of this Article or the specific Type 4 General Aquifer Protection Permit.

R18-9-414. Type 1 General Permits

A Type 1 General Aquifer Protection Permit is issued for the following:

1. General Permit 1.01: Discharges of wash water from sand and gravel operations, placer mining operations or other similar activities, if only physical processes are employed and no hazardous substances, other than those naturally existing in the sand, gravel or other rock material, have been added or exposed during mining or processing.
2. General Permit 1.02: Discharges from hydrostatic tests of drinking water distribution systems, and of other pipelines not previously used for the transmission of fluids, if all of the following conditions are met:
   a. The quality of the source water does not violate any Aquifer Water Quality Standard.
   b. The discharge is not to a Water of the United States, as defined in 40 CFR 122.2.
   c. The test site is restored to its natural grade.
3. General Permit 1.03: Discharges from hydrostatic tests of pipelines previously used for transmission of fluids, other than those previously used for drinking water distribution systems, if all of the following conditions are met:
   a. All liquid discharged is contained in an impoundment that is lined with flexible geomembrane material having a thickness of at least 10 mils.
   b. The liner material is placed over a layer, at least three inches in thickness, consisting of well-sorted sand or finer grained material, or over an underliner determined by the Department to provide equal or better protection.
   c. Within 60 days after the end of the hydrostatic test, all test waters are evaporated, or removed from the impoundment to a treatment works or landfill approved to accept such material. Other methods for removal of the test waters shall have the prior written approval of the Department.
   d. The liner is removed and disposed of at an approved landfill unless the liner can be reused at another test location without a reduction in integrity.
   e. The test site is restored to its natural grade.
4. General Permit 1.04: Facilities that, for purposes of water quality sampling, hydrologic parameter testing, well development or redevelopment, receive water, drilling fluids or drill cuttings from a well, if the discharge is to the same aquifer in approximately the same location from which the water supply was withdrawn originally.
5. General Permit 1.05: Injection wells, surface impoundments, and leach lines receiving discharge only from filter backwash from potable water treatment systems, condensate from refrigeration units, overflows from evaporative coolers, heat exchange system return water, or swimming pool filter backwash, where the discharge is less than 1,000 gallons per day.
6. General Permit 1.06: Burial of mining industry off road motor vehicle waste tires at the mine site.
7. General Permit 1.07: Dockside facilities and watercraft if the following conditions are met:

a. Docks that service watercraft equipped with toilets shall provide approved sanitary facilities at dockside for the disposal of sewage from watercraft toilets. No wastewater from sinks, showers, laundries, baths and other plumbing fixtures at a dockside facility shall be discharged into waters of the state.
b. Docks that service watercraft shall have, conveniently located thereto, approved type toilet facilities for men and for women.
c. No boat, houseboat, or other type of watercraft shall be equipped with a marine toilet so constructed and operated as to discharge any sewage directly or indirectly into the waters of the state, nor shall any container of sewage be placed, left, discharged, or caused to be placed, left, or discharged in or near any water of the state by any person at any time.
d. Watercraft with marine toilets so constructed as to allow sewage to be discharged directly into the waters of the state shall be locked and sealed to prevent usage. Chemical or other type marine toilets with approved type storage containers shall be permitted where adequate dockside disposal facilities are provided.
e. No bilge water and wastewater from sinks, showers, laundries, baths and other plumbing fixtures on houseboats or other watercraft shall be discharged into waters of the state.

8. General Permit 1.08: Earth pit privies authorized by a county health or environmental department under authority of Arizona Revised Statutes Title 36 or under a delegation following A.R.S. § 49-107.
9. General Permit 1.09: Sewage treatment facilities with flows from 2000 gallons per day to less than 20,000 gallons per day that were operating under a General Aquifer Protection Permit prior to the effective date of Articles 1 through 4 of this Chapter and that do not:
a. Cause or contribute to a violation of a water quality standard;
b. Expand to accommodate increased flows;
c. Treat flows that are not typical sewage;
d. Treat flows from commercial operations using hazardous substances or creating hazardous wastes, as defined in A.R.S. § 49-921(5); or
e. Create any environmental nuisance condition listed in A.R.S. § 49-141.

R18-9-415. General Permit 2.01: Dry Wells That Drain Areas Where Hazardous Substances Are Used, Stored, Loaded or Treated

A. Scope. A Type 2 General Aquifer Protection Permit is established for a dry well that drains an area where hazardous substances are used, stored, loaded, or treated, provided that all of the requirements of R18-9-401(B) and this Section are met.
B. Permit Duration. This general permit shall be valid for a period of 5 years.
C. Additional Notice of Intent Submittal Requirements. In addition to the requirements specified in R18-9-401(B)(3), the applicant shall submit:
1. The Department registration number for the dry well or documentation that a dry well registration form was submitted to the Department, and
2. For a dry well constructed before the effective date of Articles 1 through 4 of this Chapter, a certification by a professional registered with the State of Arizona Board of Technical Registration that previous operation of the dry well has not caused, or created a condition that would cause an exceedance of any Aquifer Water Quality Standard in the groundwater beneath the dry well. The basis for the certification shall, at a minimum, consist of sampling of the settling chamber sediment for pollutants reasonably expected to be present in the sediment. If pollutant concentrations in the sediment do not exceed either Residential Soil Remediation Levels or Groundwater Protection Levels, the certification criterion is met. Otherwise, soil borings or groundwater investigations may be necessary to achieve certification.
3. A copy of the Best Management Practices Plan described in subsection (E)(2).

D. Design Requirements
1. The dry well shall be located no closer than 100 feet from any water supply well and 20 feet from any underground storage tank.
2. The dry well shall be clearly marked “Storm Water Only” on the surface grate or manhole cover.
3. The bottom of the dry well hole shall be located at least 10 feet above the groundwater table. Any zones of perched water above the groundwater table shall be sealed off from the dry well following requirements of the Arizona Department of Water Resources.
4. The dry well design shall include flow control or pretreatment devices, such as interceptors, sumps or other devices and structures to remove, intercept and collect pollutants.

E. Operational Requirements
1. The dry well shall be operated only for the disposal of storm water.
2. A Best Management Practices Plan shall be implemented for operation of the dry well and control of detrimental practices in the dry well drainage area. The Best Management Practices Plan shall be kept on site or at the closest practical place of work and shall be made available to the Department upon request. If the facility already has a Spill Prevention Containment and Control plan, a facility response plan, or a National Pollutant Discharge Elimination

System Storm Water Pollution Prevention Plan that meets the requirements of this subsection, it can substitute for a Best Management Practices Plan. The Best Management Practices Plan shall include:

a. A site plan showing surface drainage patterns and the location of floor drains, water supply and monitor wells, underground storage tanks, and chemical and waste storage, loading and treatment areas. The site plan shall show surface grading details designed to prevent drainage and spills of hazardous substances from leaving the drainage area and entering the dry well.
b. A design plan showing details of dry well design and drainage design including flow control or pretreatment devices, such as interceptors, sumps and other devices and structures designed to remove, intercept and collect pollutants.
c. Procedures to prevent and contain spills and minimize impact to the dry well.
d. Operational practices that include routine inspection and maintenance of the dry well, periodic inspection of waste storage facilities, and proper handling of hazardous substances.
e. Procedures for employee training including periodic spill prevention training for workers that handle hazardous substances.

F. Recordkeeping Requirements. The permittee shall maintain a log book documenting dry well maintenance, inspections, employee training, and sampling activities. The log book shall be maintained as part of the Best Management Practices Plan.

G. Spills: The owner or operator shall notify the Department within 24 hours of any spill of hazardous substances exceeding the applicable reportable quantity established by § 103 of CERCLA (42 U.S.C. § 9603) into the dry well or of any spill of petroleum products exceeding 25 gallons into the dry well.

R18-9-416. General Permit 2.02: Intermediate Stockpiles at Mining Sites

A. Scope: A Type 2 General Aquifer Protection Permit is established for intermediate stockpiles at mining sites not qualifying as inert under A.R.S. § 49-201(19), provided that all the conditions set forth in R18-9-401(B) and this Section are met. For purposes of this general permit:

1. "Mining site" means a site assigned one or more of the following primary Standard Industrial Classification codes: 10, 12, 14, 32 and 33; and includes noncontiguous properties that are owned or operated by the same person and connected by a right-of-way controlled by that person and to which the public is not allowed access.
2. "Intermediate stockpile" means an accumulation of in-process materials that are not intended for long term storage and that are in transit from one process to another at the mining site, but does not include metallic ore concentrate stockpiles not originating at the mining site and feedstocks not originating at the mining site.

B. Permit Duration. This general permit shall be valid for a period of 7 years.

C. Additional Notice of Intent Submittal Requirements. In addition to the requirements specified in R18-9-401(B)(3), the applicant shall submit the design, including construction and operation specifications, the applicant will use to satisfy the requirements of subsection (D)(1).

D. Design and Operational Requirements. The permittee shall comply with the following design and operational requirements:

1. The stockpile shall be designed, constructed and operated not to impound water. Applicants may rely on storm water run-on controls or facility design features such as drains, or a combination of these approaches, to satisfy this criterion.
2. Storm runoff contacting the stockpile shall be directed to a mine pit or a facility covered by an individual or general Aquifer Protection Permit.
3. The permittee shall ensure that any engineered feature designed to aid compliance with this permit shall be maintained in good working condition.
4. The permittee shall visually inspect the features described in subsection (D)(1) at least quarterly. Any defects noted during the inspection shall be repaired as soon as practicable.
5. The permittee shall not add hazardous substances to the stockpiled material.

F. Closure: When intermediate stockpiles covered under this general permit are permanently closed, the permittee shall remove remaining material to the greatest extent practicable and shall regrade the area to prevent impoundment of water. The permittee shall submit a narrative description of closure measures to the Department within 30 days after closure.

R18-9-417. General Permit 2.03: Hydrologic Tracer Studies

A. Scope. A Type 2 General Aquifer Protection Permit is established for discharges caused by the performance of tracer studies conducted at mining sites, provided that all of the conditions set forth in R18-9-401(B) and this Section are met. This permit does not authorize the use in tracer studies of any hazardous substance, radioactive material or any substance identified in A.R.S. § 49-243 (I). For purposes of this general permit:

1. "Mining site" means a site assigned one or more of the following primary Standard Industrial Classification codes: 10, 12, 14, 32 and 33; and includes noncontiguous properties that are owned or operated by the same person and connected by a right-of-way controlled by that person and to which the public is not allowed access.

2. "Tracer study" means a study for the injection or distribution of the tracer with a duration of no more than 6 months for any one test; and
3. "Tracers" are chemicals used to change the characteristics of water, or some other fluid, to confirm hydrogeologic or hydraulic characteristics.

B. Permit Duration. This general permit shall be valid for a period of 2 years. No single tracer test shall have a duration of greater than 6 months or last beyond the expiration date of this general permit.

C. Additional Notice of Intent Submittal Requirements. In addition to the requirements specified in R18-9-401(B)(3), the applicant shall submit:
1. A narrative description of the test that will be performed including the type and amount of tracer that will be used;
2. A Material Safety Data Sheet for the tracer.
3. Unless the injection or distribution is within the capture zone of an established passive containment system meeting the requirements of A.R.S. § 49-243(G), the permittee shall provide the following information:
   a. A narrative description of the impacts that may occur if solutions migrate outside of the test area, including downgradient users if any, anticipated effects, and expected concentrations if possible to calculate.
   b. A description of the monitoring, including types of tests and frequency, that will be performed.

D. Design and Operational Requirements. The permittee shall comply with the following design and operational requirements:
1. Injection into wells inside the capture zone of an established passive containment system meeting the requirements of A.R.S. § 49-243(G), shall not exceed the total depth of the influence of the hydrologic sink.
2. Injection into wells outside the capture zone of an established passive containment system meeting the requirements of A.R.S. § 49-243(G), shall ensure that rock fracture pressures are not exceeded during injection of the tracer.
3. Substances shall not be added to wells that are not compatible with their construction.
4. If the tracers will be placed in, or collected in, an existing impoundment, the tracer shall be compatible with the construction materials of the impoundment.
5. If the tracer is being used outside the capture zone of an established passive containment system meeting the requirements of A.R.S. § 49-243(G), and if less than 85% of the tracer is recovered, any monitor wells hydraulically downgradient of the test site shall be monitored for the tracer for at least 2 years on a quarterly basis. This period may be adjusted with the consent of the Department if the permittee can show that the hydraulic gradient would cause the tracer to reach the monitoring point in a shorter or longer period of time.
6. The tracer shall not leave the mine site in concentrations distinguishable from background water quality.
7. The permittee shall monitor the amount of tracer used and recovered and shall submit a report summarizing the test and results to the Department within 30 calendar days of completion of the test.

E. Recordkeeping Requirements. The permittee shall retain records at the site where the facility is located for a period of 3 years after completion of the test. The permittee shall retain the following records:
1. Test protocols.
2. Material Safety Data Sheet information.
3. Recovery records.
4. A copy of the report submitted to the Department under subsection (D)(7).

F. Closure Requirements. If a tracer was used outside the capture zone of an established passive containment system meeting the requirements of A.R.S. § 49-243(G), the permittee shall account for any tracer not recovered either through attenuation, modeling, or monitoring. Closure may occur immediately following the test, or if the test area is within a pollutant management area defined in an individual Aquifer Protection Permit, at the conclusion of mining.

R18-9-418. General Permit 3.01: Certain Single-Lined Impoundments

A. Scope. A Type 3 General Aquifer Protection Permit is established for a lined surface impoundment and a lined secondary containment structure that meet all of the requirements of R18-9-401(C) and this Section. Inflow to the lined surface impoundment or lined secondary containment structure shall not contain organic pollutants identified in A.R.S. § 49-243(I). Inflow to the lined surface impoundment or lined secondary containment structure may be from one or more of the following sources:
1. Evaporative cooler overflow in excess of 1,000 gallons per day.
2. Wastewater that does not contain a component of sewage, temporarily stored for short periods of time due to process upsets or rainfall events, provided the wastewater is promptly removed from the facility as required under subsection (E)(5). Except as otherwise specified under this rule, facilities that continually contain wastewater as a normal function of facility operations are not eligible for coverage under this general permit.
3. Storm water runoff that cannot be permitted under A.R.S. § 49-245.01 either because the facility does not receive solely storm water or because the runoff is regulated under the Clean Water Act but is not considered storm water under the Act.
4. Emergency fire event water.

5. Wastewater from air pollution control devices at asphalt plants as long as the wastewater is routed through a sedimentation trap or sump and an oil/water separator prior to discharge.
6. Non-contact cooling tower blowdown and non-contact cooling water, except for discharges from electric generating stations greater than 100 megawatts generating capacity.
7. Boiler blowdown.
8. Wastewater derived from a potable water treatment system including clarification sludge, filtration backwash, lime and lime softening sludge, ion exchange backwash, and reverse osmosis spent waste.
9. Wastewater from food washing.
10. Heat exchanger return water in excess of 1,000 gallons per day.
11. Wastewater from industrial laundries.

B. Permit Duration. This general permit shall be valid for a period of 5 years.

C. Additional Notice of Intent Submittal Requirements. In addition to the requirements specified in R18-9-401(B)(3), the applicant shall submit:
1. A listing and description of all sources of inflow.
2. A representative chemical analysis of each expected source of inflow unless a sample is not available prior to facility construction, in which case a chemical analysis of each inflow shall be provided to the Department within 60 days of inflow to the facility.
3. A narrative description of how the conditions of this general permit will be satisfied. This narrative shall include a Quality Assurance/Quality Control program for liner installation, impoundment maintenance and repair, impoundment operational procedures, and a contingency plan that specifies actions to be taken in case of an accidental release from the facility, overtopping of the impoundment or breach of the berm, and unauthorized inflows into the impoundment or containment structure.

D. Design and Installation Requirements.
1. Surface water controls shall be designed as follows:
   a. The impoundment or secondary containment structure shall be designed and constructed to maintain, using design volume or mechanical systems, normal operating volumes (if any) plus any inflow from the 100-year/24-hour storm event. The facility shall be designed to maintain 2 feet of freeboard or an alternative level of freeboard that the applicant demonstrates is reasonable considering the size of the impoundment and meteorologic and other site-specific factors.
   b. Any surface water run-on from the 100-year/24-hour storm event not intended for capture by facility design shall be diverted around the facility.
2. The facility shall accommodate any significant geologic hazards to ensure static and seismic stability. Any such design adjustments for this reason shall be documented in the notice of intent submitted to the Department.
3. Site preparation shall include, as appropriate, clearing the area of vegetation, grubbing, grading and embankment and subgrade preparation. Supporting surface slopes and foundation shall be stable and structurally sound.
4. The following impoundment lining requirements apply:
   a. The liner shall be constructed of at least a 30-mil geomembrane liner or 60-mil liner if HDPE is used, or an alternative and the liner shall achieve a calculated seepage rate of 550 gallons per acre per day.
   b. If a soil liner is used, it shall be selected to resist swelling, shrinkage, and cracking. The soil shall be compacted to a uniform density of 95% to meet ASTM 698-91 (1998), "Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effect (12,400 ft-lbf/ft)" and shall be a minimum of 1 foot thick. Upon installation of the soil liner, it shall be protected immediately to prevent desiccation.
   c. If a geomembrane liner is used, the liner shall be adequately anchored by securing in an engineered anchor trench. If the liner will be regularly exposed to sunlight, the liner shall be ultraviolet resistant.
   d. For new facilities, the permittee shall develop and implement a construction Quality Assurance/Quality Control program that addresses site and subgrade preparation, inspection procedures, field testing, laboratory testing and final inspection after construction of the liner to ensure functional integrity.

E. Operational Requirements.
1. The permittee shall maintain sufficient free board to manage the 100-year/24-hour storm event plus 2 feet of freeboard under normal operating conditions. Management of the 100-year/24-hour storm event may be through design, pumping, or a combination of both.
2. Accumulated residues, sediments, debris and vegetation shall be removed to maintain the integrity of the liner material and as often as necessary to maintain design capacity.
3. A visual inspection for damage to the liner material and for accumulation of residual material shall be performed and documented on at least a monthly basis. The operator shall conduct an inspection within 72 hours after the facility receives a significant volume of storm water inflow.
4. Damage to the liner shall be repaired following the Quality Assurance/Quality Control Plan required under subsection (C)(3).

5. For facilities that are designed to contain inflow only for temporary events such as process upsets, all inflow shall be removed from the impoundment as soon as practicable, not to exceed 60 days.

F. Recordkeeping. The recordkeeping requirements listed in R18-9-407 shall apply, and records shall be kept for 10 years. In addition, the following records shall be kept:
1. Capacity design criteria.
2. List of standard operating procedures.
3. The construction Quality Assurance/Quality Control program required by this Section.
4. Records of any inflow into the impoundment other than those permitted by this Section.

G. Reporting Requirements.
1. If the liner is breached, as evidenced by a drop in water level not attributable to evaporation, or if the impoundment breaches or is overtopped due to a catastrophic or other significant event, the permittee shall report the circumstance to the Department within 5 days of discovery and shall implement the contingency plan required by this Section. The permittee shall submit a final report to the Department within 60 days of the event summarizing the circumstances of the problem and corrective actions taken.
2. The permittee shall report unauthorized flows into the impoundment to the Department within 5 days of discovery and shall implement the contingency plan required by subsection (C)(3).

H. Closure. The permittee shall notify the Department of the intent to permanently close the facility and within 90 days following closure notification comply with the following requirements, as applicable:
1. Remove any solid residue on the liner material and dispose appropriately.
2. Inspect the liner material for evidence of leakage.
3. If evidence of leakage is discovered, remove the liner in the area of suspected leakage and sample potentially impacted soil. If Soil Remediation Levels are exceeded, the permittee shall, within 60 days, notify the Department and submit for the Department's approval an action plan to remedy all impacts.
4. If there is no evidence of leakage, the liner may be covered in place or removed for disposal or reuse if the impoundment is an excavated impoundment. If the impoundment is bermed rather than excavated, the liner shall be removed and disposed elsewhere. In any case, the facility and any remaining liner shall be decommissioned in a manner that prevents impoundment of water.
5. Notify the Department within 60 days following closure that the closure has been completed.

R18-9-419. General Permit 3.02: Certain Process Water Discharges from Water Treatment Plants

A. Scope. A Type 3 General Aquifer Protection Permit is established for filtration backwash and discharges derived from sedimentation and coagulation in the water treatment process from facilities that treat water for industrial process or potable uses provided the requirements of this Article and the following are met:
1. The discharge shall meet all numeric Aquifer Water Quality Standards for inorganic chemicals, organic chemicals, and pesticides established in R18-11-406(B) through (D).
2. The discharge shall meet one of the following criteria for microbiological contaminants:
   a. A fecal coliform limit using the membrane filter technique of 2 colony forming units per 100 ml (7-sample median) and a single-sample maximum limit of 23 colony forming units per 100 ml, or equivalent numbers using the multiple tube fermentation method.
   b. A 7-sample median limit of 200 colony forming units per 100 ml and a single-sample maximum limit of 800 colony forming units per 100 ml for fecal coliform, provided that the average daily flow processed by the water treatment plant is less than 250,000 gallons.

B. Permit Duration. This general permit shall be valid for a period of 5 years.

C. Additional Notice of Intent Submittal Requirements. In addition to the requirements specified in R18-9-401(B)(3), the applicant shall submit the following:
1. A characterization of the discharge, including a representative chemical and biological analysis of expected discharges and all source waters.
2. The design capacity of any impoundment covered by this general permit.

D. Design and Siting Requirements.
1. Depth to the static groundwater table shall be greater than 20 feet.
2. The area of discharge shall not be located immediately above karstic or fractured bedrock.
3. A minimum horizontal setback of 100 feet shall be maintained between the facility and any water supply well.
4. An impoundment used to manage process water discharges shall be designed and constructed to maintain, using design volume or mechanical systems, normal operating volumes (if any) plus any inflow from the 100-year/24-hour storm event or may discharge to surface water under the conditions of a National Pollution Discharge Elimination System permit. The facility shall be designed to maintain 2 feet of freeboard or an alternative level of freeboard that the applicant demonstrates is reasonable considering the size of the impoundment and meteorologic and other site-specific factors. Any surface water run-on from the 100-year/24-hour storm event not intended for capture by facility design shall be diverted around the facility.

5. Off site disposal of sludges shall be managed according to Arizona Revised Statutes, Chapter 4, Article 4.

E. Operational Requirements.

1. The following monitoring for inorganic chemicals, organic chemicals, and pesticides apply:
   a. The permittee shall monitor any discharge annually to determine compliance with the requirements of subsection (A)(1).
   b. If the concentration of any constituent exceeds the numeric Aquifer Water Quality Standard, the permittee shall submit a report to the Department with a proposal for mitigation and shall increase monitoring frequency for that pollutant to quarterly. If the exceedance persists for 2 additional quarters, the permittee shall submit an application for an individual Aquifer Protection Permit.
2. The following monitoring for microbiological contaminants shall apply:
   a. The permittee shall monitor any discharge annually to determine compliance with the requirements of subsection (A)(2).
   b. If the concentration of any constituent exceeds the limits established in subsection (A)(2), the permittee shall submit a report to the Department with a proposal for mitigation and shall increase monitoring frequency for that pollutant to monthly. If the exceedance persists for 3 additional months, the permittee shall submit an application for an individual Aquifer Protection Permit.

F. Additional Recordkeeping Requirements. The recordkeeping requirements listed in R18-9-407 shall apply, and records shall be kept for 10 years. In addition, the following records shall be kept:

1. Water quality data collected pursuant to subsection (E);
2. Standard operating procedures; and
3. Records of any discharge other than that identified by subsection (C).

G. Reporting Requirements. The permittee shall report unauthorized flows into the impoundment to the Department within 5 days of discovery.

R18-9-420. General Permit 3.03: Vehicle and Equipment Washes.

A. Scope. A Type 3 General Aquifer Protection Permit is established for a facility that discharges water from washing of exteriors of vehicles and vehicle equipment provided that the requirements of this Article and all conditions of this Section are met. This general permit does not authorize:

1. Discharge water that typically results from the washing of vehicle engines unless the discharge is to a lined surface impoundment.
2. Direct discharges of sanitary sewage, vehicle lubricating oils, antifreeze, gasoline, paints, varnishes, solvents, pesticides, or fertilizers.
3. Discharges resulting from the washing of the interior of vessels used to transport fuel products or chemicals, or washing of equipment contaminated with fuel products or chemicals.
4. Discharges resulting from the washing of the interior of vehicles used to transport mining concentrates that originate from the same mine site, unless the discharge is to a lined surface impoundment.

B. Permit Duration. This general permit shall be valid for a period of 5 years.

C. Additional Notice of Intent Submittal Requirements. In addition to the requirements specified in R18-9-401(B)(3), the applicant shall submit a narrative description of the facility along with the design of the disposal system and wash operations.

D. Design, Installation and Testing Requirements.

1. The wash pad shall be designed and constructed:
   a. To drain and route wash water to a sump or similar sediment settling structure and to an oil/water separator;
   b. Of concrete or material that is chemically compatible with the wash water and its constituents; and
   c. To support the maximum weight of the vehicle or equipment being washed with an appropriate safety factor.
2. Unlined ditches or natural channels shall not be used to convey wash water.
3. A surface impoundment shall not exceed a maximum depth of 8 feet and shall meet the requirements of R18-9-418(D)(1) and (D)(3). Berms or dikes at the impoundment shall be protected against wave action erosion and adequately compacted to a uniform density of not less than 95%.
4. A surface impoundment liner required for wash water described in subsection (A)(1) shall meet the requirements of R18-9-418(D)(4).
5. If wash water is received by an unlined surface impoundment or engineered subsurface disposal system, the following requirements apply:
   a. The annual daily average flow is less than 3,000 gallons per day.
   b. A minimum horizontal setback of 100 feet is maintained between the impoundment or subsurface disposal system and any water supply well.
   c. The bottom of the surface impoundment or subsurface disposal system is at least 50 feet above the static groundwater level and the intervening material does not consist of karstic or fractured rock.

d. Prior to discharge, the wash water receives primary treatment through, at a minimum, a sump or similar structure for settling of sediments or solids and an oil/water separator designed to reduce oil and grease in the effluent to 15 mg/l or less.
e. Separated oil is withdrawn from the oil/water separator using equipment such as adjustable skimmers, automatic pump out systems, or level sensing systems to signal manual pump out.
f. If a subsurface disposal system is used, the system is designed to prevent surfacing of the wash water.

E. Operational Requirements. Any permittee that operates a facility under this general permit shall ensure that:
1. The oil/water separator is inspected prior to operation to ensure that there are no leaks and that the oil/water separator is in operable condition.
2. The entire facility is inspected at least quarterly. The inspection shall at a minimum consist of a visual examination of the wash pad, the sump or similar structure, the oil/water separator, and all surface impoundments.
3. Each surface impoundment is visually inspected at least monthly to ensure the volume of wash water is maintained within the design capacity and freeboard limitation.
4. Damage to the integrity of the wash pad or impoundment liner is repaired as soon as practicable.
5. The oil/water separator is maintained and accumulated oil/grit periodically removed.
6. Accumulated sediments in all surface impoundments are periodically removed.
7. Best management practices are used to minimize the introduction of chemicals not typically associated with the wash operations. Only biodegradable surfactant or soaps shall be used. Use of products that contain chemicals in concentrations likely to cause a violation of an aquifer water quality standard at the applicable point of compliance is prohibited.

F. Monitoring Requirements. If wash water is discharged to an unlined surface impoundment or other area for subsurface disposal, the permittee shall monitor the wash water quarterly at the point of discharge for pH and for the presence of C10-C32 hydrocarbons by a Department of Health Services certified method. If pH is not between 6.0-9.0 or the concentration of C10-C32 hydrocarbons exceeds 50 mg/l, the permittee shall submit a report to the Department with a proposal for mitigation and shall increase monitoring frequency to monthly. If the exceedance persists for 3 additional months, the permittee shall submit an application for an individual Aquifer Protection Permit.

G. Additional Recordkeeping Requirements. In addition to the recordkeeping requirements listed in R18-9-407, the permittee shall retain the Material Safety Data Sheets for the chemicals used in the wash operations and any required monitoring results.

H. Closure. A permittee shall comply with the provisions of R18-9-418(H) if a liner has been used.

R18-9-421. General Permit 3.04: Non-Storm Water Impoundments at Mining Sites

A. Scope. A Type 3 General Aquifer Protection Permit is established for discharges to lined surface impoundments, lined secondary containment structures, and associated lined conveyance systems at mining sites provided that all the conditions set forth in R18-9-401(C) and this Section are met.
1. For purposes of this general permit:
a. "Mining site" means a site assigned one or more of the following primary Standard Industrial Code: 10, 12, 14, 32 and 33; and includes noncontiguous properties that are owned or operated by the same person and connected by a right-of-way controlled by that person and to which the public is not allowed access.
b. "Process solution" means pregnant leach solution, barren solution, raffinate, and other solutions uniquely associated with the mining or metals recovery process.
2. Discharges may include one or more of the following:
a. Seepage from tailing impoundments, unleached rock piles, or process areas.
b. Process solution, temporarily stored for short periods of time due to process upsets or rainfall events, provided the solutions are promptly removed from the facility as required under R18-9-421(D)(5) of this Section. Facilities that continually contain process solution as a normal function of facility operations are not eligible for coverage under this general permit. If normal process solutions contain pollutants regulated under A.R.S. § 49-243 (I) this general permit may not apply.
c. Storm water runoff that cannot be permitted under A.R.S. § 49-245.01 either because the facility does not receive solely storm water or because the runoff is regulated under the Clean Water Act but is not considered storm water under the Act.
d. Wash water specific to sand and gravel operations that is not covered by R18-9-414(A).

B. Permit Duration. This general permit shall be valid for a period of 5 years.

C. Additional Notice of Intent Submittal Requirements. In addition to the requirements specified by R18-9-401(B)(3), the applicant shall submit:
1. A description of the sources of inflow to the facility. A representative chemical analysis of expected sources of inflow to the facility shall be included unless a sample is not available prior to facility construction, in which case a chemical analysis of solution present in the facility shall be provided to the Department within 90 days of the solution first entering the facility; and

2. Documentation demonstrating that plans have been reviewed by a mining engineer or registered professional engineer prior to submission to the Department.

D. Design, Construction and Installation Requirements. The permittee shall comply with the following requirements:
1. The impoundment or secondary containment structure shall be designed and constructed following R18-9-418(D)(1).
2. Conveyance systems shall be capable of handling the peak flow from the 100-year storm of critical duration.
3. The liner shall be constructed of at least a 30-mil geomembrane liner or 60-mil liner if HDPE is used, or an alternative and the liner shall achieve a calculated seepage rate of 550 gallons per acre per day.
4. The permittee shall develop and implement a Quality Assurance/Quality Control program that meets or exceeds the liner manufacturer's guidelines. The program shall address site and subgrade preparation, inspection procedures, field testing, laboratory testing and repair of seams during installation, and final inspection of the completed liner for functional integrity.
5. If the facility is located in the 100-year flood plain, the facility shall be designed so that it is protected from damage or flooding as a result of 100-year 24-hour peak streamflows.
6. The facility shall be designed and managed so that groundwater does not come into contact with the liner.
7. The facility shall accommodate any significant geologic hazards to ensure static and seismic stability. Any such design adjustments for this reason shall be documented in the notice of intent submitted to the Department.
8. Site preparation shall include, as appropriate, clearing the area of vegetation, grubbing, grading and embankment and subgrade preparation. Supporting surface slopes and foundation shall be stable and structurally sound.
9. Liners be adequately anchored by being secured in an engineered anchor trench. If regularly exposed to sunlight, the liner shall be ultraviolet resistant.
10. Compacted clay subgrade shall be used in areas with shallow groundwater conditions.

E. Operational Requirements. The permittee shall comply with the following operational requirements:
1. The operator shall maintain the freeboard required in R18-9-421(D)(1) through design, pumping, or both.
2. Accumulated residues, sediments, debris and vegetation shall be removed in a manner appropriate to maintain the integrity of the liner and as often as necessary to maintain design capacity.
3. A visual inspection for cracks, tears and perforations and for residual build-up shall be documented on at least a monthly basis. In addition, the operator shall conduct an inspection within a reasonable period of time after the facility receives significant volumes of storm water inflow.
4. Cracks, tears and perforations in the liner shall be reported to the Department, and shall be repaired as soon as practicable, and no later than 60 days, under normal operating conditions, from discovery of the crack, tear or perforation.
5. For facilities that temporarily contain process solution due to process upsets, all process solutions shall be removed from the facility as soon as practicable, and no later than 60 days after cessation of the upset.
6. For facilities that temporarily contain process solution due to rainfall events, all process solutions shall be removed from the facility as soon as practicable.

F. Recordkeeping Requirements. The recordkeeping requirements listed in R18-9-407 shall apply, and records shall be kept for 10 years. In addition, the following records shall be kept at the site where the facility is located:
1. Capacity design criteria;
2. List of standard operating procedures;
3. The Quality Assurance/Quality Control program required under R18-9-421(D)(4).
4. Records of any unauthorized flows into the impoundment.

G. Reporting Requirements.
1. If the liner is breached, as evidenced by a drop in water level not attributable to evaporation, or if the impoundment breaches or is overtopped due to a catastrophic or other significant event, the permittee shall report the circumstance to the Department within 5 days of discovery and shall implement the contingency plan required by this Section. The permittee shall submit a final report to the Department within 60 days of the event summarizing the circumstances of the problem and corrective actions taken.
2. The permittee shall report unauthorized flows into the impoundment to the Department within 5 days of discovery.

H. Closure Requirements. In addition to the closure provisions of R18-9-409 and upon permanent closure of the facility, the permittee shall:
1. Remove any solid residue on the liner;
2. Inspect the liner for evidence of holes, tears or defective seams that could have leaked;
3. If there is no evidence of leakage, the liner may be covered in place or removed for disposal or reuse if the impoundment is an excavated impoundment. If the impoundment is bermed rather than excavated, the liner shall be removed and disposed of elsewhere. In any case, the facility and any remaining liner shall be decommissioned in a manner that prevents impoundment of water.
4. If the inspection of the liner reveals the presence of one or more holes or tears or defective seams, the liner shall be removed and the underlying surface inspected for visual signs of impact. If Soil Remediation Levels are exceeded, the permittee must, within 60 days, notify the Department and submit for the Department's approval an action plan to remedy all impacts.

R18-9-422. General Permit 3.05: Disposal Wetlands

A. Scope. A Type 3 General Aquifer Protection Permit is established for discharges of reclaimed water into constructed or natural wetlands (including waters of the United States, waters of the State, and riparian areas) for disposal provided all of the requirements of R18-9-401(C) and this Section are met. This general permit does not apply if the purpose of the wetlands is to provide treatment. For purposes of this general permit, "A+ reclaimed water" means wastewater that has undergone secondary treatment following R18-9-303(C)(1), filtration, and meets a total nitrogen concentration less than 10 mg/l and fecal coliform limits following R18-9-303(C)(4)(b).

B. Permit Duration. This general permit shall be valid for a period of 5 years.

C. Additional Notice of Intent Submittal Requirements. In addition to the requirements specified in R18-9-401(B)(3), the applicant shall submit the name and individual Aquifer Protection Permit number of the facility providing the reclaimed water.

D. Design Requirements.

1. The reclaimed water released into the wetland shall meet numeric and narrative Aquifer Water Quality Standards for all parameters except for coliform bacteria and shall be Class A+ reclaimed water.
2. A minimum horizontal separation of 100 feet shall be maintained between any water supply well and the maximum wetted area of the wetland.
3. Signs shall be posted at points of access and every 250 feet along the perimeter of the wetland stating, "CAUTION, THESE WETLANDS CONTAIN RECLAIMED WATER. DO NOT DRINK". The signs shall be in English and Spanish, or in English with inclusion of the international "do not drink" symbol.
4. Wetland siting shall be consistent with local zoning and land use requirements.

E. Operational Requirements.

1. The wetland shall be managed to minimize vector problems.
2. The permittee shall submit to the Department and implement a Best Management Practices Plan for operation of the wetland. The Best Management Practices Plan shall include:
   a. A site plan showing the wetland footprint, point of inflow, stormwater drainage and placement of vegetation;
   b. Management of flows into and through the wetland to minimize erosion and damage to vegetation;
   c. Management of visitation and use of the wetlands by the public;
   d. A vector control management plan;
   e. Plans or criteria for enhancement or supplementation of wetland vegetation; and
   f. Management of shallow groundwater conditions on existing onsite wastewater treatment facilities.
3. The permittee shall perform quarterly inspections to review bank integrity, erosion evidence and the condition of signage and vegetation, and shall correct any problems noted.

F. The recordkeeping requirements listed in R18-9-407 shall apply, and records shall be kept for a period of 10 years.

G. Reporting Requirements. The permittee shall annually provide to the Department an assessment of the biological condition of the wetland including the volume of inflow to the wetland in the past year.

R18-9-423. General Permit 3.06: Constructed Wetlands to Treat Acid Rock Drainage at Mining Sites

A. Scope. A Type 3 General Aquifer Protection Permit is established for the operation of constructed wetlands that receive, with the intent to treat, acid rock drainage from a facility closed prior to August 13, 1986, provided that all the conditions set forth in R18-9-401(C) and this Section are met.

B. Permit Duration. This general permit shall be valid for a period of 5 years.

C. Additional Notice of Intent Submittal Requirements. In addition to the requirements specified in R18-9-401(B)(3), the applicant shall submit the design including information on the quality of the influent, the treatment process to be utilized, and the expected quality of the effluent.

D. Design, Construction and Installation Requirements. The permittee shall comply with the following requirements:

1. Water released into and released from the treatment wetland shall meet the following:
   a.Water released into the wetland shall be, at a minimum, compatible with construction materials and vegetation.
   b. Water released from the wetland shall meet numeric Aquifer Water Quality Standards, pH shall be between 6.0 and 9.0, and sulfate concentration shall be less than 1,000 mg/l. Releases from the wetland also shall comply with National Pollution Discharge Elimination System permit limits, as applicable.
   c. Water from the wetland shall be released only under an individual Aquifer Protection Permit and a National Pollution Discharge Elimination System permit, if required.
2. The treatment wetland shall be constructed with a liner using, at a minimum, either low hydraulic conductivity artificial liner material, site-specific liner material, or both, to achieve a calculated discharge rate of less than 550 gallons per acre per day. Where an artificial liner material is used, such as geomembrane, it shall be underlain by a minimum of 6 inches of prepared and compacted subgrade. The liner shall be properly anchored along the perimeter of the wetland. Plant types shall be managed to prevent species with root penetration that will impair liner performance.
3. The treatment wetland shall be properly designed for optimum:
   a. Sizing appropriate for the anticipated treatment;

b. Cell configuration;
c. Vegetative species composition; and
d. Berm configuration.

4. The treatment wetland shall be constructed and located such that it:
   a. Maintains physical integrity during a 100-year, 24-hour storm event.
   b. Operates properly during a 25-year, 24-hour storm event.
5. The bottom of the treatment wetland shall be a minimum of 20 feet above the seasonal high groundwater table.
6. If public access to the wetland is anticipated or encouraged, then signs shall be posted at points of access and every 250 feet along the perimeter of the wetland stating, "CAUTION. THESE WETLANDS CONTAIN MINE DRAINAGE WATER. DO NOT DRINK." Signs shall be in English and Spanish, or in English with inclusion of the international "do not drink" symbol.
7. The wetlands shall comply with zoning and land use requirements.

E. Operational Requirements. The permittee shall comply with the following requirements:

1. Monitor the water leaving the wetlands at least quarterly for the standards in subsection(D)(1). Monitoring shall include nutrients or other constituents used as indicators of wetland performance.
2. The permittee shall submit to the Department and implement a Best Management Practices Plan for operation of the wetland. The Best Management Practices Plan shall include:
   a. A site plan showing the wetland footprint, point of inflow, stormwater drainage and placement of vegetation.
   b. A contingency plan to address problems including, but not limited to, treatment performance, wash-out and vegetation die-off and a plan to apply for an individual Aquifer Protection Permit if the wetland is unable to achieve the treatment standards in subsection (D)(1) on a continued basis.
   c. Management of flows into and through the wetland to minimize erosion and damage to vegetation.
   d. A description of the measures for restricting access to the wetlands by the public.
   e. A management plan for vector control.
   f. Plans or criteria for enhancing or supplementing wetland vegetation.
3. The permittee shall inspect the wetlands no less than quarterly for bank and liner integrity, erosion evidence, the condition of signage and vegetation, and shall correct any problems noted.

F. Recordkeeping. The recordkeeping requirements listed in R18-9-407 shall apply, and records shall kept for 10 years.

G. Reporting Requirements.

1. If preliminary laboratory results indicate that the quality of the water leaving the wetlands does not meet the standards in subsection (D)(1), the permittee may request the laboratory to re-analyze the sample before reporting the results to the Department. Within 5 days of receiving final laboratory results indicating that the quality of the water leaving the wetlands does not meet the standards in subsection (D)(1), the permittee shall notify the Department. Verification sampling shall be conducted within 15 days of receiving final laboratory results indicating that the quality of the water leaving the wetlands does not meet the standards in subsection (D)(1). Verification samples need only be for parameters that are present in concentrations greater than the standards in subsection (D)(1). Within 5 days of receiving the laboratory results from the verification sampling, the permittee shall notify the Department in writing of the results.
2. If the verification sampling confirms that the quality of the water leaving the wetlands does not meet the standards in subsection (D)(1), the permittee shall implement the contingency plan required by subsection (E)(2)(b) and shall notify the Department of the manner in which the plan is being implemented.
3. The permittee shall annually provide to the Department an assessment of the biological condition of the wetland including the volume of inflow to the wetland in the past year.

R18-9-424. General Permit 3.07: Tertiary Treatment Wetlands

A. Scope. A Type 3 General Aquifer Protection Permit is established for constructed wetlands that receive, with the intent to treat, discharges of reclaimed water that meet the requirements of R18-9-303(C)(1), provided that all requirements of R18-9-401(C) and this Section are met.

B. Permit Duration. This permit shall be valid for a period of 5 years.

C. Additional Notice of Intent Submittal Requirements. In addition to the requirements specified in R18-9-401(B)(3), the applicant shall submit:

1. The name and individual Aquifer Protection Permit number of any facility providing the reclaimed water to the wetland.
2. The name and individual Aquifer Protection Permit number of any facility receiving water released from the wetland.
3. The design of the wetland construction and management project including information on the quality of the influent, the treatment process to be utilized, and the expected quality of the effluent.
4. A Best Management Practices Plan that includes:
   a. A site plan showing the wetland footprint, point of inflow, stormwater drainage and placement of vegetation;

b. A contingency plan to address problems including, but not limited to, treatment performance, wash-out and vegetation die-off.
c. A management plan for flows into and through the wetland to minimize erosion and damage to vegetation;
d. A description of the measures for restricting access to the wetlands by the public;
e. A management plan for vector control; and
f. Plans or criteria for enhancing or supplementing wetland vegetation.

D. Design Requirements.
1. Water from the wetland shall be released under an individual Aquifer Protection Permit and a National Pollution Discharge Elimination System permit, if required. Water from the wetland may only be released to a direct use site if the site is permitted to receive reclaimed water of the quality generated under the individual Aquifer Protection Permit in subsection (C)(1).
2. The treatment wetland shall be constructed and located such that it:
   a. Maintains physical integrity during a 100-year, 24-hour storm event.
   b. Operates properly during a 25-year, 24-hour storm event.
3. The bottom of the treatment wetland shall be a minimum of 20 feet above the seasonal high groundwater table.
4. A minimum horizontal separation of 100 feet shall be maintained between any water supply well and the maximum wetted area of the wetland.
5. A minimum 1,000 foot setback shall be maintained between the property boundary at the site and the maximum wetted area of the wetland.
6. The wetland area shall be fenced to prevent unauthorized access.
7. Signs shall be posted at points of access stating "CAUTION. THESE WETLANDS CONTAIN RECLAIMED WATER, DO NOT DRINK." The signs shall be in English and Spanish, or in English with inclusion of the international "do not drink" symbol.
8. The treatment wetland shall be constructed with a liner using, at a minimum, either low hydraulic conductivity artificial liner material, site-specific liner material, or both, to achieve a calculated discharge rate of less than 550 gallons per acre per day. Where an artificial liner material is used, such as geomembrane, it shall be underlain by a minimum of 6 inches of prepared and compacted subgrade. The liner shall be properly anchored along the perimeter of the wetland. Plant types shall be managed to prevent species with root penetration that will impair liner performance.
9. The size and depth of the wetland shall be calculated so that the rate of flow will allow adequate treatment detention time. The wetland shall be designed with at least two parallel treatment cells to allow for efficient system operation and maintenance.
10. The wetland vegetation shall include cattails, bulrush, common reed or other approved species of plants with high pollutant treatment potential.
11. Construction and operation of the wetlands shall be consistent with local zoning and land use requirements.

E. Operational Requirements
1. The permittee shall implement the approved Best Management Practices Plan.
2. The permittee shall monitor effluent leaving the treatment wetland to ensure discharge water quality meets the intended treatment performance in subsection (C)(3). Analyses of effluent samples shall be conducted by a laboratory certified by the Department of Health Services and in following the Department's Quality Assurance/Quality Control requirements.
3. Upon any exceedance of an alert level or discharge limit in the contingency plan required by subsection (C)(4)(b), the permittee shall follow the prescribed measures therein and report to the Department within 5 days of a verified exceedance.
4. The permittee shall inspect the wetlands no less than quarterly for bank and liner integrity, erosion evidence, the condition of signage and vegetation, and shall correct any problems noted.
5. The wetland shall be operated by a properly certified operator.

F. The recordkeeping requirements listed in R18-9-407 shall apply, and records shall be kept for a period of 10 years.

G. Reporting Requirements. The permittee shall annually provide to the Department an assessment of the biological condition of the wetland including the volume of inflow to the wetland in the past year.

R18-9-425. General Permit 4.01: Sewage Collection Systems

A. Scope. A Type 4 General Aquifer Protection Permit is established for a new sewage collection system or an expansion of an existing sewage collection system involving new construction if all applicable conditions of this Article and all conditions in this Section are met. For the purposes of the general permit described in this Section:
1. A sewer collection system includes all sewer lines and associated structures, devices and appurtenances that:
   a. Are owned or controlled by a public or private sewer utility extending from the treatment works to the upstream point in the system where private owners assume ownership or control, or

b. Serve multiple private users from the upstream points where the individual users assume ownership or control to the downstream point where the sewer delivers wastewater to a sewage collection system owned or controlled by a public or private sewer utility or to a sewage treatment facility.

2. A sewer collection system repair is not, in itself, an expansion of the system that would require submittal of a Notice of Intent to Discharge Under a General Permit. Repairs include work performed in response to deterioration of existing structures or equipment that is intended to maintain or restore the system to its original operational characteristics.

B. Performance. A sewage collection system shall achieve, and the design documents and calculations shall be based on:

1. Adequate wastewater flow capacity for the planned service,
2. Minimization of sedimentation, blockage, and erosion through maintenance of proper flow velocities throughout the system,
3. Prevention of sanitary sewer overflows through appropriate sizing, capacities, and inflow and infiltration prevention measures throughout the system,
4. Protection of water quality through minimization of exfiltration losses from the system,
5. Capability for adequate inspection, maintenance, and testing, and
6 Maintenance of system structural integrity**,**

C. Additional Notice of Intent Submittal Requirements. In addition to the requirements described in R18-9-401(B), the applicant shall submit the following information:

1. A statement signed by the owner or operator of the sewage treatment facility that will treat or process the sewage from the proposed sewer collection system.
   a. For a facility operating under an aquifer protection permit, the statement must affirm that the additional volume of wastewater delivered to the facility by the proposed sewer collection system will not cause any flow or effluent quality limits of the permit to be exceeded.
   b. For a facility classified as a groundwater protection permit facility as defined by A.R.S. § 49-241.01(C), the statement must affirm the same, or if no such limits are applicable, that the design flow of the facility will not be exceeded.
2. If the proposed sewage collection system delivers wastewater to a downstream sewer collection system under different ownership or control, a statement signed by the owner or operator of the downstream sewer collection system affirming that the downstream system can properly maintain the performance required by R18-9-425(B) when receiving the increased flows.
3. A general site plan showing the boundaries and key aspects of the project.
4. Construction quality drawings that provide overall details of the site and the engineered works comprising the project including:
   a. Relevant plans and profiles of sewer lines, force mains, manholes and lift stations with sufficient detail to allow Department verification of design and performance characteristics.
   b. Relevant cross sections showing construction details and elevations of key components of the sewer collection system to allow Department verification of design and performance characteristics, including percentage slopes of all gravity sewer segments.
   c. Drainage features and controls, and erosion protection as applicable, for the components of the project.
5. Documentation of design flows for significant components of the sewage collection system and the basis for calculating the design flows.
6. A draft operation and maintenance manual for the project if the project has a design flow of more than 10,000 gallons per day.
7. Drawings, reports and other information that are clear, reproducible and in a size and format specified by the Department. The applicant may additionally submit the drawings in an electronic format approved by the Department.
8. For a project with a fair market value over $12,500, engineering documents required by this Section including plans, drawings, reports and calculations that are signed and sealed by a Professional Engineer registered in Arizona.

D. Design Requirements: General Provisions. The design, installation and testing of a new sewage collection system or an expansion to an existing sewage collection system involving new construction shall comply with the following:

1. Design flows for components of the system shall be based on unit flows specified in *Table 1, Unit Flows for Sewage Flow Design*. If appropriately documented by the applicant, the Department may accept lower unit flow values in the served area due to significant use of low flow fixtures.
2. Unless the Department has approved of alternative design standards or specifications authorized by a delegation agreement under A.R.S. § 49-107, MAG or PC/COT WWM Standard Specifications or Details referenced in this Section shall serve as the applicable design and construction criteria for the purposes of this general permit.
3. Where conditions allow, a system of gravity sewers shall be the preferred way of providing sewage collection. Gravity sewer lines and all other sewer collection system components including force mains, manholes, lift stations and appurtenant devices and structures shall be designed to accommodate maximum sewage flows as follows:
   a. Any point in a sewer main when flowing full shall accommodate an average flow of 100 gallons per capita per day for all populations upstream of that point.

b. Any point in a sewer collection system shall accommodate a peak flow for all populations upstream of that point as tabulated below:

Upstream Population	**Peaking Factor**
100	3.62
200	3.14
300	2.90
400	2.74
500	2.64
600	2.56
700	2.50
800	2.46
900	2.42
1,000	2.38
1,001 to 10,000	$PF = (6.330 \times p^{-0.231}) + 1.094$
10,001 to 100,000	$PF = (6.177 \times p^{-0.233}) + 1.128$
More than 100,000	$PF = (4.500 \times p^{-0.174}) + 0.945$

where PF = Peaking Factor, and
p = Upstream Population

4. Any sewage collection system project which, by itself or as part of a larger sewage collection plan of improvement, exceeds $12,500 in design, materials, and installation value must be designed by a Professional Engineer registered in Arizona. All sewage collection system projects, regardless of value, shall be designed using good engineering judgement following engineering standards of the practice, and shall rely on appropriate engineering methods, calculations and guidance. Strict compliance with the requirements of this Section does not necessarily establish the sufficiency of engineering design, installation or testing. The Department may require a person designing or supervising construction of a sewage collection system project to provide evidence demonstrating competence to perform such work.
5. Sewage collection system components shall be separated from drinking water distribution system components following R18-4-502.

E. Design Requirements: Gravity Sewer Lines

1. Sewer line runs between manholes, if not straight, shall be of constant horizontal curvature with a radius of curvature of not less than 200 feet.
2. At least 3 feet of specified backfill shall cover sewer lines, and construction plans shall include at least 1 note specifying this requirement. Where site-specific limitations prevent 3 feet of earth cover, the maximum cover attainable shall be provided, and the sewer line shall be constructed of ductile iron pipe or other materials of equivalent or greater tensile and compressive strength. If ductile iron pipe is not used, the pipe shall be designed and constructed with restrained joints or equivalent. The design of the pipe and joints shall withstand crushing or shearing from any expected load. Construction plans shall note locations requiring these measures.
3. Where sewer lines cross floodways, they shall be placed at least 2 feet below the 100-year storm scour depth and shall be constructed with ductile iron pipe or in a manner that equivalent tensile strength, compressive strength, shear resistance and scour protection are provided. Sewer lines constructed in this manner shall extend at least 10 feet beyond the extent of 100-year storm scouring. Construction plans shall note locations requiring these measures.
4. Sewer lines shall be 8 inches in diameter or larger except if either of the following apply:
   a. The first 400 feet of a dead end sewer line with no potential for extension may be 6 inches in diameter if the design flow criteria specified in subsection (D)(3) are met. If the line is ever extended, the entire length must be replaced with larger pipe to accommodate the new design flow.
   b. Sewer lines designed for recreational vehicle parks which have sewer systems constructed following the Arizona Uniform Plumbing Code (4 AAC 48, Article 1), Appendix E, shall be a minimum of 4 inches in diameter.
5. Sewer lines shall be designed with at least the minimum slope calculated from Manning's Formula using a coefficient of roughness of 0.013 and a sewage velocity of 2 feet per second when flowing full. A permittee may request a

smaller minimum slope following the procedure provided in R18-9-429(H) if the smaller slope is justified by a program of quarterly or more frequent inspection, flushing and cleaning. In no case shall the slope be less than 50% of that calculated from Manning's formula using a coefficient of roughness of 0.013 and a sewage velocity of 2 feet per second.

6. Sewer lines shall be designed to avoid a slope that creates a sewage velocity greater than 10 feet per second. Any sewer line that carries a flow with a normal velocity of greater than 10 feet per second shall be designed with ductile iron pipe or a material with equivalent erosion resistance, and the receiving manhole or sewer main shall be structurally reinforced.
7. Sewer lines and their connections and fittings shall be designed with materials and constructed following manufacturer's specifications to:
   a. Limit infiltration and exfiltration.
   b. Resist corrosion in the project electrochemical environment.
   c. Withstand anticipated live and dead loads.
   d. Provide internal erosion protection.
8. Sewer lines shall be placed in trenches and bedded following MAG Standard Specification Section 601 or PC/COT WWM Standard Details 104 and 105. The design plans submitted to the Department shall indicate trenching and bedding details applicable for each pipe material and size.
9. The total length of all sewer lines consisting of flexible materials shall be deflection tested following manufacturer's recommendations, and the results shall be recorded.
10. Each segment of the sewer line shall be leakage tested according to the appropriate following method and results recorded:
    a. ASTM F1417-92 (1998), "Standard Test Method for Installation of Acceptance of Plastic Gravity Sewer Lines Using Low-Pressure Air."
    b. ASTM C924-89 (1997), "Standard Practice for Testing Concrete Pipe Sewer Lines for Low-Pressure Air Test Method."
    c. ASTM C828-98, "Standard Test Method for Low-Pressure Air Test of Vitrified Clay Pipe Lines."
11. The total length of the sewer line shall be tested for uniform slope by lamp lighting, remote camera or other suitable method, and the results shall be recorded.

F. Design Requirements: Manholes. Manholes shall be designed, installed and tested as follows:

1. Manholes shall be installed at all grade changes, all size changes, all alignment changes, all sewer intersections, and at any location needed to comply with the spacing requirements in the following table:

Sewer Pipe Diameter (inches)	**Maximum Manhole Spacing (feet)**
4 to less than 8	300
8 to less than 18	500
18 to less than 36	600
36 to less than 60	800
60 or greater	1,300

Note: The Department may allow greater manhole spacing following the procedure provided in R18-9-429(H) if documentation is provided that the operator will possess or have available specialized sewer cleaning equipment suitable for the increased spacing.

2. Manhole design shall be consistent with MAG Standard Details 420, 421, or 422 or PC/COT WWM Standard Details 201 through 211. Manholes shall not be located in areas subject to more than incidental runoff from rain falling in the immediate vicinity unless the manhole cover assembly is designed to restrict or eliminate storm water inflow.
3. Manholes shall be tested following 1 of the following test protocols:
   a. Watertightness testing by filling the manhole with water. The drop in water level shall not exceed 0.001% of total manhole volume in 1 hour.
   b. Air pressure testing by ASTM Standard C1244-93, "Standard Test Method for Concrete Sewer Manholes by Negative Air Pressure."
4. Manhole testing following subsection (F)(3)(b) shall be performed after installation of the manhole cone to verify watertightness of the manhole from the top of the cone on down. Upon satisfactory test results, the manhole ring and any spacers may be installed and joints completed and sealed to a watertight condition. In cases where the manhole cone, spacers and ring can be installed to final grade without disturbance or adjustment by later construction, the testing may be performed from the top of the manhole ring on down.

5. All manholes shall be located to provide, when the manhole and its planned surroundings have been built, clear visibility and adequate vehicular maintenance accessibility.

G. Design Requirements: Force Mains. When impractical to install a gravity sewer line system, a force main may be installed provided it meets the following design, installation and testing requirements:

1. Force mains shall be designed to maintain a minimum flow velocity of 3 feet per second and a maximum flow velocity of 7 feet per second.
2. Force mains shall have the appropriate valves and controls required to prevent drainback to the lift station. If drainback is necessary during cold weather to prevent freezing, the control system may allow either manual or automatic drainback.
3. Force mains shall incorporate air release valves or other appropriate components at all high points along the line to eliminate air accumulation. If engineering calculations provided by the applicant demonstrate that air will not accumulate in a given high point under typical flow conditions, the Department may waive the requirement for an air release valve.
4. Thrust blocks or restrained joints shall be provided where needed to prevent excessive movement of the force main. Construction plans shall show thrust block or restrained joint locations and details. The documentation submitted to the Department for verification of the general permit shall include calculations and analysis of water hammer potential and surge control measures and shall be signed and sealed by a Professional Engineer registered in Arizona.
5. If a force main is proposed to discharge directly to a sewage treatment facility without entering a flow equalization basin, the Notice of Intent to Operate Under a General Permit must include a statement from the owner or operator of the sewage treatment facility that the design is acceptable.
6. Force mains shall be designed to withstand, and upon completion shall be tested for, leakage at a pressure of 50 pounds per square inch or more above the design working pressure.
7. Flow to a force main shall be supplied by a lift station meeting the requirements of subsection (H).

H. Design Requirements: Lift Stations. Lift station design, installation and maintenance shall be as follows:

1. A lift station shall be secured to prevent tampering and shall have affixed on its exterior, or on the nearest vertical object if the lift station is entirely below grade, at least 1 warning sign which includes the 24-hour emergency phone number of the owner or operator of the collection system.
2. Construction of lift stations are prohibited in floodways. Lift stations shall be protected from physical damage from a 100-year flood event.
3. The following criteria for the design of a wet well of a lift station shall apply:
   a. The minimum wet well volume in gallons shall be 1/4 of the product of the minimum pump cycle time, in minutes, and the total pump capacity, in gallons per minute.
   b. The wet well shall be protected against corrosion to provide a minimum 20-year life.
   c. Wet well volume shall not allow the sewage retention time to exceed 30 minutes unless the sewage is aerated, chemicals are added to prevent or eliminate hydrogen sulfide formation or adequate ventilation is provided. If start-up flow is significantly less than the design flow, pump trigger levels shall be adjusted to provide a retention time as close to 30 minutes as possible. Notwithstanding these measures, septic condition of the sewage shall not adversely affect downstream collection system or sewage treatment facility performance.
   d. Excessively high or low levels of sewage in the wet well shall trigger an audible or visual alarm at the wet well site and at the system control center.
   e. Wet wells designed to accommodate more than 5,000 gallons per day shall have a horizontal open cross-sectional area of at least 20 square feet.
4. Lift station wet wells shall be equipped with at least 2 pumps. Pumps shall be capable of passing a 2.5-inch sphere or shall be grinder pumps. The lift station shall be capable of operating at design flow with any 1 pump out of service. Piping, valves and controls shall be arranged to allow independent operation of each pump.
5. Suction pumps shall not be used if the sewage lift is more than 15 feet. Other types of pumps must be self-priming. Pump water brake horsepower shall be at least 0.00025 times the product of the required discharge, in gallons per minute, and the required total dynamic head, in feet.
6. For safety during operation and maintenance, lift stations shall be designed to conform with all applicable state and federal confined space requirements.
7. For lift stations receiving an average flow of more than 10,000 gallons per day, lift station design shall include a standby power source that can be put into service immediately and remain available for 24 hours per day.

I. Additional Requirements for Verification.

1. The Department will issue a Verification of General Permit Conformance only after receiving the following complete and satisfactory submittals:
   a. A signed and sealed Engineer's Certificate of Completion in a format approved by the Department that provides the following:
      i. Confirmation that the project was completed in compliance with the requirements of this Section, either as described in the plans and specifications corresponding to the Provisional Verification of General Permit

Conformance issued by the Department, or with changes that are reflected in as-built plans submitted with the Engineer's Certificate of Completion.

ii. As-built plans, if required, that are properly identified and numbered.

ii. Confirmation of satisfactory test results from deflection, leakage and uniform slope testing.

b. Any other relevant information required by the Department to determine that the facility conforms to the terms of this general permit.

c. If the project has a design flow of more than 10,000 gallons per day, a final operation and maintenance manual which includes the 24-hour emergency number of the owner or operator of the system.

2. The Department may inspect the construction prior to issuing the Verification of General Permit Conformance to determine that the applicable terms of this general permit have been met.

3. The Department may specify in the Verification of General Permit Conformance the permitted design flow of the sewage collection system at the downstream end of the project or at other significant locations and other conditions, if necessary, to ensure that the system will achieve the performance requirements specified in subsection (B).

J. Operation and Maintenance Requirements. The owner or operator of a sewage collection system that includes a force main and lift station or that has a design flow of more than 10,000 gallons per day shall maintain, and revise as needed, an operation and maintenance manual for the system at the system control center. The operation and maintenance plan shall be the basis for operation and continuing maintenance of the sewer collection system.

R18-9-426. Type 4 General Permit: Onsite Wastewater Treatment Facilities, General Provisions

A. General Requirements and Prohibitions.

1. No sewage or wastewater containing a component of sewage shall be discharged from an onsite wastewater treatment facility except under an individual or general Aquifer Protection Permit issued by the Department.

2. No person shall install, allow to be installed, or maintain connections between any part of an onsite wastewater treatment facility and a drinking water system or supply in such manner that sewage or wastewater may find its way into or otherwise contaminate the system or supply.

3. Bypassing of untreated sewage from an onsite wastewater treatment facility is prohibited.

4. The use of a cesspool for sewage disposal is prohibited.

5. The Department may require connection to a sewage collection system if the Department determines such connection to be practical. For the purpose of this provision, a connection is considered practical if the distance to connect to the sewer is less than 400 feet and the cost is less than twice the cost of installing a new onsite wastewater treatment facility of the type authorized by R18-9-432, General Permit 4.02.

6. The Department may prohibit installation of an onsite wastewater treatment facility when such installation would create an unsanitary condition or public health nuisance or cause or contribute to a violation of a water quality standard.

7. The Department shall require servicing or repair of an operating onsite wastewater treatment facility, or installation of a replacement facility when justified, if the facility has created or will create an unsanitary condition or public health nuisance or has caused or will cause a violation of an aquifer water quality standard.

8. A permittee shall operate the permitted onsite wastewater treatment facility so that:

a. Flows to the facility consist of typical sewage and do not include motor oil, gasoline, paints, varnishes, solvents, pesticides, fertilizers, or other materials not generally associated with toilet flushing, food preparation, laundry and personal hygiene. For the purposes of subsection (A)(8)(d), typical sewage is sewage in which the total suspended solids content does not exceed 430 mg/l, the 5-day biochemical oxygen demand does not exceed 380 mg/l and the content of fats, oils and greases does not exceed 75 mg/l.

b. Flows to the facility do not contain hazardous substances or hazardous wastes, as defined in A.R.S. § 49-921(5), from commercial operations.

c. Any typical sewage flows with a component of flow from non-residential food preparation or laundry service are adequately pretreated by an interceptor complying with R18-9-431 or other device authorized by a general permit in this Article or approved by the Department under R18-9-429(H).

d. Any sewage flows which do not meet the numerical levels for typical sewage are adequately pretreated to meet the numerical levels prior to entry into an onsite wastewater treatment facility authorized by this Article.

e. Flow to the facility does not exceed the design flow specified in the Verification of General Permit Conformance.

f. Activities at the site do not adversely affect the operation of the facility.

B. Permit Transfer.

1. With the notice of transfer required by R18-9-406, the permittee shall submit a certification on a form approved by the Department indicating that the onsite wastewater treatment facility was inspected within 6 months prior to the recording of the deed of transfer of the property. The inspection shall be performed by a qualified inspector that possesses working knowledge of the type of facility and the certification process. The certification shall address the condition of the facility and affirm that it was serviced, repaired as necessary, and is in good working condition at the time of inspection. The notice of transfer, certification and any applicable fee shall be sent to the applicable county

health or environmental department and not the Department as instructed in R18-9-406. This requirement does not apply to the first sale of a house or property from a developer or subdivider to the home or property owner.

2. The Department may require a person performing inspections for permit transfers to provide evidence demonstrating competence to perform such work.
3. This subsection shall become effective 1 year after the effective date of this rule.

C. Additional Notice of Intent Submittal Requirements. In addition to the requirements specified in R18-9-401(B)(3), the applicant shall submit the following in a format approved by the Department:

1. A site investigation report that summarizes the results of the site investigation conducted following R18-9-427, including:
   a. Results from any soil evaluation, percolation test or seepage pit performance test.
   b. Any limiting site conditions that were identified by the site investigation required by R18-9-427.
2. A site plan that includes the following:
   a. Parcel or lot number and the boundaries of the property on which the onsite wastewater treatment facility is to be installed.
   b. A plan of the site drawn to scale, dimensioned and with a north arrow that shows:
      i. Proposed and any existing onsite wastewater treatment facilities; dwellings and other buildings; driveways, swimming pools, tennis courts, wells, ponds and any other paved, concrete, or water feature; and cut banks, retaining walls and any other constructed feature that affects proper location, design, construction and operation of the facility.
      ii. Any feature less than 200 feet outside of the property boundary that would constrain the location of the onsite wastewater treatment facility because of setback limitations specified in R18-9-429(C).
      iii. Topography, delineated with an appropriate contour interval, showing original and post-installation grades.
      iv. Location and identification of all sites of percolation testing and soil evaluation performed under R18-9-427.
      v. Location of any public sewer if less than 500 feet and any drinking water well if less than 300 feet from the property line.
   c. For improvements in areas in which occupancy of property may depend on installation of both a drinking water well and an onsite wastewater treatment facility, the location within the boundaries of each adjoining undeveloped property where setback requirements might mutually constrain well, cut bank and onsite wastewater treatment facility locations.
3. The design flow, sources of flow, and characteristics of the sewage. The design flow shall be calculated from a listing included with the site plan that shows all of the applicable sewage unit flows that will contribute to the onsite wastewater treatment facility. This listing shall be based on *Table 1, Unit Flows for Sewage Flow Design* and shall include the number of bedrooms and plumbing fixtures if the facility serves a residence or residences.
4. Construction quality drawings that show the following:
   a. Systems, subsystems and key components including manufacturer's name and model number as applicable.
   b. Title block including facility owner, revision date, space for addition of Department application number, and page numbers.
   c. Plan and profile with the elevations of treatment and disposal components to allow Department verification of hydraulic and performance characteristics.
   d. Cross sections showing construction details and elevations of treatment and disposal components, original and finished grades of the land surface, seasonal high water table if less than 10 feet below the bottom of the disposal works and soil evaluation elevations to allow Department verification of installation design and performance.
   e. Drainage pattern and drainage controls, and erosion protection as applicable, for the facility.
5. A list of materials, components and equipment for constructing the onsite wastewater treatment facility, except a list is not required if the entire facility at the site, including both treatment and disposal works, is permitted under R18-9-432, General Permit 4.02.
6. A draft operation and maintenance plan for the onsite wastewater treatment facility, except such a plan is not required if the entire facility at the site, including both treatment and disposal works, is permitted under R18-9-432, General Permit 4.02.
7. Drawings, reports and other information that are clear, reproducible and in a size and format specified by the Department. The applicant may additionally submit the drawings in an electronic format approved by the Department.
8. Any signatures, certification statements, or registrant's seals, as applicable, required by R18-9-429.

D. Verification of General Permit Conformance. The Department will specify in the Verification of General Permit Conformance the permitted design flow of the facility and characteristics of the wastewater sources.

E. Closure. A person discontinuing use of or wishing to close an onsite wastewater treatment facility, or who is ordered by the Department to close an abandoned facility, shall:

1. Remove all sewage from the facility.
2. Disconnect and remove electrical and mechanical components.

3. Remove or collapse the top of any tank or containment structure. Fill the collapsed tank or containment structure or any cavity resulting from its removal with earth, sand, gravel, concrete or other approved material. Regrade the surface to provide positive drainage.
4. Cut and plug both ends of the abandoned sewer drain pipe between the building and the onsite wastewater treatment facility not more than 5 feet outside of the building foundation if practicable, otherwise cut and plug as near as possible.
5. Notify the applicable county health or environmental department within 30 days of closure.

F. Enforcement

1. Any person who owns or operates an onsite wastewater treatment facility contrary to the requirements of a general permit issued under this Article is subject to the enforcement actions prescribed in A.R.S. § 49-261.
2. The Department may enforce these rules against the permittee or a person who designed, constructed, operated or maintained the facility if an action of that person caused or contributed to a violation of a term of this Article or the specific general permit.

G. Proprietary and Other Reviewed Products.

1. The Department shall maintain a list of proprietary and other reviewed products that may be used for onsite wastewater treatment facilities in order to comply with the requirements of this Article. The list shall include appropriate information on the applicability and limitations of each product.
2. The list of proprietary and other reviewed products may include manufactured systems, subsystems or components within the treatment works and disposal works, provided that the products significantly contribute to the treatment performance of the system or otherwise provide the means to overcome the site limitations for which the system is intended. The Department will not list components that do not significantly affect treatment performance or provide the means to overcome site limitations.
3. A person may request the Department to add a product to the list of proprietary and other reviewed products. The Department may assess fees for product review.
4. The Department may contract for services for any purpose in administering subsection (G).

R18-9-427. Type 4 General Permit: Onsite Wastewater Treatment Facilities, Site Investigation Requirements

A. A site investigation shall be performed at a site at which an onsite wastewater treatment facility is proposed for installation, shall be submitted in a format prescribed by the Department and shall provide sufficient data to achieve the following:

1. Determine if any of the following limiting conditions exist:
   a. Soil absorption rate determined by the requirements of this Article is more than 1.40 gallons per square foot per day.
   b. Soil absorption rate determined by the requirements of this Article is less than 0.20 gallons per square foot per day.
   c. The vertical separation distance from the bottom of the lowest point of the disposal system to the seasonal high water table or nearest limiting subsurface condition is less than the minimum vertical separation specified by R18-9-429(E), or seasonal saturation at the land surface occurs,
   d. The surface slope is greater than 15% at the intended location of the onsite wastewater treatment facility.
   e. Minimum setback distances are not within acceptable limits as specified in R18-9-429(C), and
   f. Subsurface conditions exist which would cause surfacing of wastewater at the design flow rate of the system or provide a direct wastewater conduit to the aquifer.
   g. Surface drainage characteristics at the intended location of the onsite wastewater treatment facility would adversely affect the ability of the facility to function properly.
   h. The property on which the onsite wastewater treatment facility is to be installed would require treatment to reduce nitrogen discharge under R18-9-429(F).
2. Allow selection of an appropriate onsite wastewater treatment facility for the site considering all limiting conditions and site constraints that may exist.
3. Effectively locate, design and install a properly operating onsite wastewater treatment facility to serve the anticipated development at the site, whether or not limiting conditions exist.

B. The site investigation shall include the determination of soil characteristics following 1 or more of the following methods:

1. ASTM D5879-95, "Standard Practice for Surface Site Characterization for Onsite Septic Systems,"
2. ASTM D5921-96, "Standard Practice for Subsurface Site Characterization for Test Pits for Onsite Septic Systems,"
3. ASTM D1452-80 (1995) "Standard Practice for Soil Investigation and Sampling by Auger Borings," when the depth to groundwater may be within the required minimum vertical separation from the bottom of the disposal field,
4. Percolation testing as specified in R18-9-427(F) or seepage pit performance testing as specified in R18-9-427(G), as applicable,

5. Other method or methods of soil evaluation as approved by the Director that will ensure, through proper system location, selection, design, installation and operation, compliance with aquifer water quality standards and use of best available demonstrated control technology, processes, operating methods, or other alternatives.

C. Except as specified in subsection (D), soil evaluation shall be guided by 1 or more of the ASTM methods specified in subsection (B). Such evaluation may be augmented with percolation testing when necessary to locate or design an onsite wastewater treatment facility.

D. Percolation testing or other soil evaluation method or methods may be used instead of the ASTM methods specified in subsection (B) if the Director determines that such testing or other method or methods will provide adequate and credible information to allow proper location, selection, design, installation and operation of the onsite wastewater treatment facility.

E. Percolation testing may not be submitted to the Director as the sole soil evaluation method if any of the following conditions exist:

1. The natural surface slope at the intended location of the onsite wastewater treatment facility, including the disposal field reserve area, is greater than 15 percent,
2. Bedrock or other consolidated formations outcrop within the lot or are known to exist less than 10 feet below land surface,
3. The native soil at the surface or encountered in a boring, trench or hole contains greater than 35% rock fragments greater than 3 inches across,
4. The seasonal high water table is known to occur within 10 feet of the natural land surface, or seasonal saturation at the natural land surface occurs as indicated by soil mottling, vegetation adapted to near-surface saturated soils, springs, seeps or nearby surface water bodies, or well records.

F. Percolation Testing. Percolation testing performed for the purpose of soil evaluation shall be conducted following the procedures described in this subsection. For a septic tank and seepage pit system described in at R18-9-432, General Permit 4.02, seepage pit performance testing shall be conducted following subsection (G).

1. Percolation Testing: Planning and Preparation
   a. The number of sites selected for percolation testing shall be sufficient to provide adequate and credible information to ensure proper location, selection, design and installation of a properly working onsite wastewater treatment facility and reserve drainfield. A minimum of 2 sites shall be selected, 1 in the primary disposal area and 1 in the reserve disposal area.
   b. Percolation testing at each site shall be performed at appropriate depths within the soil profile to help establish the capability of the soil in the primary and reserve disposal areas to absorb effluent, and to help determine the vertical separation necessary to achieve effective effluent treatment in the zone of unsaturated flow below the drainfield system. Percolation tests shall be performed at multiple depths if there is indication of obvious changes in soil characteristics that would appreciably affect the location, selection, design, installation or disposal performance of the onsite wastewater treatment facility. The bottom of the percolation test hole shall be considered the reference elevation and depth for the purpose of recordkeeping.
   c. Percolation test holes shall be excavated in undisturbed soil at least 12 inches deep and shall have a cross section of 12 inches square if square or a diameter of 15 inches if round. The excavation method shall not alter the structure of the soil.
   d. Percolation test holes shall be located away from site or soil features that would yield unrepresentative or misleading data pertaining to the location, selection, design, installation or performance of the onsite wastewater treatment facility.
   e. Smeared soil surfaces within the percolation test holes shall be scarified, and any loosened materials shall be removed from the bottom of the hole.
   f. Buckets with holes in the sides may be used to support the sidewalls of the percolation test hole if necessary. Any voids between the walls of the hole and the bucket shall be filled with pea gravel to reduce the impact of the enlarged hole.
2. Percolation Testing: Presoaking Procedure
   a. The percolation test hole shall be filled to a depth of 12 inches above the bottom of the hole with clean water. Clean water for the purpose of this Section is water that is free of colloidal material or additives which could affect chemical or physical properties.
   b. The decline of the water level in the hole shall be observed, and the time in minutes for the water to completely drain away recorded.
   c. If the time required for the water to drain away is less than 60 minutes, steps 2(a) and 2(b) shall be repeated. If the time required for the water to drain away the second time is less than 60 minutes, steps 2(a) and 2(b) shall be repeated again. If the time for water to drain away is still less than 60 minutes, the percolation test shall be performed following subsection (F)(3).
   d. If the time required for the water to drain away is 60 minutes or greater, clean water shall be added to the hole after 60 minutes and maintained at a minimum depth of 9 inches for at least 4 more hours. The hole shall be pro-

tected from precipitation and runoff for a minimum of 24 hours prior to performing the percolation test following subsection (F)(3).

3. Percolation Testing: Conducting the Test
   a. Any loose materials in the percolation test hole shall be removed to ensure that the specified dimensions of the hole are maintained and the infiltration surfaces are undisturbed native soil.
   b. The test hole shall be filled to a depth of 6 inches above the bottom with clean water.
   c. The decline of the water level in the percolation test hole shall be observed, and the time in minutes for the water level to fall exactly 1 inch from a fixed reference point shall be determined and recorded. The hole shall be immediately refilled with clean water to a depth of 6 inches above the bottom, and the time in minutes for the water level to fall exactly 1 inch shall be determined and recorded. The hole again shall be immediately refilled with clean water to a depth of 6 inches above the bottom, and the time for the water to fall exactly 1 inch shall be determined and recorded. The method used for this procedure shall provide for accurate observation and measurement of the initial water level and the water level decline and shall not significantly affect the percolation rate of the test hole.
   d. If 3 consecutive measurements indicate that the percolation rate results are not approaching a steady rate or if the percolation rate is between 60 and 120 minutes per inch, an alternate method based on a graphical solution of the test data may be used to approximate the final stabilized percolation rate. A stabilized rate is one in which test results are within 10 percent.
   e. The percolation rate results shall be recorded in minutes per inch. The submittal of percolation test results to the Department shall include a log of the soil formations encountered, the percent of rock fragments, the texture, structure, consistence, mottles, depth to groundwater, whether and which test hole was reinforced with a bucket, and locations and depths or elevations of the percolation test holes on the site investigation map.

G. Seepage Pit Performance Testing. For a septic tank and seepage pit system described in R18-9-432, General Permit 4.02, seepage pit performance testing shall be conducted as follows:

1. Seepage Pit Performance Testing: Planning and Preparation
   a. Primary and reserve disposal areas at the site shall be identified. A test hole a minimum of 18 inches in diameter shall be drilled in the primary disposal area to the depth of the bottom of the proposed seepage pit. The minimum hole depth is 30 feet.
   b. Smeared soil surfaces within the test hole shall be scarified, and any loosened materials shall be removed from the bottom of the hole.
2. Seepage Pit Performance Testing: Presoaking Procedure
   a. The bottom 6 inches of the test hole shall be filled with gravel, if necessary, to prevent scouring.
   b. The test hole shall be filled with clear water up to 3 feet below the land surface.
   c. The decline of the water level in the hole shall be observed, and the time in hours and minutes for the water to completely drain away determined.
   d. If the time required for the water to drain away is less than 4 hours, the procedure shall be repeated. If the time for water to drain away the second time is also less than 4 hours, then the seepage pit performance test shall be conducted following subsection (G)(3).
   e. If the time required for the water to drain away is 4 hours or greater, water shall be added to the hole after 4 hours and maintained to a depth that leaves at least the top 3 feet of hole exposed to air for least 4 more hours.
   f. If there is standing water in the hole after a minimum of 16 hours of presoaking, the water shall not be removed from the hole prior to the seepage pit performance test.
3. Seepage Pit Performance Testing: Conducting the Test
   a. The test hole shall be filled with clear water up to 3 feet below land surface.
   b. The decline of the water level in the hole shall be observed, and the vertical distance to the water level from a fixed reference point shall be determined and recorded every 10 minutes. The method used for this procedure shall provide for accurate observation and measurement of the water level decline and shall not significantly affect the rate of fall of the water level in the test hole.
   c. Measurement of the decline of the water level shall continue until 3 consecutive 10-minute measurements indicate that the infiltration rates are within 10 percent. If measurements indicate that infiltration is not approaching a steady rate or if the rate is close to a restrictive limit specified in R18-9-429(E), an alternate method based on a graphical solution of the test data may be used to approximate the final stabilized infiltration rate.
   d. The submittal of the seepage pit performance test results to the Department shall include data, calculations and findings on a form provided by the Department, the log of the test hole, and the location of the test hole on the site investigation map.
   e. If the seepage pit is drilled elsewhere, or if a seepage pit cannot be sited at the location because of unfavorable test results, the test hole shall be filled in such a way that groundwater quality and public safety are not compromised.

H. Soil Evaluation Procedures. If 1 or more of the soil evaluation procedures specified in R18-9-427(B) are used, the following shall apply:
1. The number of test locations selected for soil evaluation shall be sufficient to provide adequate and credible information to ensure proper location, selection, design and installation of a properly working onsite wastewater treatment facility and reserve drainfield. A minimum of 2 test locations shall be selected, 1 in the primary disposal area and 1 in the reserve disposal area.
2. A soil evaluation at each test location shall be performed at appropriate depths within the soil profile to help establish the capability of the soil in the primary and reserve disposal areas to absorb effluent, and to help determine the vertical separation necessary to achieve effective effluent treatment in the zone of unsaturated flow below the drainfield system.
3. Soil evaluations shall not be conducted near site or soil features that would yield unrepresentative or misleading data relating to the location, selection, design, installation or performance of the onsite wastewater treatment facility.
4. A soil evaluation conducted in accordance with this subsection shall include:
   a. Log of soil formations for each test location with information on soil type, texture and classification; percentage of rock; structure; consistence and mottles.
   b. A determination of depth to ground water below land surface by test holes, published groundwater data, subdivision reports or relevant well data.
   c. A determination of the water absorption characteristics of the soil, following R18-9-429(D)(2)(b), sufficient to allow location and design of the onsite wastewater treatment facility.

I. The Department may require a person performing the site investigation described in this Section to provide evidence demonstrating competence to perform such an investigation.

R18-9-428. Type 4 General Permit: Onsite Wastewater Treatment Facilities, Facility Selection Requirements

A. An onsite wastewater treatment facility described in R18-9-432, General Permit 4.02, may be installed at a site if the site investigation conducted pursuant to R18-9-427 indicates that none of the limiting site conditions described in R18-9-427(A) exists at the site, except that a seepage pit may be installed only in valley-fill sediments in a basin-and-range alluvial basin and only if the seepage pit performance test results meet the criteria specified in R18-9-429(E). The fact that no limiting site conditions were identified at the site shall be noted in the Notice of Intent to Discharge Under a General Permit submitted to the Department.

B. The onsite wastewater treatment facility for the site shall be selected, designed and installed to overcome the identified site limitations. Onsite treatment and disposal systems and technologies covered by Type 4 general permits established in this Article may be used alone or in combination to overcome the site limitations. An applicant may submit a single Notice of Intent to Discharge Under a General Permit for a system consisting of components or technologies covered by multiple general permits if the information submittal requirements of all of the general permits are met. The Department will, except in unusual circumstances, issue a single Provisional Verification of General Permit Conformance for the

C. Selection of an onsite wastewater treatment facility shall be appropriate to the site's geographic location, setback limitations, slope, topography, soil classification, wastewater infiltration capability and depth to seasonally high groundwater table or other limiting subsurface condition. An onsite system described in R18-9-432, General Permit 4.02, shall not be used by itself at a site where limiting site conditions are identified.

D. If an onsite wastewater treatment facility described in R18-9-432, General Permit 4.02, is suitable for a site and no limiting site conditions prevent its proper installation and operation, the Department shall not approve a system other than that described in R18-9-432, General Permit 4.02, unless the applicant supplies a statement with the Notice of Intent to Discharge Under a General Permit justifying the use of a system not authorized under R18-9-432.

R18-9-429. Type 4 General Permit: Onsite Wastewater Treatment Facilities, Design and Installation Requirements

A. Qualifications
1. Any person that possesses proficiency in preparing the Notice of Intent to Discharge Under a General Permit and associated design and operation and maintenance documents may locate and design an onsite wastewater treatment facility, except that only a Professional Engineer registered in Arizona may locate and design an onsite wastewater treatment facility if any of the following conditions apply:
   a. The total fair market value of the site investigation, design, materials and installation of the entire onsite wastewater treatment facility, or project if more than a single family residence is served, excluding transportation cost, exceeds $12,500.
   b. The onsite wastewater treatment facility is designed with a liner for containment, is designed for surface irrigation of the treated wastewater, or uses an alternative design, installation or operational feature requiring Department approval under R18-9-429(H).
   c. If the design of the onsite wastewater treatment facility requires an interceptor described in R18-9-431 except if the interceptor is for wastewater with characteristics described in R18-9-426(A)(8)(c).

d. The onsite wastewater treatment facility has a treatment process with disinfection or a disposal component with pressure or programmed dose distribution.

2. The requirement for a Professional Engineer registered in Arizona to locate and design a facility specified in subsection (A)(1)(d) does not apply if the applicant has followed a reference design issued by the Department for the facility.
3. An onsite wastewater treatment facility shall be installed by either the facility owner or, if contracted, by a licensed contractor properly licensed by the Arizona State Registrar of Contractors.
4. The Department may require a person designing or installing an onsite wastewater treatment facility to provide evidence demonstrating compliance with subsections (A)(1) through (A)(3), as applicable, and competence to perform such work.
5. Regardless of qualifications required in this subsection, all onsite wastewater treatment facilities shall be located and designed using good design judgement and shall rely on appropriate design methods, calculations, and guidance. Strict adherence to the procedural and technical specifications of this Article does not necessarily establish the sufficiency of the proposed design and installation.

B. Design Considerations and Flow Determination

1. The timeframe used for design life in designing an onsite wastewater treatment facility should be at least 20 years under normal operation and maintenance.
2. Design flow shall be the basis for sizing and designing an onsite wastewater treatment facility. The Department will not review a notice of intent for a general permit established for a flow of less than 3000 gallons per day if the design flow is 3000 gallons per day or more. The Department will not review a notice of intent for a general permit established for a flow of 3000 gallons per day to less than 24,000 gallons per day if the design flow is 24,000 gallons per day or more.
3. Table 1, Unit Flows for Sewage Flow Design, shall be used for the purpose of determining design flow.

C. Setbacks. Unless otherwise authorized by the specific general permit for the onsite wastewater treatment facility, the following setbacks shall apply:

Feature of Potential Impact	**Setback Distance (feet)**	
	Septic Tank	**Disposal Trench, Bed or Seepage Pit**
Building (1)	10	10
Property line shared with adjoining land ***not served*** by a common drinking water system or an existing well (2)	50	50
All other property lines	5	5
Water supply well (public or private)	100	100
Live Stream (3)	100	100
Lake or Reservoir (4)	100	100

Drinking Water Intake from a Surface Water Source (includes an open water body, downgrade spring and well tapping streamside saturated alluvium)	200	200
Drainage Easement or Wash with drainage area more than 5 acres (5)	50	50
Water Main or Branch Water Line	10	10
Domestic Service Water Line (6)	5	5
Downslope Cut Banks and Culvert and Roadway Ditches (7)	15	15
Driveway (8)	5	5
Swimming Pool (9)	5	5
Easement (except drainage easement)	5	5

Notes:

1. Includes porches, decks and steps (covered or uncovered), breezeways, roofed patios, carports, covered walks and driveways and similar structures and appurtenances.
2. A common drinking water system is a system that currently serves or is under legal obligation to serve the property and may include a drinking water utility, a well sharing agreement or other viable water supply agreement. The setback may be reduced to a minimum of 5 feet if: (a) the owners of any affected undeveloped adjacent properties agree by an appropriate written document to limit the location of any new well on their property to a minimum of 100 feet from the proposed septic tank and primary and reserve disposal field areas and (b) the arrangements and documentation are approved by the Department.
3. Measured from the limit of peak streamflow from a 10-year, 24-hour rainfall event.
4. Measured from the high water line from a 10-year, 24-hour rainfall event at the lake or reservoir.
5. Measured from the nearest edge of the defined natural channel bank or drainage easement whichever is less. Setback may be reduced to 25 feet if natural or constructed erosion protection is approved by the appropriate flood plain administrator.
6. Water line separation from sewer lines shall be as follows:
   a. A water line crossing a sewer line at an angle of 45 to 90 degrees shall be 1 foot above the sewer line.
   b. A water line crossing a sewer line at an angle of less than 45 degrees is not allowed.
   c. A water line that is 1 to 3 feet from a sewer line but does not cross the sewer line shall be 1 foot above the sewer line and may be either on a bench in the same trench or in a separate trench.
   d. A water line that is less than 1 foot from a sewer line but does not cross the sewer line is not allowed.
7. Measured to the top of the cut bank or ditch, or to the nearest sidewall of the culvert. The setback to a disposal trench, bed or seepage pit is 15 feet or 4 times the elevation difference between the finished grade of the disposal trench, bed or seepage pit and the elevation at the cut bank bottom, ditch bottom or culvert invert, whichever is greater, up to 50 feet.
8. Measured to the nearest edge of septic tank excavation. A properly reinforced septic tank and cover may be placed at any location relative to a driveway if access openings, risers, and covers carry the design load and are protected from inflow.
9. Setback may be increased due to soil loading and stability concerns.

D. Soil Absorption Rate (SAR) and Disposal Field Sizing.

1. If soil characterization and percolation test approaches yield different soil absorption rate values or if multiple applications of the same approach yield different values, the designer of the disposal field shall use the most conservative value unless a less conservative value is proposed and justified to the Department's satisfaction in the notice of intent submittal.
2. The maximum soil absorption rate used for the purpose of calculating disposal field size for systems described in R18-9-432, General Permit 4.02, shall be as follows.
   a. Soil Absorption Rate by Percolation Testing as described in R18-9-427(F). The soil absorption rate for shallow and deep disposal fields shall be determined from the results of percolation tests as tabulated below:

Percolation Rate from Percolation Test (minutes per inch)	**SAR, Shallow Disposal Field (gal/day/ft^2)**	**SAR, Deep Disposal Field (gal/day/ft^2)**
Less than 1.00	See Note	See Note
1.00 to less than 3.00	1.40	0.93
3.00	1.10	0.73
4.00	1.00	0.67
5.00	0.90	0.60
7.00	0.75	0.50
10.0	0.63	0.42
15.0	0.50	0.33
20.0	0.44	0.29
25.0	0.40	0.27
30.0	0.36	0.24
35.0	0.33	0.22
40.0	0.31	0.21
45.0	0.29	0.20
50.0	0.28	0.19
55.0	0.27	0.18
55.0+ to 60.0	0.25	0.17
60.0+ to 120	0.20	0.13

Note: A septic tank and disposal field described in R18-9-432, General Permit 4.02, is not allowed due to the high rate of absorption.

b. The maximum soil absorption rate for shallow and deep disposal fields shall be determined from the results of soil evaluation described in R18-9-427(H) and by answering the questions in the following table. The questions are read in sequence starting with "A", and the first "yes" answer determines the maximum soil absorption rate used for the purpose of calculating disposal field size for systems described in R18-9-432, General Permit 4.02:

Sequence of Soil Characteristics Questions	**SAR, Shallow Disposal Field System (gallons per day per square foot)**	**SAR, Deep Disposal Field System (gallons per day per square foot)**
A. Is the horizon gravelly coarse sand or coarser?	0	0
B. Is the structure of the horizon moderate or strongly platy?	0	0
C. Is the texture of the horizon sandy clay loam, clay loam, silty clay loam, or finer and the soil structure weak platy?	0	0
D. Is the moist consistence stronger than firm or any cemented class?	0	0

E. Is the texture sandy clay, clay, or silty clay of high clay content and the structure massive or weak?	0	0
F. Is the texture sandy clay loam, clay loam, silty clay loam, or silty loam and the structure massive?	0	0
G. Is the texture of the horizon loam or sandy loam and the structure massive?	0.20	0.13
H. Is the texture sandy clay, clay or silty clay of low clay content and the structure moderate or strong?	0.20	0.13
I. Is the texture sandy clay loam, clay loam, or silty clay loam and the structure weak?	0.20	0.13
J. Is the texture sandy clay loam, clay loam, or silty clay loam and the structure moderate or strong?	0.40	0.27
K. Is the texture sandy loam, loam, or silty loam and the structure weak?	0.40	0.27
L. Is the texture sandy loam, silt loam and the structure moderate or strong?	0.60	0.40
M. Is the texture fine sand, very fine sand, loamy fine sand, or loamy very fine sand?	0.40	0.27
N. Is the texture loamy sand or sand?	0.80	0.53
O. Is the texture coarse sand?	1.20	0

c. For the purpose of subsections (D)(2)(a) and (D)(2)(b), a shallow disposal field has a maximum depth below finished grade of not more than 5 feet, and a deep disposal field has a depth below finished grade of 5 feet or more.

3. For onsite wastewater treatment facilities described in general permit in this Article other than R18-9-432, General Permit 4.02, the soil absorption rate is dependent on the ability of the facility to reduce the level of TSS and BOD5 and shall be calculated by the following formula:

$$SAR_a = \{ [6.15 (TSS + BOD_5)^{-1/3} - 1.01] SAR^{1.28} + 1 \} SAR$$

where SAR_a is the adjusted soil absorption rate for the purpose of disposal field design in gallons per day per square foot; TSS is the total suspended solids in wastewater delivered to the disposal field in milligrams per liter; BOD_5 is the 5-day biochemical oxygen demand of wastewater delivered to the disposal field in milligrams per liter, and SAR is the soil absorption rate for septic tank wastewater determined by the percolation test or soil evaluation procedure described in R18-9-427.

4. An onsite wastewater treatment facility shall be so designed that a reserve disposal field with an area equivalent to at least 100% of the original disposal field determined by subsections (D)(1) through (D)(3) may be installed if the original disposal field cannot absorb all of the wastewater. No division of the property or construction of structures or improvements on the property shall impair the usefulness of the reserve area.

E. Minimum Vertical Separation

1. The minimum vertical separation from the bottom of the constructed disposal field to the top of the nearest limiting subsurface condition for onsite wastewater treatment facilities described in R18-9-432, General Permit 4.02, is dependent on the soil absorption rate and shall be determined as follows:

Maximum Soil Absorption Rate (gallons per day per square foot)			**Minimum Vertical Separation (feet)**	
Shallow Disposal Field	**Deep Disposal Field**	**Seepage Pit**	**Shallow or Deep Disposal Field**	**Seepage Pit**

1.40+	0.93+	1.40+	Not allowed for septic tank effluent	Not Allowed
0.63+ to 1.40	0.42 to 0.93	0.63+ to 1.40	10	60
0.20 to 0.63	0.13 to 0.42	0.36 to 0.63	5	25
Less than 0.20	Less than 0.13	Less than 0.36	Not allowed for septic tank effluent	Not Allowed

2. For onsite wastewater treatment facilities described in other general permits in this Article, the allowable minimum vertical separation from the bottom of the constructed disposal field to the top of the nearest limiting subsurface condition is dependent on the ability of the facility to reduce the level of harmful microorganisms, expressed as total coliform in units of colony forming units per 100 milliliters (cfu/100 ml) delivered to native soil below the disposal works at least 95% of the time. A treatment works, disposal works, or some combination of the 2 that achieves a treatment level specified in the following table may be used as the basis for determining the corresponding minimum vertical separation:

Total Coliform Concentration, 95th Percentile, Delivered to Natural Soil by the Disposal System (Log10 of coliform concentration in cfu per 100 milliliters)	Minimum Vertical Separation (feet)	
	For SAR*, 0.20 to 0.63	For SAR*, 0.63+ to 1.10
8**	5	10
7	4	8
6	3.5	7
5	3	6
4	2.5	5
3	2	4
2	1.5	3
1	1	2
0***	0	0

* Soil absorption rate from percolation testing or soil characterization, in gallons per square foot per day.

** Nominal value for a standard septic tank and disposal field (108 colony forming units per 100 ml).

*** Nominally free of coliform bacteria.

3. For the purpose of determining the minimum vertical separation, the nearest limiting subsurface condition means a property of the soil or a zone in the subsurface that would either critically restrict or critically and adversely accelerate downward percolation of wastewater. Such a limiting subsurface condition may include, but is not limited to, the seasonal high water table capillary fringe, a substantially impermeable layer of soil or rock, fractured rock, or soil with greater than 50% rock fragments.

F. Nitrogen management

1. Unless allowed by the Director under subsection (F)(4), the Director shall not issue a Provisional Verification of General Permit Conformance for a new onsite wastewater treatment facility unless the facility discharges less than or equal to 0.15 pounds (68.1 grams) of total nitrogen per day per acre to the subsurface from the active treatment zone of the disposal field. For an onsite wastewater treatment facility with a design flow of less than 3000 gallons per day, the nitrogen loading shall be calculated over the area of the property upon which the onsite wastewater treatment facility will be constructed. For an onsite wastewater treatment facility authorized by R18-9-453, General Permit 4.23, with a design flow from 3000 to less than 24,000 gallons per day, the nitrogen loading shall be calculated using 1/2 of the area of the property upon which the onsite wastewater treatment facility will be constructed. A single family residence on a 1-acre lot or larger which will utilize a system authorized by R18-9-432, General Permit 4.02, is considered to comply with this limitation.
2. If the nitrogen loading limitation cannot be met with a system authorized by R18-9-432, General Permit 4.02, the onsite wastewater treatment facility shall be designed with nitrogen removal capability, either in the treatment works or the disposal works or both, to meet the limitation specified in subsection (F)(1). For a single-family residence on a lot less than 1 acre in size, the following equation is provided to allow rapid determination of the required performance level for nitrogen treatment:

   $N = (47.8 \times A) + 5.2$

   where N is the maximum allowable total nitrogen concentration in milligrams per liter in treated wastewater that leaches to native soil below the disposal field, and A is the property size in acres.
3. For the purpose of this Section, an existing onsite wastewater treatment facility consisting of a septic tank with disposal by bed, trench, chamber technology or seepage pit may be replaced by a facility authorized by R18-9-432, General Permit 4.02, unless the Department has prohibited the installation of such a facility or revoked general permits for such facilities on a geographic area basis.
4. Upon a request submitted to the Director under R18-8-429(H), the Director may allow a loading of more than 0.15 pounds per day per acre of total nitrogen to the subsurface if 1 of the following is demonstrated:

a. There is no existing or reasonably foreseeable use of groundwater that might be adversely affected by the discharge,
b. Subsurface hydrogeologic conditions will prevent total nitrogen from the discharge from reaching the aquifer in excess of 0.15 pounds per day per acre. Factors that a person may consider to demonstrate such a condition include, but are not limited to, attenuation, degradation, phase transformation, adsorption, and sequestering.
c. A plan has been approved by the Department showing that on a geographic area basis, such as for a subdivision or a master-planned community with common areas, the total nitrogen discharge aggregated over the development will not exceed an average daily loading of 0.15 pounds per day per acre.
d. The Department has declared for a specific geographic area that a total nitrogen loading of more than 0.15 pounds per day per acre is applicable based on the Department's evaluation that the aggregate discharge within the geographic area will comply with aquifer water quality standards established pursuant to Arizona Revised Statutes, Title 49, Chapter 2. In this case, the requirement for submittal of a request under R18-9-429(H) does not apply and the applicant may indicate the information in the notice of intent.

G. Materials and Manufactured System Components.

1. Materials. Aggregate used in disposal trenches or for other uses in an onsite wastewater treatment facility shall be clean graded hard rock or gravel. Aggregate shall be of uniform size, 3/4 inch to 2-1/2 inches in diameter, and shall offer 30% or more void space. The aggregate shall have a hardness value of 3 or greater on the Moh's Scale of Hardness (can scratch a copper penny). Volcanic rock that meets the above criteria may be substituted for hard rock or gravel. Aggregate and volcanic rock shall be washed or otherwise prepared to be free of fine materials
2. Manufactured Components.
   a. If manufactured components are used, the onsite wastewater treatment facility shall be designed, installed and operated following the manufacturer's specifications or recommendations. The process described in subsection (H) shall be used to propose any deviation that is less stringent than the manufacturer's specifications or recommendations.
   b. Treatment and containment components, mechanical equipment, instrumentation and controls shall have monitoring, inspection, access and cleanout ports or covers, as appropriate, for monitoring and service.
   c. Treatment and containment components, pipe, fittings, pumps, and related components and controls shall be durable, watertight, structurally sound, and capable of withstanding stress from installation and operational service.
   d. Distribution lines for disposal fields shall be constructed of clay tile laid with open joints, perforated clay pipe, perforated high density polyethylene pipe, perforated ABS pipe, or perforated PVC pipe, provided that the pipe is suitable for wastewater disposal use and sufficient openings are available for distribution of the wastewater into the trench or bed area.
3. Electronics components.
   a. Instructions and a wiring diagram shall be mounted on the inside of any control panel cover.
   b. The control panel shall be equipped with an "AUTO-OFF CONT" operation mode switch, red alarm light, buzzer and reset button.
   c. The "AUTO-OFF CONT" operation mode switch shall operate in the "CONT" (continuous) position for normal system operation.
   d. An anomalous condition shall be indicated by a glowing alarm light and sounding buzzer. The continued glowing of the alarm light after pressing the reset button shall signal the need for maintenance or repair of the system at the earliest practical opportunity.

H. Approval of Alternative Design, Installation or Operational Features. At the time a person submits a Notice of Intent to Discharge Under a General Aquifer Protection Permit, the person may request the Department to review and approve a feature of improved or alternative technology, design, installation or operation that differs from a general permit requirement in this Article as follows:

1. The request for an alternative feature of design, installation or operation shall be made on a form provided by the Department and shall include:
   a. A description of the requested change,
   b. The applicable regulatory reference in these rules of the design, installation or operational requirement for which the change is being requested, and
   c. Justification for the requested change including any necessary supporting documentation.
2. A fee shall be submitted for each requested change following R18-14-101 et seq. For the purpose of calculating the fee, a requested change that is applied multiple times in a similar manner throughout the facility is considered a single request if submitted for concurrent review.
3. Each request for change shall provide sufficient information for the Department to determine that the change will achieve equal or better performance compared to the general permit requirement in this Article, or will address site or system conditions more satisfactorily than the requirements of this Article.

4. The Department will review and may approve the request for change. The Department shall deny the request for the change if the change will adversely affect other permittees or cause or contribute to a violation of an aquifer water standard. The Department may deny the request for the change if the change will likely fail to achieve equal or better performance compared to the general permit requirement, likely fail to address site or system conditions more satisfactorily than the general permit requirement, is insufficiently justified based on the information provided in the submittal, would require excessive review time or research or specialized expertise by the Department to act on the request, or for other justifiable cause.

I. An applicant submitting a Notice of Intent to Discharge Under a General Permit for an onsite wastewater treatment facility other than 1 provided by R18-9-432, General Permit 2.01, shall follow applicable requirements of R18-9-432 in the absence of specific requirements in the general permit that is the subject of the notice of intent.

R18-9-430. Type 4 General Permit: Onsite Wastewater Treatment Facilities, Septic Tank Design, Manufacturing and Installation Requirements

A. Septic tanks approved for installation by the Department under this Article shall be:

1. Designed to produce a clarified effluent and provide adequate space for sludge and scum accumulations.
2. Watertight and constructed of solid durable materials that are not subject to excessive corrosion or decay.
3. Manufactured with a minimum of 2 compartments except when 2 separate structures are placed in series. The inlet compartment of any septic tank not placed in series shall be nominally 67 to 75% of the total required capacity of the tank. Septic tanks placed in series will be considered as a unit and must meet the same criteria as a single tank. The liquid depth of the septic tank shall be not less than 42 inches. A septic tank of 1000 gallon capacity shall have a length of at least 8 feet. For septic tanks of greater capacity, the tank length shall be at least 2 times but not more than 3 times the width.
4. Provided with at least 2 access openings to the tank interior at least 20 inches in minimum diameter. One access opening shall be located over the inlet and 1 over the outlet. Whenever a first compartment exceeds 12 feet in length, another access opening shall be provided over the baffle wall. Access opening and risers shall be constructed to ensure accessibility within 6 inches below grade.
5. Manufactured so that the inlet and outlet openings are not less in size than the connecting sewer pipe. The vertical leg of round inlet and outlet fittings shall not be less in size than the connecting sewer pipe nor less than 4 inches. A baffle type fitting shall have the equivalent cross-sectional area of the connecting sewer pipe and not less than 4 inch horizontal dimension when measured at the inlet and outlet pipe inverts.
6. Manufactured so that when installed per the manufacturer's instructions the inlet and outlet pipe or baffle extend 4 inches above and at least 12 inches below the water surface. The invert of the inlet pipe shall be at a level not less than 2 inches above the invert of the outlet pipe.
7. Manufactured so that the inlet and outlet fittings or baffles and compartment partitions have a free vent area equal to the required cross-sectional area of the connected sewer pipe to provide free ventilation above the water surface from the disposal field or seepage pit through the septic tank, house sewer and stack to the outer air.
8. Manufactured so that the side walls extend at least 12 inches above the liquid depth. The cover of the septic tank shall be at least 2 inches above the top of the inlet fitting vent opening.
9. Manufactured so that partitions or baffles between compartments are of solid durable material and extend at least 4 inches above the liquid level. The open area of the baffle shall be between 1 and 2 times the open area of the inlet pipe or for a horizontal slot, shall be no more than 6 inches in height, and shall be located at the midpoint of the liquid level of the baffle. Wooden baffles are prohibited.
10. Structurally designed to withstand all anticipated earth or other loads. All septic tank covers shall be capable of supporting an earth load of 300 pounds per square foot. When the top of the tank is greater than 2 feet below finish grade, the septic tank and cover shall be capable of supporting an additional load of 150 pounds per square foot for each additional foot of cover.
11. Manufactured or installed so that the influent and effluent ends of the tank are clearly and permanently marked on the outside of the tank with the words "INLET" or "IN," and "OUTLET" or "OUT," above or to the right or left of the corresponding openings.
12. Clearly and permanently marked with the manufacturer's name or registered trademark or both, the month and year of manufacture, the maximum recommended depth of earth cover in feet and the design liquid capacity of the tank. The markings shall be adequately protected from corrosion so as to remain permanent and readable for the usable life of the tank.

B. The following requirements shall apply to materials used to construct or manufacture septic tanks:

1. Concrete septic tanks cast in place shall be protected from corrosion by coating with an approved bituminous coating, by construction with a concrete mix incorporating 15 to 18% fly ash, or by other acceptable means. The coating shall extend to at least 4 inches below the wastewater line, and shall cover all of the internal area above that point. Septic tanks cast in place shall comply with American Concrete Institute (ACI) Standards ACI 318-99 (1999), "Building

Code Requirements for Structural Concrete and Commentary" and ACI 350R-89 (1989), "Environmental Engineering Concrete Structures."

2. Steel septic tanks shall have a minimum wall thickness of No. 12 U.S. gauge steel and shall be protected from corrosion, both internally and externally, by an approved bituminous coating or other acceptable means.
3. Prefabricated concrete septic tanks shall comply with ASTM C1227-00, "Standard Specifications for Precast Concrete Septic Tanks." Materials for fiberglass or polyethylene septic tanks shall comply with International Association of Plumbing and Mechanical Officials (IAPMO) PS1-99, "Prefabricated Septic Tanks." If any conflict exists between this Article and ASTM C1227-00 and IAPMO PSI-93, the requirements of this Article shall apply.
4. Septic tanks constructed of alternative materials may be approved by the Department under R18-9-429(H).
5. Tanks constructed of wood, block, and bare steel are prohibited.

C. The design liquid capacity of a septic tank for a particular installation shall be based on the design daily flow to the septic tank as provided in this subsection.

1. For a single residence, the design liquid capacity of a septic tank shall be guided by the following table:

No. of Bedrooms	No. of Occupants	No. of Baths	Maximum Fixture Count	Recommended Septic Tank Size (gallons)	Minimum Septic Tank Size (gallons)
2	4	1-2	18	1000	1000
3	6	1-2	18	1250	1000
4	8	2-3	25	1500	1250
5	10	2-4	32	2000	1500
6	12	3-5	39	2500	2000
7	14	3-5	42	2500	2000

2. For flows from other than a single residence, the recommended design liquid capacity of a septic tank in gallons is 2.1 times the design flow into the tank as determined from *Table 1, Unit Flows for Sewage Flow Design*.
3. Septic tanks may be placed in series to meet septic tank capacity requirements.

D. The following requirements shall apply to the installation of a new or replacement septic tank:

1. Permanent surface markers appropriate to the site shall be provided for locating the septic tank access openings for maintenance.
2. Septic tanks installed under concrete or pavement shall have the required access openings extended to grade in a manner acceptable to the Department.
3. A septic tank effluent filter acceptable to the Department shall be installed on all septic tanks. The filter shall prevent the passage of solids larger than 1/8 inch in diameter while under 2 feet of hydrostatic head. The filter shall be constructed of materials that are resistant to corrosion and erosion and be adequately sized for accommodating hydraulic and organic loading.
4. After installation, a septic tank shall be tested for watertightness by either the water test or the vacuum test and repaired, if needed, to achieve watertightness, except that a watertightness test is not required if the depth to the groundwater table or perched water is more than 60 feet below the bottom of the septic tank and the septic tank is installed in valley-fill sediments in a basin-and-range alluvial basin.
   a. Water test. The tank shall be filled with clean water to the invert of the inlet and water left standing in the tank for 24 hours. After 24 hours, refill the tank to the invert if necessary. Record the initial water level and time. After 1 hour, record the water level and time. The tank shall have passed the watertightness test if the water level dropped less than 1/4 inch. A visible leak of flowing water shall be considered a failure. A damp or wet spot that is not flowing is not considered a failure.
   b. Vacuum test. The empty tank shall be sealed. A vacuum of 2 inches of mercury shall be applied and stabilized. The vacuum shall be monitored for 1 hour and shall drop no more than 0.2 inches of mercury in that time.

R18-9-431. Type 4 General Permit: Onsite Wastewater Treatment Facilities, Interceptor Design, Manufacturing and Installation Requirements

A. Interceptor Requirement. An interceptor required by R18-9-426(A)(8)(c) or otherwise necessary due to excessive amounts of grease, garbage, sand or other wastes in the sewage shall be installed between the sewage source and the onsite wastewater treatment facility. The design and installation of an interceptor shall follow the requirements of this Section.

B. Interceptor Design.

1. Interceptors shall be of a design acceptable to the Department and of not less than 2 compartments. Structural and materials requirements described in R18-9-430 shall apply, as applicable.
2. Interceptors shall be located as close to the source as possible and be accessible for servicing. All necessary access openings for servicing shall be at grade level and be gas-tight.
3. The Department may require installation of a sampling box if necessary for a specific type of waste.
4. Interceptor size for grease and garbage from non-residential kitchens shall be determined by the following equation:

   Interceptor Size (in gallons) = M × F × T × S

   where M is the number of meals per peak hour.
   F is the waste flow rate from *Table 1, Unit Flows for Sewage Flow Design*.
   T is the estimated retention time as follows:
   Commercial kitchen waste, dishwasher or disposal: 2.5 hours
   Single service kitchen, single serving with disposal: 1.5 hours.
   S is the estimated storage factor, as follows:
   Fully equipped commercial kitchen, 8 hour operation: 1.0
   Fully equipped commercial kitchen, 16 hour operation: 2.0
   Fully equipped commercial kitchen, 24 hour operation: 3.0
   Single service kitchen: 1.5.
5. Interceptor size for silt and grease from laundries and laundromats shall be determined by the following equation:
   Interceptor Size (in gallons) = M × C × F × T × S
   where M is the number of machines,
   C is the machine cycles per hour (assume 2)
   F is the waste flow rate from *Table 1, Unit Flows for Sewage Flow Design*,
   T is the estimated retention time (assume 2), and
   S is the estimated storage factor (assume 1.5, which allows for rock filter).
6. An interceptor may be sized using different factor values than those given in subsections (B)(4) and (B)(5) if the values are justified by the applicant in the notice of intent submitted to the Department for the onsite wastewater treatment facility.

C. Interceptor Installation. An interceptor shall be installed following the Arizona Uniform Plumbing Code (4 AAC 48, Article 1), Section 1008.0.

R18-9-432. General Permit 4.02: Onsite Wastewater Treatment Facilities, Septic Tank with Disposal by Trench, Bed, Chamber Technology, or Seepage Pit, Less Than 3000 Gallons Per Day

A. Scope. A Type 4 General Aquifer Protection Permit is established for a system consisting of a septic tank dispensing wastewater to an approved means of disposal described in this Section if all of the applicable requirements of this Article and this Section are met. The standard septic and disposal field design described in this general permit is intended to serve most sites where no site limitations are identified by the site investigation conducted under R18-9-427. When site conditions allow, this general permit authorizes the discharge of wastewater from a septic tank that meets the requirements of R18-9-430 to 1 of the following disposal fields described in this general permit:
1. Shallow trench.
2. Deep trench.
3. Bed
4. Disposal field using chamber technology.
5. Seepage pit.

B. A system consisting of a septic tank and 1 of the approved disposal fields authorized by this general permit shall achieve, and design calculations shall be based upon, release of treated wastewater to the native soil that meets the following criteria:
1. TSS of 75 milligrams per liter, 30-day arithmetic mean.
2. BOD5 of 150 milligrams per liter, 30-day arithmetic mean.
3. Total nitrogen (as nitrogen) of 53 milligrams per liter, 5-month arithmetic mean.
4. Total coliform level of 100,000,000 (Log10 8) colony forming units per 100 milliliters, 95th percentile.

C. Design and Installation Requirements.
1. General Provisions.
   a. The septic tank shall meet all requirements specified in R18-9-430. Only gravity flow of wastewater from the septic tank to the disposal field is authorized by this general permit.
   b. Before placing aggregate or drain lines in a prepared excavation, all smeared or compacted surfaces shall be removed from trenches by raking to a depth of 1 inch and removing loose material. Aggregate shall be placed in the trench to the depth and grade required by this Section. Drain pipe shall be placed on aggregate and covered

with aggregate to the minimum depth required by this Section. The aggregate shall be covered with landscape filter material, geotextile or similar porous material to prevent filling of voids with earth backfill.

c. A grade board stake placed in the trench to the depth of aggregate shall be used when the distribution line is constructed with drain tile or flexible pipe that will not maintain alignment without continuous support.

d. When 2 or more drain lines are installed, a distribution box approved by the Department of sufficient size to receive all lateral lines and flows shall be installed at the head of each disposal field. The inverts of all outlets shall be level and the invert of the inlet shall be at least 1 inch above the outlets. Distribution boxes shall be designed to ensure equal flow and shall be installed on a stable level surface such as a concrete slab or native or compacted soil. Concrete distribution boxes shall be protected from corrosion by coating with an appropriate bituminous coating, by constructing with concrete with a 15 to 18% fly ash content or by other allowable means.

e. All lateral pipes from a distribution box to the disposal field shall be constructed with watertight joints. Multiple disposal field laterals, wherever practical, shall be of uniform length.

f. Pipe connections between the septic tank and a distribution box shall be laid on natural ground or compacted fill and shall be constructed with watertight joints.

g. When necessary on sloping ground to maintain a level disposal pipe, distribution line trenches or beds shall be stepped. The lines between each horizontal section shall be constructed with watertight joints and installed on natural or unfilled ground.

h. A disposal field consisting of trenches, beds, chamber technology or seepage pits shall not be paved over or covered by concrete or any material that can reduce or inhibit possible evaporation of wastewater through the soil to the land surface.

2. Shallow and Deep Trenches.

a. When a shallow or deep trench disposal field is installed, a minimum of 150 square feet of trench bottom shall be provided for each system exclusive of any hard pan, clay or other unacceptable material. Sidewall area more than the required 12 inches and not more than 36 inches below the distribution line may be added to the trench bottom when computing absorption areas.

b. Trench bottoms shall be level. Trench sizing for shallow and deep trenches shall be calculated from the soil absorption rate as specified by R18-429(D).

c. The following design criteria for shallow and deep trenches shall apply:

Shallow and Deep Trenches	**Minimum**	**Maximum**
Number of trenches	1 (2 are recommended)	---
Length of trench	---	100 feet
Bottom width of trench	12 inches	36 inches
Depth of cover over distribution pipe	9 inches	24 inches1
Aggregate material under pipe	12 inches	---
Aggregate material over pipe	2 inches	2 inches
Slope of distribution pipe	Level	Level
Distribution pipe diameter	3 inches	4 inches
Spacing of distribution pipe	2 times effective depth2 or 5 feet, whichever is greater	___

Notes:

1. For more than 24 inches, SDR 35 or equivalent strength pipe is required.

2. The distance between the bottom of the distribution pipe and the bottom of the trench bed.

3. Beds.

a. When a bed is installed instead of a trench, the area of each bed shall be at least 50% greater than the tabular dimensions required for a trench. Perimeter sidewall area more than the required 12 inches and not more than 36 inches below the distribution line may be added to the bed bottom when computing absorption areas.

b. The bottom of a bed shall be level. Bed sizing shall be calculated from the soil absorption rate as specified by R18-429(D).

c. The following design criteria for beds shall apply:

Gravity Beds	**Minimum**	**Maximum**
Number of distribution pipes	2	---
Length of bed	---	100 feet
Distance between pipes	4 feet	6 feet
Width of bed	10 feet	12 feet
Distance from pipe to sidewall	3 feet	3 feet
Depth of cover over pipe	9 inches	14 inches
Aggregate material under pipe	12 inches	---
Aggregate material over pipe	2 inches	2 inches
Slope of distribution pipe	Level	Level
Distribution pipe diameter	3 inches	4 inches

4. Disposal Field Using Chamber Technology.
   a. When leaching chambers are proposed instead of trenches or beds installed with distribution pipes, an equivalent effective chamber absorption area shall be calculated for the purpose of sizing the disposal field area and the number of chambers needed. The effective absorption area of each chamber is calculated as follows:

      $A = (1.43 \times B) + (2 \times V \times L)$

      where A is the effective absorption area of each chamber,
      B is the nominal open bottom absorption area of the chamber,
      V is the vertical height of the chamber sidewall, and
      L is the length of the chamber

      The disposal field size and number of chambers needed shall be calculated from the effective absorption area of each chamber and the soil absorption rates specified in R18-9-429(D), taking care to use the appropriate value depending on whether the proposed chamber installation is shallow or deep. Example calculations for effective chamber absorption area, disposal field size and number of required chambers are on file with the Department.
   b. The sidewall of the chamber must provide a minimum of 35% open area for sidewall credit to be allowed, and shall be constructed so as to minimize the movement of fines into the chamber area. The use of filter fabric or geotextile against the sidewall openings is prohibited.
5. Seepage Pits.
   a. If allowed by R18-9-428, a seepage pit shall be designed to comply with the table specified in R18-429(E) for minimum vertical separation distance.
   b. Multiple seepage pit installations shall be served through a distribution box approved by the Department or be connected in series by way of a water tight connection laid on undisturbed or compacted soil. The outlet from the pit shall have a sanitary tee with the vertical leg extending at least 12 inches below the inlet.
   c. Each seepage pit shall be circular in shape and shall have an excavated diameter of between 4 and 6 feet. The applicant may use the alternative design procedure specified in R18-9-429(H) for a proposed seepage pit more than 6 feet in diameter.
   d. For a gravel filled seepage pit, the entire pit shall be backfilled with aggregate. Each pit shall have a breather conductor pipe, which shall consist of a perforated pipe at least 4 inches in diameter, placed vertically within the backfill of the pit. The pipe shall extend from the bottom of the pit to several inches below ground level.
   e. For a lined, hollow seepage pit, a concrete liner or liner of a different approved material shall be laid in the pit on a firm foundation. Excavation voids behind the liner shall be filled with a minimum of 9 inches of aggregate.
   f. The cover of a lined seepage pit shall be constructed of an approved 1 or 2 piece reinforced concrete slab achieving a minimum compressive strength of 2500 pounds per square inch. The cover shall be at least 5 inches thick and designed to support an earth load of at least 400 pounds per square foot. The cover shall have a 12 inch square or diameter minimum access hole with plug or cap and shall be coated on the underside with an approved bituminous seal or constructed of concrete with 15 to 18% fly ash content or other nonpermeable protective material. The cover shall have a 4 inch or larger inspection pipe placed vertically to within several inches below ground level.

g. The top of the seepage pit cover shall be from 4 to 18 inches below the surface of the ground.
h. A vented inlet fitting shall be installed in every seepage pit so as to prevent flows into the seepage pit from damaging the sidewall, except that:
   i. For a 1 or 2 piece concrete slab cover inlet, the fitting may be a 1/4 bend fitting placed through an opening in the top of the slab cover, or
   ii. For multiple seepage pit installations, the outlet fittings shall be installed following a reference design drawing on file with the Department.
i. Seepage pits shall be bored 5 feet deeper than the proposed pit depth to verify underlying soil characteristics. The 5 feet of overdrill shall be backfilled with low permeability drill cuttings or other suitable material.
j. Seepage pits that terminate in gravelly, coarse sand zones shall be backfilled 5 feet above the beginning of such a zone with low permeability drill cuttings or other suitable material.
k. The effective absorption surface for a seepage pit is the sidewall area only. The minimum sidewall area for a seepage pit may be determined from the design flow and the soil absorption rate derived from the testing procedure described in R18-9-427(G). The sidewall area is calculated by the following formula:

$$A = 0.785 \times D \times H$$

where A is the minimum sidewall area in square feet needed for the design flow and soil absorption rate for the installation,
D is the diameter of the proposed seepage pit in feet, and
H is the vertical height in feet in the seepage pit over which wastewater will infiltrate into native soil, which must be at least 10 feet for any seepage pit.

R18-9-433. General Permit 4.03: Onsite Wastewater Treatment Facilities, Composting Toilet, Less Than 3000 Gallons Per Day

A. Scope. A Type 4 General Aquifer Protection Permit is established for a composting toilet. A composting toilet is a treatment technology that receives human waste from a waterless toilet directly into an aerobic composting tank where dehydration and biological activity reduce the volume and the content of nutrients and harmful microorganisms to an appropriate level for later disposal at the site or elsewhere. A composting toilet system is used in conjunction with a wastewater system or gray water system to accommodate wastewater that is not from toilets. Composting toilets are considered where limited water availability prevents use of other types of onsite wastewater treatment facilities, where environmental constraints prevent the discharge of wastewater or nutrients to a sensitive area, where inadequate space prevents use other systems or where such severe site limitations exist that most other forms of treatment and disposal are unacceptable.

B. Restrictions. Unless design documentation is submitted to show otherwise, a composting toilet shall not be installed if the composting chamber temperature cannot be maintained between 60°F and 70°F or any 7 day average is less than 55°F or greater than 80°F.

C. Performance. A composting toilet shall achieve, and design calculations shall be based on:
1. The prevention of discharge of blackwater to the native soil by way of containment in the composting toilet system.
2. Gray water use that complies with Department rules for reclaimed water promulgated under A.R.S. § 49-203(A)(6).
3. Prevention of vectors.

D. Additional Notice of Intent Submittal Requirements. In addition to the requirements specified in R18-9-401(B)(3) and R18-9-426(C), the applicant shall submit:
1. Name and address of the composting toilet system manufacturer.
2. A copy of the manufacturer's warranty, installation and operation and maintenance manuals.
3. Product model number.
4. Rate of composting and capacity calculations.
5. Documentation of listing by a national listing organization that the composting toilet meets the stated manufacturer's specifications for loading, treatment performance and operation.
6. Method of vector control.
7. Calculation of waste volume and needed disposal area.
8. A plan describing the method of compost disposal and showing the compost disposal area.

E. Design Requirements.
1. The composting tank shall be double-walled for leak protection.
2. The composting tank shall have airtight seals to prevent odor or toxic gas from escaping into the building. The system may be vented to the outside.
3. Rate of composting and capacity calculations shall be based on the lowest monthly average tank temperature, unless a temperature control device is to be installed.

4. The capacity of the composting shall provide adequate storage for all waste produced during the months when the average temperature is below 55°F, if the manufacturer allows operation at this temperature, unless a temperature control device is to be installed.
5. If the composted product at the end of the treatment process is to be disposed on the property, the disposal area for burial area shall comply with the following:
   a. The area shall be no less than twice the area needed to spread 1 year's anticipated production of compost to a depth of 12 inches.
   b. The area shall have a slope 15% or less.
   c. The area shall not be subject to erosion, lie within a 15-year floodplain or have less than 5 feet of vertical separation from the seasonal high water table or limiting subsurface condition.
   d. The area shall be protected from disturbance by horse, bicycle or vehicular traffic, cultivation, excavation or other adverse activity.
   e. Adequate native soil shall be available to cover the composted product with at least 6 inches of sand or native soil.
   f. The disposal area shall be divided into 2 equal areas, and their use rotated yearly to allow the buried composted product to remain for a minimum of 1 year.

F. Operation and Maintenance Requirements.
1. Adequate mixing, ventilation, temperature control, moisture and bulk shall be provided to reduce fire hazard and prevent anaerobic conditions.
2. Use of organic bulking agent to control liquid drainage, promote aeration or provide additional carbon shall follow the manufacturer's recommendations.
3. If rotating tines are used to control the movement of material to the bottom, operation, maintenance and recordkeeping shall follow the manufacturer's recommendations.
4. If batch system containers are mounted on a carousel, a new container shall be positioned into the toilet area when the previous 1 is full.
5. Only human waste, paper approved for septic tank use and the amount of bulking material required for proper maintenance shall be introduced to the composting tank. All other materials or trash shall immediately be removed. If allowed by the manufacturer's specifications, other nonliquid compostable residues may be added to the toilet such as fruit and vegetable peels.
6. Liquid end product that does not evaporate shall either be sprayed back onto the composting waste material or removed by a properly permitted or licensed waste hauler.
7. Composted product shall be removed at least annually and disposed by a properly permitted or licensed waste hauler if not placed in a disposal area for burial as specified in this Section.
8. Before ending use for an extended period, measures shall be taken to assure appropriate moisture is maintained to sustain bacterial activity and that free liquids in the tank do not freeze.
9. After an extended period of non-use, the composting tank shall be emptied of solid end product and all mechanical components inspected to assure they are operating as designed.

R18-9-434. General Permit 4.04: Onsite Wastewater Treatment Facilities, Pressure Distribution System, Less Than 3000 Gallons Per Day

A. Scope. A Type 4 General Aquifer Protection Permit is established for pressurized distribution of wastewater treated to a level equal to or better than that provided by a septic tank. A pressure distribution system consists of a tank, pump, controls and piping that conduct the wastewater under pressure in controlled amounts and intervals to a disposal field, bed, trench or other means of disposal authorized by a general permit in this Article for an onsite wastewater treatment facility. Pressure distribution systems are considered when a gravity flow system is unsuitable, inadequate, unfeasible, or cost prohibitive because of site limitations or other conditions. Pressure distribution systems are often the only way to optimally disperse wastewater to some types of disposal systems.

B. Performance. A pressure distribution system shall achieve, and design calculations shall be based on:
1. Sprinkler, bubbler heads or other approved dispersing components that provide proper dispersal of wastewater so that loading rates are optimized for the particular system.
2. The prevention of ponding on the land surface.

C. Additional Notice of Intent Submittal Requirements. In addition to the requirements specified in R18-9-401(B)(3) and R18-9-426(C), the applicant shall submit:
1. Copies of operation and maintenance and warranty materials for the principal components.
2. Copies of dosing specifications including pump curves, dispersing component curves and float switch settings.

D. Design Requirements.
1. Pumps shall meet the following specifications:
   a. Be rated for effluent service by the manufacturer and listed by Underwriters Laboratories.
   b. Achieve the minimum design flow rate and total dynamic head requirements for the particular site.

c. Incorporate a quick disconnect using compression-type unions for pressure connections. Quick-disconnects shall be accessible in the pressure piping. The pump shall have adequate lift attachments for removal and replacement of the pump and switch assembly without entering the dosing tank.

2. Switches, controls, alarms, and electrical components shall comply with the following:
   a. Switches and controls shall accommodate the minimum and maximum dose capacities of the distribution network design. Pressure diaphragm level control switches are prohibited.
   b. Controls designed for failsafe treatment or flow equalization functions shall be field-tested to assure compliance with the design and operation specifications. Counters or flow meters shall be included where critical to control functions such as timed dosing.
   c. Control panels and alarms shall be mounted in an exterior location visible from the dwelling, shall provide manual pump switch and alarm test features, and shall include written instructions covering standard operation and alarm events.
   d. Audible and visual alarms in compliance with section 5.8.2. of American National Standards Institute/National Sanitation Foundation Standard 40-1999, "Residential Wastewater Treatment Systems", are required for all critical control functions such as pump failures, treatment failures, and excess flows. Alarms, test features, and controls shall be on a non-dedicated electrical circuit associated with a frequently used household lighting fixture and separate from the dedicated circuit for the pump.
   e. All electrical wiring shall comply with the 1999 National Electric Code published by the National Fire Protection Association. Connections shall be made in National Electrical Manufacturers Association (NEMA) 4x junction boxes listed by Underwriters Laboratories. All controls shall be in NEMA 3r, 4, or 4x enclosures for outdoor use.
   f. Sufficient void volume above the normal high wastewater operating level shall be provided to contain all wastewater accumulated at the daily design flow rate by a 24-hour power outage or pump malfunction.
3. Dosing tanks shall be watertight, anti-buoyant and designed to comply with the following:
   a. Dosing tanks shall withstand anticipated internal and external loads, and concrete tanks shall meet ASTM C913-98, "Standard Specifications for Precast Concrete Water and Wastewater Structures."
   b. Dosing tanks shall be easily accessible and have secured covers.
   c. Risers shall be installed to provide access to the inlet and outlet of the tank and to service internal components.
   d. The volume of the dosing tank shall accommodate bottom depth below maximum drawdown, maximum design dose including any drainback, volume to high water alarm, and a reserve volume above the high water alarm level that is not less than the daily design flow volume. If the tank is time dosed, the combined surge capacity and reserve volume above the high water alarm shall not be less than the daily design flow volume.
   e. A septic tank second compartment or a second septic tank in series may be used as a dosing tank if all dosing tank requirements of this Section are met and a screened vault is used instead of the septic tank effluent filter.

E. Installation Requirements.
1. Switches, controls, alarms, and electrical components shall be installed in a manner easily accessible for routine monitoring and maintenance.
2. Berms around the disposal area shall be adequate to retain wastewater and rainwater from a 10 year, 24 hour rainfall event within the disposal field. Berms shall be compacted to 85 percent.

F. Additional Requirements for Verification. Copies of instructions for the critical controls of the system shall be provided by the installer to both the homeowner and the Department as a condition of issuing the Verification of General Permit Conformance by the Department.

G. Operation and Maintenance Requirements.
1. The onsite wastewater treatment facility that supplies wastewater to the pressure distribution system shall be inspected annually for the following items and maintained as needed:
   a. Sludge level in the bottom of the tank.
   b. Watertightness.
   c. Condition of electrical and mechanical components.
2. All critical control functions shall be tested for compliance with design specifications, including the following:
   a. Alarms, test features, and controls.
   b. Float switch level settings.
   c. Dose rate, volume, and frequency, if applicable.
   d. Distal pressure or squirt height, if applicable.
   e. Voltage test on pumps, motors, and controls, as applicable.
3. Ports for inspection and monitoring and other locations of access shall be observed to verify that operation is within expected limits for influent wastewater quality and other factors which indicate performance.
4. The finished grade shall be observed and maintained for proper surface drainage. The levelness of the tank shall be observed for differential settling.
5. Corrective measures shall be taken if anomalous ponding, dryness or differential settling is observed.

6. Pressurized lines for the dosing system shall be periodically rodded and flushed into the pretreatment unit headworks. The septic tank effluent filter, pump intake and controls shall be periodically cleaned and wastes properly disposed.

R18-9-435. General Permit 4.05: Onsite Wastewater Treatment Facilities, Gravelless Trench, Less Than 3000 Gallons Per Day

A. Scope. A Type 4 General Aquifer Protection Permit is established for a gravelless trench receiving wastewater treated to a quality equal to or better than that provided by a septic tank. A gravelless trench is a disposal technology characterized by installation of a proprietary pipe, chamber, and geocomposite or other substitute media into native soil instead of the distribution pipe and aggregate fill used in a conventional disposal field trench. Gravelless trenches are considered when suitable gravel or volcanic rock aggregate is either unavailable or excessively expensive, or when adverse site conditions make movement of gravel difficult, damaging or time consuming.

B. Performance. A gravelless trench shall achieve, and design calculations shall be based upon, the release of treated wastewater into the native soil that meets the following criteria:
1. TSS of 75 milligrams per liter, 30-day arithmetic mean.
2. BOD5 of 150 milligrams per liter, 30-day arithmetic mean.
3. Total nitrogen (as nitrogen) of 53 milligrams per liter, 5-month arithmetic mean.
4. Total coliform level of 100,000,000 (Log10 8) colony forming units per 100 milliliters, 95th percentile.

C. Additional Notice of Intent Submittal Requirements. In addition to the requirements specified in R18-9-401(B)(3) and R18-9-426(C), the required list of materials shall include:
1. The soil absorption area that would be required if a conventional disposal field trench filled with aggregate were to be used.
2. The configuration and size of the proposed gravelless disposal field.
3. Manufacturer's installation instructions and warranty of performance for absorbing wastewater into the native soil.

D. Design Requirements.
1. The top of the gravelless disposal pipe or similar disposal mechanism shall be at least 6 inches below the surface of the native soil and 12 to 36 inches below finished grade if approved fill is placed on top of the installation. The minimum depth of the top of the gravelless disposal pipe shall be 18 inches when no soil cover is used.
2. The infiltration surface shall be calculated as follows:
   a. For 8 inch diameter pipe, 2 square feet of absorption area shall be allowed per linear foot.
   b. For 12 inch diameter pipe, 3 square feet of absorption area shall be allowed per linear foot.
   c. For bundles of 2 pipes of the same diameter, the absorption area shall be calculated as 1.67 times the absorption area of 1 pipe.
   d. For bundles of 3 pipes of the same diameter, the absorption area shall be calculated as 2 times the absorption area of 1 pipe.
3. A pressure distribution system meeting the requirements of R18-9-434, General Permit 4.04, is required in medium sand, coarse sand and coarser soils.
4. The drainfield shall be constructed of material that will not decay, deteriorate, or leach chemicals or byproducts when exposed to sewage or the subsurface soil environment.

E. Installation Requirements.
1. The gravelless pipe material shall be installed per manufacturer's instructions.
2. The installed disposal system shall withstand the physical disturbance of backfilling and the load of any soil cover above natural grade placed over the installation.
3. Any backfill and soil cover in the area of installation shall be shaped to prevent settlement and ponding of rainfall for the life of the disposal field.

F. Operation and maintenance requirements.
1. The pretreatment and wastewater distribution components shall be inspected and cleaned periodically as specified in the general permit for the component.
2. Ports for inspection and monitoring and other locations of access shall be periodically checked to verify that operation is within expected limits. Corrective action shall be taken if anomalous ponding or dry conditions are observed.
3. The finished grade in the vicinity of the gravelless disposal field shall be inspected for maintenance of proper drainage and protection from damaging loads.

R18-9-436. General Permit 4.06: Onsite Wastewater Treatment Facilities, Natural Seal Evapotranspiration Bed, Less Than 3000 Gallons Per Day

A. Scope. A Type 4 General Aquifer Protection Permit is established for a natural seal evapotranspiration bed receiving wastewater treated to a level equal to or better than that provided by a septic tank. A natural seal evapotranspiration bed is a disposal technology characterized by a bed of sand or other durable media with an internal wastewater distribution system that is contained on the bottom and sidewalls by a engineered liner consisting of natural soil and clay materials. Natu-

ral seal evapotranspiration beds may be considered when site conditions restrict soil infiltration or require reduction of the volume or nitrogen content of wastewater discharged to the native soil underlying the natural seal liner.

B. Restrictions. Unless design documentation is provided to show that a natural seal evapotranspiration bed will otherwise properly function, this technology shall not be installed if:
1. Average minimum temperature in any month is 20°F or less;
2. Over 1/3 of average annual precipitation falls in a 30 day period; or
3. Design flow exceeds net evaporation.

C. Performance. A natural seal evapotranspiration bed shall achieve, and design calculations shall be based on:
1. The minimization of discharge to the native soil through the natural seal liner.
2. Maximization of wastewater disposed to the atmosphere by evapotranspiration.
3. The prevention of ponding of wastewater on the bed surface and the maintenance of an interval of unsaturated media directly beneath the bed surface.

D. Reference Design. A natural seal evapotranspiration bed achieving the performance requirements specified in subsection (C) may be designed and installed following a reference design on file with the Department. The applicant shall file a form provided by the Department for supplemental information about the proposed system with the applicant's submittal of the Notice of Intent to Discharge Under a General Permit.

E. Alternative Design. An applicant may submit an alternative to the reference design for a natural seal evapotranspiration bed that achieves the performance requirements specified in subsection (C) by following R18-9-429(H). Under this circumstance, the Department shall consider the submittal of an alternative design as 1 design change for the purpose of establishing the applicable fee under R18-14-101 et seq. The applicant shall file a form provided by the Department for supplemental information about the proposed system with the applicant's submittal of the Notice of Intent to Discharge Under a General Permit.

R18-9-437. General Permit 4.07: Onsite Wastewater Treatment Facilities, Lined Evapotranspiration Bed, Less Than 3000 Gallons Per Day

A. Scope. A Type 4 General Aquifer Protection Permit is established for a lined evapotranspiration bed receiving wastewater treated to a level equal to or better than that provided by a septic tank. A lined evapotranspiration bed is a disposal technology characterized by a bed of sand or other durable media with an internal wastewater distribution system that is contained on the bottom and sidewalls by an impervious synthetic liner. Lined evapotranspiration beds may be considered when site conditions restrict soil infiltration or require reduction or elimination of the volume or nitrogen content of wastewater discharged to the native soil.

B. Restrictions. Unless design documentation is provided to show that a lined evapotranspiration bed will otherwise properly function, this technology shall not be installed if:
1. Average minimum temperature in any month is 20°F or less;
2. Over 1/3 of average annual precipitation falls in a 30 day period; or
3. Design flow exceeds net evaporation.

C. Performance. A lined evapotranspiration bed shall achieve, and design calculations shall be based on:
1. The prevention of discharge to the native soil by a synthetic liner.
2. Full disposal of wastewater to the atmosphere by evapotranspiration.
3. The prevention of ponding of wastewater on the bed surface and the maintenance of an interval of unsaturated media directly beneath the bed surface.

D. Additional Notice of Intent Submittal Requirements. In addition to the requirements specified in R18-9-401(B)(3) and R18-9-426(C), the applicant shall submit:
1. Capillary rise potential test results for the media used to fill the evapotranspiration bed unless sand meeting a D50 of 0.1 millimeter (50% by weight of grains equal to or smaller than 0.1 millimeter in size) is used.
2. Water mass balance calculations used to size the evapotranspiration bed.

E. Design Requirements.
1. The evapotranspiration bed shall be from 18 to 36 inches deep and bed design shall be calculated on the basis of the capillary rise of the bed media according to ASTM D2325-68 (1994)e1, "Standard Test Method for Capillary-Moisture Relationships for Coarse- and Medium-Textured by Porous-Plate Apparatus," and the anticipated maximum frost depth.
2. Design area calculations shall be based on a water mass balance for the winter months.
3. The evapotranspiration bed liner shall be a low hydraulic conductivity synthetic liner capable or achieving a calculated seepage rate less than 550 gallons per acre per day.
4. If a surfacing layer is used, it shall be a topsoil meeting Maricopa Association of Governments Specification 795.2, dark cinders, decomposed granite or similar landscaping material placed to a maximum depth of 2 inches.
5. If vegetation is planted on the evapotranspiration bed, shallow-rooted, non-invasive salt and drought tolerant evergreens shall be used.

6. At least 1 observation port shall be installed to allow determination of the depth to the liquid surface of wastewater within the evapotranspiration bed.
7. The bed shall be designed to pump out the saturated zone when accumulated salts or other condition impairs bed performance.
8. Setbacks for a lined evapotranspiration bed are as prescribed in R18-9-429(C), except as follows:
   a. 25 feet from the edge of a dry wash, live stream, or lake or reservoir.
   b. 25 feet from cuts on sloping terrain.
   c. 25 feet from a well.
9. Provision of a reserve area is not required for a lined evapotranspiration bed.
10. Instead of R18-9-429(E), the minimum vertical separation of the bottom of the evapotranspiration bed liner to the surface of the water table or impervious layer or formation shall be 6 inches.

F. Installation Requirements.
1. All seams of the liner shall be factory fabricated or field welded according to manufacturer's specifications. The liner shall cover the bottom and all sidewalls of the bed and shall be cushioned on both the top and bottom with layers of sand at least 2 inches thick or other equivalently protective material. If the inlet pipe passes through the liner, the joint shall be tightly sealed.
2. The liner shall be leak tested under the supervision of a Professional Engineer registered in the state of Arizona.
3. A 2 to 4 inch layer of 1/2 to 1 inch gravel or crushed stone shall be placed around the distribution pipes within the bed. Filter cloth shall be placed on top of the gravel or crushed stone to prevent sand from settling into the crushed stone or gravel.

G. Additional Requirements for Verification. The sealed results of the liner test shall be submitted to the Department prior to Department issuance of the Verification of General Permit Conformance.

H. Operation and Maintenance Requirements.
1. Irrigation of an evapotranspiration bed is not allowed.
2. The bed shall be protected from vehicle loads and other damaging activities.

R18-9-438. General Permit 4.08: Onsite Wastewater Treatment Facilities, Wisconsin Mound, Less Than 3000 Gallons Per Day

A. Scope. A Type 4 General Aquifer Protection Permit is established for a Wisconsin mound receiving wastewater treated to a level equal to or better than that provided by a septic tank. The Wisconsin mound is a disposal technology characterized by an above grade bed system which blends with the land surface and into which is dispensed pressure dosed wastewater from a septic tank or other upstream treatment device. The Wisconsin mound provides further physical and biological treatment by dispersing the wastewater under unsaturated flow conditions through the engineered media system contained in the mound. Wastewater treated by passage through the mound percolates into the native soil below the mound. A Wisconsin mound is considered for use when the native soil has excessively high or low permeability, when there is little native soil overlying fractured or otherwise excessively permeable rock or when a reduction in minimum vertical separation is desired.

B. Performance. A Wisconsin mound shall achieve, and design calculations shall be based upon, release of treated wastewater to the native soil that meets the following criteria:
1. TSS of 30 milligrams per liter, 30-day arithmetic mean.
2. BOD5 of 30 milligrams per liter, 30-day arithmetic mean.
3. Total nitrogen (as nitrogen) of 53 milligrams per liter, 5-month arithmetic mean.
4. Total coliform level of 300,000 (Log10 5.5) colony forming units per 100 milliliters, 95th percentile.

C. Additional Notice of Intent Submittal Requirements. In addition to the requirements specified in R18-9-401(B)(3) and R18-9-426(C), the applicant shall submit:
1. Specifications for the media proposed for use in the Wisconsin mound and which contains the internal wastewater distribution system.
2. Two scaled cross sections of the mound (1 of the shortest basal area footprint dimension and 1 of the lengthwise dimension).
3. Design calculations following the 1990 Mound Manual, University of Wisconsin-Madison.

D. Design Requirements.
1. The pressure dosed wastewater shall be delivered into the Wisconsin mound by a pressurized line and secondary distribution lines into an engineered aggregate infiltration bed or equivalent system in conformance with the 1990 Mound Manual. Aggregate shall be washed.
2. Wastewater shall be distributed in the aggregate infiltration bed and applied to the mound bed inlet surface at the following rates:
   a. Not more than 1.0 gallon per day per square foot of mound bed inlet surface when the mound bed media conforms with ASTM C33-99ae1 and the 1990 Mound Manual, except when cinder sand is used that is the appropri-

ate grade with not more than 7% passing a #200 screen. For such cinder sand, the rate shall be not more than 0.8 gallons per day per square foot of mound bed inlet surface. Media used for the mound bed shall be washed.

b. Other configurations or materials for the infiltration bed or the mound bed shall be submitted following R18-9-429(H). The submittal shall include supporting analyses for the design configuration, materials and loading rates.

3. The aggregate infiltration bed and mound bed shall be capped by coarser textured soil such as sand, sandy loam or silt loam. Silty clay, clay loam or clays shall not be used.
4. The cap material shall be covered by topsoil following the 1990 Mound Manual. The topsoil shall be capable of supporting vegetation, shall not be clay and shall be graded to drain.
5. The top and bottom surfaces of the aggregate infiltration bed shall be level and shall not exceed 10 feet width. The minimum depth of the aggregate infiltration bed shall be 9 inches. Synthetic filter fabric, permeable to water and air and capable of supporting the cap and topsoil load shall be placed on the top surface of the aggregate infiltration bed.
6. Pressure distribution of wastewater to the mound is required and shall conform to the requirements of R18-9-434, General Permit 4.04, and the 1990 Mound Manual.
7. The minimum depth of mound bed media shall be 12 inches unless otherwise specified by the 1990 Mound Manual or site limitations.
8. The maximum allowable side slope of the mound bed, cap material and topsoil shall be not more than 1 vertical to 3 horizontal.
9. Ports for inspection and monitoring shall be provided to verify performance, including verification of unsaturated flow within the aggregate infiltration bed. A vertical PVC pipe and cap with a minimum diameter of 4 inches shall be installed as an inspection port. The pipe shall be installed with a physical restraint to maintain pipe position.
10. The main pressurized line and secondary distribution lines for the aggregate infiltration bed shall be equipped at appropriate locations with cleanouts to grade.
11. Setbacks specified in R18-9-429(C) shall apply except the setbacks for the following downslope features shall be increased to a minimum of 30 feet from the toe of the mound system: property line, driveway, building, ditch or interceptor drain, or any other feature which would impede water movement away from the mound. No upslope natural feature or improvement shall channel surface water or groundwater to the mound area.
12. The active portion of the basal area of native soil below the mound shall conform to the 1990 Mound Manual. The basal area design shall be designed to ensure that the linear loading rate does not exceed the site disposal capability. The absorption of wastewater into the native soil shall be calculated for only the effective basal area. The soil application rates specified in R18-9-429(D) apply except that the soil application rate may be increased to not more than 0.20 gallons per day per square foot of effective basal area if the following slowly permeable soils underlie the mound:
    a. Sandy clay loam, clay loam, silty clay loam or finer with weak platy structure.
    b. Sandy clay loam, clay loam, silty clay loam or silt loam with massive structure.
13. The allowable loading rate to the mound bed inlet surface may be increased up to 2 times if the wastewater dispersed to the mound is pretreated to reduce the sum of TSS and BOD5 to 60 mg/l or less.
14. The slope of the native soil at the basal area shall not exceed 25 percent, and slope stability analysis shall be performed whenever the basal area or site slope within 50 horizontal feet from the mound system footprint exceeds 15%.

E. Installation.

1. The native soil must be properly prepared for constructing a Wisconsin mound system. The soil moisture must be low enough to allow construction without smearing or compacting the soil. Vegetation in the vicinity of the basal area site shall be mowed and trees cut down to within 2 inches of the surface. Tree stumps and other herbaceous material that would excessively alter the soil structure if removed shall be left in place after mowing and cutting. The native soil that will serve as the basal area footprint shall be plowed along the contours to 7 to 8 inches depth. Rototilling shall not be substituted for plowing. Mound construction shall begin immediately after plowing.
2. Each layer of the bed system shall be placed in a manner to prevent differential settling and promote uniform density.
3. The 1990 Mound Manual shall guide other details of installation. Installation procedures and criteria may vary depending on mound design but shall be at least equivalent to the 1990 Mound Manual.

F. Operation and maintenance requirements.

1. Ports for inspection and monitoring and other locations of access shall be observed to verify that operation is within expected limits for influent wastewater quality, the pressurized dosing system, the aggregate infiltration bed and other elements of the mound system which affect performance.
2. Corrective measures shall taken if anomalous ponding or dry conditions are observed.
3. The main pressurized line and secondary distribution lines for the dosing system shall be periodically rodded and flushed into the pretreatment unit headworks. The septic tank effluent filter, pump intake and controls shall be periodically cleaned and wastes properly disposed.
4. If an existing mound system shows evidence of overload or hydraulic failure, the following measures should be considered:
    a. Verification of actual loading and performance of the pretreatment system and verification of the watertightness of the pretreatment and dosing tanks.

b. Determination of dosing rates and dosing intervals to the aggregate infiltration bed and comparison with the original design to evaluate the presence or absence of saturated conditions in the aggregate infiltration bed.
c. If the above steps do not indicate an anomalous condition, evaluation of the site and recalculation of the disposal capability to determine if lengthening of the mound is feasible.
d. Site modifications including, but not limited to, changing surface drainage patterns at upgrade locations and lowering the groundwater level by installing interceptor drains to reduce native soil saturation at shallow levels.
e. Increasing the basal area, which is most efficient if the bed length is increased.
f. If the mound needs to be expanded in size, the permittee shall submit a new Notice of Intent to Discharge Under a General Permit for this modification.

R18-9-439. General Permit 4.09: Onsite Wastewater Treatment Facilities, Engineered Pad System, Less Than 3000 Gallons Per Day

A. Scope. A Type 4 General Aquifer Protection Permit is established for an engineered pad system receiving wastewater treated to a level equal to or better than that provided by a septic tank. The engineered pad system is a disposal technology characterized by the delivery of treated wastewater by gravity or pressure distribution to the engineered pad and sand bed assembly, which then disperses the wastewater into the native soil. The engineered pad system is designed to allow passage of the treated wastewater through a pad and engineered sand bed by gravity under unsaturated flow conditions. The engineered pad system provides additional passive biological treatment to the wastewater and reduces biomat formation at the inlet absorption surface of the underlying native soil. The engineered pad system may be considered for use when the native soil is excessively permeable, when there is little native soil overlying fractured or otherwise excessively permeable rock or when the available area is limited for installing a disposal field system authorized by R18-9-432, General Permit 4.02.

B. Performance.
1. Any proprietary engineered pad system previously approved by the Department shall achieve, and design calculations shall be based upon, release of treated wastewater to the native soil that meets the following criteria:
   a. TSS of 50 milligrams per liter, 30-day arithmetic mean.
   b. BOD5 of 50 milligrams per liter, 30-day arithmetic mean.
   c. Total nitrogen (as nitrogen) of 53 milligrams per liter, 5-month arithmetic mean.
   d. Total coliform level of 1,000,000 (Log10 6) colony forming units per 100 milliliters, 95th percentile.
2. An engineered pad not previously approved by the Department shall achieve, and design calculations shall be based on, the performance values specified for the systems described in R18-9-432, General Permit 4.02. If an applicant wishes to use different performance values, the system must be reviewed and approved by the Department following R18-9-426(G).

C. Additional Notice of Intent Submittal Requirements. In addition to the requirements specified in R18-9-401(B)(3) and R18-9-426(C), the applicant shall submit design, materials and construction specifications for the engineered pad system.

D. Design Requirements.
1. Gravity and pressurized wastewater delivery shall be from a septic tank or intermediate watertight chamber equipped with a pump and controls. Delivered wastewater shall be distributed onto the top of the engineered pad system and shall achieve even distribution by appropriate engineering design. The dosing rate for pressurized wastewater delivery shall be no less than 4 doses per day and no more than 24 doses per day.
2. The sand bed shall be mineral sand washed to conform to ASTM C33-99ae1 unless the performance testing and design specifications of the engineered pad manufacturer justify a substitute specification. The sand bed design shall provide for the placement of a minimum of 6 inches of sand bed material below and along the perimeter of each pad. The sand bed contact with the native soil absorption system shall be level. The native soil absorption system shall be designed to ensure that the linear loading rate does not exceed the site disposal capability.
3. The wastewater distribution system installed on the top of the engineered pad system shall be covered with an appropriate geotextile material with a minimum depth of 10 inches of backfill cover. Backfill cover shall have rocks and cobbles removed and be graded to drain. The engineered pad system may be placed above grade, partially buried, and fully buried depending on site and service circumstances.
4. The engineered pad system shall be constructed with durable materials and be capable of withstanding stress from installation and operational service.
5. A minimum of 2 inspection ports shall be installed in the engineered pad system to confirm unsaturated wastewater treatment conditions at diagnostic locations.

E. Installation Requirements. The disposal site shall be prepared when high soil moisture is not present and equipment operation will not create platy soil conditions. Sand media placement shall ensure a uniform density of 1.3 to 1.4 grams per cubic centimeter.

F. Operation and Maintenance Requirements.

1. Ports for inspection and monitoring ports and other locations of access shall be observed to verify operation is within expected limits for influent wastewater quality and the operation of the wastewater delivery and engineered pad systems.
2. Corrective measures shall taken if anomalous ponding or dry conditions are observed.
3. The septic tank effluent filter shall be periodically cleaned and the pressurized wastewater delivery line periodically rodded and flushed into the septic tank headworks.
4. The backfill cover shall be inspected for physical damage or erosion and be promptly repaired if needed.

R18-9-440. General Permit 4.10: Onsite Wastewater Treatment Facilities, Intermittent Sand Filter, Less Than 3000 Gallons Per Day

A. Scope. A Type 4 General Aquifer Protection Permit is established for an intermittent sand filter receiving wastewater treated to a level equal to or better than that provided by a septic tank. An intermittent sand filter is a treatment technology characterized by the pressurized delivery of pretreated wastewater to an engineered sand bed in a containment vessel equipped with an underdrain system or designed as a bottomless filter. Delivered wastewater is dispersed throughout the sand media by periodic doses from the delivery pump to maintain unsaturated flow conditions in the bed. Wastewater treated during passage through the media either is collected by a bed underdrain chamber and removed by pump or gravity to the disposal works or percolates downward directly into the native soil as part of a bottomless filter design. An intermittent sand filter is considered when the native soil is excessively permeable, when there is little native soil overlying fractured or otherwise excessively permeable rock or when reduction in setback distances or minimum vertical separation is desired.

B. Performance.
1. An intermittent sand filter with underdrain system shall achieve, and design calculations shall be based upon, release of treated wastewater into the native soil that meets the following criteria:
   a. TSS of 10 milligrams per liter, 30-day arithmetic mean.
   b. BOD5 of 10 milligrams per liter, 30-day arithmetic mean.
   c. Total nitrogen (as nitrogen) of 40 milligrams per liter, 5-month arithmetic mean.
   d. Total coliform level or 1000 (Log10 3) colony forming units per 100 milliliters, 95th percentile.
2. An intermittent sand filter with bottomless filter design shall achieve, and design calculations shall be based upon, release of treated wastewater into the native soil that meets the following criteria:
   a. TSS of 20 milligrams per liter, 30-day arithmetic mean.
   b. BOD5 of 20 milligrams per liter, 30-day arithmetic mean.
   c. Total nitrogen (as nitrogen) of 53 milligrams per liter, 5-month arithmetic mean.
   d. Total coliform level of 100,000 (Log10 5 colony forming units per 100 milliliters, 95th percentile.

C. Additional Notice of Intent Submittal Requirements. In addition to the requirements specified in R18-9-401(B)(3) and R18-9-426(C), the applicant shall submit specifications for the media proposed for use in the intermittent sand filter.

D. Design Requirements.
1. Pressurized wastewater delivery shall be from the septic tank or separate watertight chamber with a pump sized and controlled to deliver the pretreated wastewater to the top of the intermittent sand filter. The dosing rate shall be not less than 4 doses per day and not more than 24 doses per day.
2. The pressurized wastewater delivery system shall achieve even distribution in the sand filter by good engineering practice. All necessary controls, pipe, valves, orifices, filter cover materials, gravel or other distribution media, and monitoring and servicing components shall be specified. The cover and topsoil shall be 6 to 12 inches in depth and graded to drain.
3. The sand filter containment vessel shall be watertight, structurally sound, durable, and capable of withstanding stress from installation and operational service. Intermittent sand filter placement may be above grade, partially buried, or fully buried depending on site and service circumstances.
4. Media used in the intermittent sand filter shall be mineral sand. Media shall be washed and conform to ASTM C33-99ae1.
5. The sand media depth shall be a minimum of 24 inches with the top and bottom surfaces level, and the design flow loading rate shall be not be more than 1.2 gallons per day per square foot of active inlet area to the sand media.
6. The underdrain system shall be within the containment vessel, support the filter media and all loads from the unsupported construction above the top surface of the sand media, have sufficient void volume above normal high level of the intermittent sand filter effluent to prevent saturation of the bottom of the sand media by a 24-hour power outage or pump malfunction, and include necessary monitoring, inspection and servicing features.
7. Inspection ports shall be installed in the distribution media and in the underdrain.
8. The bottomless filter is designed similar to the underdrain system, except that the sand media is positioned on top of the native soil absorption surface. Companion modifications are made that eliminate the containment vessel bottom and underdrain and relocate the underdrain inspection port to ensure reliable indication of the presence or absence of saturated wastewater in the sand media.

9. Setbacks specified in R18-9-429(C) may be reduced by 1/2 for wells, live streams, lakes or reservoirs, surface water drinking water intakes, and wash and drainage easements.
10. The native soil absorption system shall be designed to ensure that the linear loading rate does not exceed site disposal capability.

E. Installation Requirements. The containment vessel, underdrain system, filter media, and pressurized wastewater distribution system shall be placed in an excavation with adequate foundation and each layer installed to prevent differential settling and promote a uniform density throughout of 1.3 to 1.4 grams per cubic centimeter within the sand media.

F. Operation and Maintenance Requirements.
1. The ports for inspection and monitoring and other locations of access shall be observed periodically to verify that operation is within expected limits for influent wastewater quality and the operation of the pressurized delivery system, filter, and underdrain and native soil absorption systems.
2. Corrective measures shall taken if anomalous ponding or dry conditions are observed.
3. The pressurized wastewater delivery line shall be periodically rodded and flushed into the pretreatment headworks. The septic tank effluent filter, pump inlet and controls shall be periodically cleaned and wastes properly disposed.

R18-9-441. General Permit 4.11: Onsite Wastewater Treatment Facilities, Peat Filter, Less Than 3000 Gallons Per Day

A. Scope. A Type 4 General Aquifer Protection Permit is established for a peat filter receiving wastewater treated to a quality equal to or better than that provided by a septic tank. A peat filter is a disposal technology characterized by the dosed delivery of treated wastewater to the peat bed, which can be a manufactured module or a disposal bed excavated in native soil and filled with compacted peat. Wastewater passing through the peat is further treated by removal of positively charged molecules, filtering and biological activity before entry into native soil. If the peat filter system is constructed as a disposal bed filled with compacted peat, the wastewater is absorbed into native soil at the bottom and sides of the bed. Modular systems may be configured so that a portion of the effluent that has passed through the peat filter is recirculated back to the pump chamber. Peat filter systems are considered when the native soil is excessively permeable, when there is little native soil overlying fractured or otherwise excessively permeable rock, when reduction in setback distances or minimum vertical separation is desired, or at cold weather sites.

B. Performance. A peat filter shall achieve, and design calculations shall be based upon, release of treated wastewater into the native soil that meets the following criteria:
1. TSS of 15 milligrams per liter, 30-day arithmetic mean.
2. BOD5 of 15 milligrams per liter, 30-day arithmetic mean.
3. Total nitrogen (as nitrogen) of 53 milligrams per liter, 5-month arithmetic mean.
4. Total coliform level of 100,000 (Log10 5) colony forming units per 100 milliliters, 95th percentile.

C. Additional Notice of Intent Submittal Requirements. In addition to the requirements specified in R18-9-401(B)(3) and R18-9-426(C), the required list of materials shall include:
1. Specifications for the peat media proposed for use in the filter or provided in the peat module, including the porosity, surface area and moisture content, a statement of whether the peat is air dried, and whether the peat is from sphagnum moss or bog cotton, and a description of the degree of decomposition.
2. Specifications for installing the peat media.
3. If a peat module is used, the name and address of the manufacturer, the model number and a copy of the manufacturer's warranty.

D. Design Requirements.
1. Daily flow averaged over a week shall not exceed 2/3 of the daily design flow.
2. If a pump tank is used to dose the peat module or bed, the following shall apply:
   a. Liquid volume shall equal or exceed the calculated dose plus the required storage capacity, and a reserve volume above the high water alarm to contain the daily design flow volume.
   b. A control panel with a programmable timer shall be used to dose approximately 1/12 of the maximum daily design flow plus the drain-back, if applicable, every 2 hours.
3. If a peat module system is used, the following shall apply:
   a. The gravel bed which supports the peat filter modules shall be sized to allow it to act as a disposal field. The bed shall be level, long and narrow, and installed on contour to optimize lateral movement away from the disposal area.
   b. The minimum module system size shall be adequate to treat 500 gallons per day. Additional modules shall be added to accommodate additional design flow.
   c. For modules designed to allow wastewater flow through the peat filter and base material into underlying native soil, the base on which the modules rest shall be sized to accommodate the long-term acceptance rate of the native soil.
   d. No additional fill shall be placed over the modules. If the fill is planted, only grass or shallow rooted plants shall be used.

e. The maximum wastewater loading rate shall be 5.0 gallons per day per square foot of inlet surface at the rated daily design flow.

4. If a peat filter bed system is used, the following shall apply:
   a. The bed shall be filled with peat derived from sphagnum moss and compacted per the installation specification.
   b. The maximum wastewater loading rate shall be 1 gallon per day per square foot of inlet surface at the rated daily design flow.
   c. A minimum of 24 inches of installed peat shall underlie the distribution piping and 10 to 14 inches of installed peat shall overlie the piping.
   d. The cover material over the peat filter bed shall be slightly mounded to promote runoff of rainfall. No additional fill shall be placed over the peat.
   e. The peat shall be derived from decomposed sphagnum moss or roots of the plant Eriophorum (bog cotton). The peat shall be air dried, with a porosity greater than 90%, and a surface area no less than 190 square meters per gram.

E. Installation Requirements.

1. If a peat module system is used, the following shall apply:
   a. The bottom of all excavations for the filter modules, pump, aerator and other components shall be compacted to provide adequate foundation and sloped toward the discharge to minimize ponding and shall be flat and free of debris, rocks and sharp objects. If the excavation is uneven or rocky, a bed of sand or pea gravel shall be used to create an even, smooth surface.
   b. The peat filter modules shall be placed on a level, 6 inch deep gravel bed.
   c. Backfill shall be placed around the modules and graded to divert surface water away from the modules.
   d. No objects shall be placed on or moved over the system area that might damage the module containers or restrict airflow to the modules.
   e. Gaps between modules shall be covered to prevent damage to the system.
   f. Each system shall be fitted with at least 1 sampling port that allows collection of a wastewater at exit from the final treatment module.
   g. The modules and other components shall be provided with anti-buoyancy devices to ensure stability in the event of flooding or high water table conditions.
   h. The filter module inlet line shall be installed with a way for draining.
2. If a peat filter bed system is used, the following shall apply:
   a. The bottom and sides of the leaching bed excavation shall be scarified to remove any smeared surfaces. Unless otherwise directed by the installation specification, peat media shall be placed in the excavation in 6 inch lifts. Each lift shall be compacted before the next lift is added. Care shall be taken to avoid compaction of the underlying native soil.
   b. Distribution pipe shall be laid in trenches cut in the compacted peat. A minimum of 3 inches of aggregate shall underlie the pipe to reduce clogging of holes or scouring of the peat surrounding the pipe. Peat shall be placed on top of and around the sides of the pipes.

F. Operation and maintenance requirements.

1. Ports for inspection and monitoring and other locations of access shall be observed to verify that operation is within expected limits for influent wastewater quality, saturation conditions at the infiltration surface at the top of the peat media and other performance criteria.
2. Corrective measures shall be taken if anomalous ponding or dryness is observed.
3. Pressurized wastewater lines, if present, shall be periodically rodded and flushed into the pretreatment headworks.
4. The effluent filter installed on the primary treatment component shall be backwashed at pre-determined intervals.
5. The finished grade over the peat filter shall be inspected for proper drainage, protection from damaging loads and root invasion of the wastewater distribution system. Maintenance shall be performed as necessary.

R18-9-442. General Permit 4.12: Onsite Wastewater Treatment Facilities, Textile Filter, Less Than 3000 Gallons Per Day

A. Scope. A Type 4 General Aquifer Protection Permit is established for a textile filter receiving wastewater treated to a level equal to or better than a septic tank. Textile filters are a disposal technology characterized by a the flow of wastewater into a packed bed filter in a containment structure or structures. The packed bed filter uses a textile filter medium with high porosity and surface area. The textile filter medium provides further treatment by removing suspended material from the wastewater by physical straining, and reducing nutrients by microbial action. Textile filters are often used in conjunction with a 2-compartment septic tank or a 2-tank system, where the second compartment or tank is used as a recirculation and blending tank. A portion of the wastewater flow from the textile filter is diverted back into the second tank for further treatment. Textile filters are considered when nitrogen reduction is desired and when locating and delivering sand with the properties required for a sand filter is difficult or expensive.

B. Restrictions. Unless the applicant provides design documentation to show that the textile filter will work properly without a pump or aerator, this system is prohibited where electricity is not available.

C. Performance. A textile filter shall achieve, and design calculations shall be based upon, release of treated water to the native soil that meets the following criteria:
1. TSS of 15 milligrams per liter, 30-day arithmetic mean.
2. BOD5 of 15 milligrams per liter, 30-day arithmetic mean.
3. Total nitrogen (as nitrogen) of 30 milligrams per liter, 5-month arithmetic mean, or to 15 milligrams per liter if documented per subsection (D)(1).
4. Total coliform level of 100,000 (Log10 5) colony forming units per 100 milliliters, 95th percentile.

D. Additional Submittal Requirements. In addition to the requirements specified in R18-9-401(B)(3) and R18-9-426(C), the applicant shall submit:
1. The name and address of the filter manufacturer, the filter model number and a copy of the manufacturer's warranty. If the system is for the purpose of nitrogen reduction to 15 milligrams per liter, the applicant shall submit specifications on the nitrogen reduction performance of the filter system and corroborating third-party test data.
2. The manufacturer's operation and maintenance recommendations to achieve a 20-year usable life.
3. If a pump or aerator is required for proper operation, the pump or aerator model number and a copy of the manufacturer's warranty.

E. Design Requirements.
1. The textile medium shall have a porosity of greater than 80 percent.
2. The wastewater shall be delivered to the textile filter by gravity flow or a pump.
3. Daily flow averaged over a week shall not exceed 2/3 of the daily design flow.
4. If a pump tank is used to dose the textile module or modules, it shall meet the following:
   a. Liquid volume shall equal or exceed the calculated dose plus the required storage capacity, and a reserve volume above the high water level alarm to contain the design daily flow volume.
   b. A control panel with a programmable timer shall be used to dose approximately 1/12 of the maximum daily design flow (plus the drain-back if applicable) every 2 hours.

F. Installation Requirements.
1. Prior to placing the filter modules, the bottom of the excavation for the modules shall be sloped toward the discharge to minimize ponding.
2. The bottom of all excavations for the filter modules, pump, aerator or other component shall be level and free of debris, rocks and sharp objects. If the excavation is uneven or rocky, a bed of sand or pea gravel shall be used to create an even, smooth surface.
3. The modules and other components shall be provided with anti-buoyancy devices to ensure they remain in place in the event of high water table conditions.
4. Provision shall be made to drain the filter module inlet line.

G. Operation and maintenance requirements.
1. Corrosives or other materials known to damage the textile material shall not be flushed into any drain that transmit wastewater to the onsite wastewater treatment facility.
2. The effluent filter installed on the primary treatment component shall be periodically cleaned or backwashed.
3. Pressurized wastewater lines shall be periodically rodded and flushed into the pretreatment headworks. The septic tank effluent filter, pump inlet and controls shall be periodically cleaned and wastes properly disposed.

R18-9-443. General Permit 4.13: Onsite Wastewater Treatment Facilities, RUCK® System, Less Than 3000 Gallons Per Day

A. Scope. A Type 4 General Aquifer Protection Permit is established for residential applications for a RUCK® system, which is a proprietary treatment and disposal system for residential applications that requires segregated drains for conducting dishwater, kitchen sink and toilet flush water to a black water tank and all other wastewater to a gray water tank. Treated wastewater from each tank is delivered to a proprietary engineered composite disposal bed system that includes an upper distribution pipe to deliver treated black water to a proprietary columnar sand filled bed. The wastewater drains downward into a sand bed then into a pea gravel bed with an internal distribution pipe system that delivers the treated gray water. The entire composite bed is constructed within an excavation about 6 feet deep. The system typically operates under gravity flow from the black water and gray water pretreatment tanks. A proprietary sampling assembly must be installed at the midpoint of the disposal line run and at the base of the composite bed during construction to monitor system performance. A RUCK® system, which is typically limited to soil conditions where a standard system described in R18-9-432, General Permit 4.02 would be acceptable, is considered when the total nitrogen content in the wastewater must be reduced prior to release to the native soil.

B. Performance. A RUCK® system shall achieve, and design calculations shall be based on:
1. TSS of 30 milligrams per liter, 30-day arithmetic mean.
2. BOD5 of 30 milligrams per liter, 30-day arithmetic mean.

3. Total nitrogen (as nitrogen) of 30 milligrams per liter, 5-month arithmetic mean, or to 15 milligrams per liter if demonstrated per subsection (D).
4. Total coliform level of 1,000,000 (Log10 6) colony forming units per 100 milliliters, 95th percentile.

C. Reference Design. A RUCK® system achieving the performance requirements specified in subsection (B) may be designed and installed following a reference design on file with the Department. The applicant shall file a form provided by the Department for supplemental information about the proposed system with the applicant's submittal of the Notice of Intent to Discharge Under a General Permit.

D. Alternative Design. An applicant may submit an alternative to the reference design for a RUCK® system that achieves equal or better performance than specified in subsection (B) by following R18-9-429(H). Under this circumstance, the Department shall consider the submittal of an alternative design as 1 design change for the purpose of establishing the applicable fee under R18-14-101 et seq. The applicant shall file a form provided by the Department for supplemental information about the proposed system with the applicant's submittal of the Notice of Intent to Discharge Under a General Permit. If nitrogen reduction to a level from 15 to less than 30 milligrams per liter is proposed, the supplemental information shall include specifications on system nitrogen reduction performance and corroborating third-party test data.

R18-9-444. General Permit 4.14: Onsite Wastewater Treatment Facilities, Sewage Vault, Less Than 3000 Gallons Per Day

A. Scope. A Type 4 General Aquifer Protection Permit is established for sewage vaults and other storage components that receive raw sewage. A sewage vault must be periodically pumped for disposal in a manner that complies with state and local laws, rules and ordinances. Sewage vaults are considered when there are severe site constraints, such that neither a conventional septic tank and disposal field system nor other alternatives provided by general permits in this Article can be installed. The sewage vault can also be installed as a temporary measure in anticipation of installation of another onsite wastewater treatment facility within a specified timeframe.

B. Performance. A sewage vault shall allow no discharge to the native soil or land surface. The vault contents shall be pumped and periodically disposed to a sewage treatment facility or other sewage disposal mechanism allowed by law.

C. Restrictions. A sewage vault shall not be installed:
1. When a high groundwater table would impinge on the vault.
2. Unless the applicant has a service contract from a properly licensed and permitted waste hauler to periodically pump out the vault.
3. If the capacity of the vault is less than 450 gallons per bedroom or 75 gallons per fixture, whichever is larger.

D. Reference Design. A sewage vault achieving the performance requirements specified in subsection (B) may be designed and installed following a reference design on file with the Department. The applicant shall file a form provided by the Department for supplemental information about the proposed storage vault with the applicant's submittal of the Notice of Intent to Discharge Under a General Permit.

E. Alternative Design. An applicant may submit an alternative to the reference design for a sewage vault that achieves the performance requirements specified in subsection (B) by following R18-9-429(H). Under this circumstance, the Department shall consider the submittal of an alternative design as 1 design change for the purpose of establishing the applicable fee under R18-14-101 et seq. The applicant shall file a form provided by the Department for supplemental information about the proposed storage vault with the applicant's submittal of the Notice of Intent to Discharge Under a General Permit.

R18-9-445. General Permit 4.15: Onsite Wastewater Treatment Facilities, Aerobic System with Subsurface Disposal, Less Than 3000 Gallons Per Day

A. Scope. A Type 4 General Aquifer Protection Permit is established for an aerobic system that consists of an aerator for treatment and disposal of treated wastewater to a subsurface disposal system. In the aerobic system authorized by this general permit, sewage treatment is by mechanical introduction of oxygen to wastewater, followed by clarification and pressure or gravity distribution to a subsurface soil absorption field. Aerobic systems with subsurface disposal are considered for use when enhanced biochemical processing is needed to treat wastewater with high organic content, when soil conditions not adequate to allow installation of a standard septic tank and disposal field as described in R18-9-432, General Permit 4.02, or when a highly treated and disinfected effluent is otherwise needed. Wastewater pretreatment by an interceptor may be required. Electric power is normally used to drive the aerator.

B. Performance. An aerobic system with subsurface disposal shall achieve, and design calculations shall be based on:
1. TSS of 30 milligrams per liter, 30-day arithmetic mean.
2. BOD5 of 30 milligrams per liter, 30-day arithmetic mean.
3. Total nitrogen (as nitrogen) of 53 milligrams per liter, 5-month arithmetic mean, or to 15 milligrams per liter if documented per subsection (C).
4. Total coliform level of 300,000 (Log10 5.5) colony forming units per 100 milliliters, 95th percentile.

C. Additional Notice of Intent Submittal Requirements. In addition to the requirements specified in R18-9-401(B)(3) and R18-9-426(C), the applicant shall submit evidence of performance in subsection (B), the name address of the treatment

unit manufacturer, the model number, and a copy of the manufacturer's warranty and operation and maintenance requirements to achieve performance for a 20-year useful service life. If nitrogen reduction to a level from 15 to less than 53 milligrams per liter is proposed, the supplemental information shall include specifications on system nitrogen reduction performance and corroborating third-party test data.

D. Design Requirements.

1. The wastewater shall be delivered to the aerobic treatment unit by gravity flow either directly or by a lift pump. An interceptor or other pretreatment device may be required if meeting the performance criteria required such a device or the manufacturer recommends such a device when a garbage disposal appliance is used.
2. The native soil absorption system shall be designed to ensure that the linear loading rate does not exceed site disposal capability.

E. Installation Requirements.

1. The installation of the aerobic treatment components shall conform to manufacturer's specifications and the design documents approved by the Provisional Verification of General Permit.
2. Excavation and foundation work, and backfill placement shall be properly performed to prevent differential settling and adverse drainage conditions.

F. Operation and Maintenance Requirements.

1. The ports for inspection and monitoring and other locations of access shall be observed periodically to verify that operation is within expected limits for wastewater quality and the treatment system components.
2. Corrective measures shall be taken if anomalous conditions of ponding, dryness, noise or odor are observed.
3 Wastewater delivery lines shall be periodically rodded and flushed into the pretreatment headworks. All other components in contact with wastewater shall be periodically cleaned, inspected for proper function and the wastes properly disposed.

R18-9-446. General Permit 4.16: Onsite Wastewater Treatment Facilities, Aerobic System with Surface Disposal, Less Than 3000 Gallons Per Day

A. Scope. A Type 4 General Aquifer Protection Permit is established for an aerobic system that consists of an aerator for treatment and disposal of treated wastewater to the land surface. In the aerobic system authorized by this general permit, sewage treatment is by mechanical introduction of oxygen to wastewater, followed by clarification and disposal to the land surface. In this general permit, the wastewater is disinfected by a technology authorized in R18-9-450, General Permit 4.20, before disposal to the land surface. Aerobic systems with surface disposal are considered for use when enhanced biochemical processing is needed to treat wastewater with high organic content, when soil conditions not adequate to allow installation of a standard septic tank and disposal field as described in R18-9-432, General Permit 4.02, or when a highly treated and disinfected effluent is otherwise needed. Wastewater pretreatment by an interceptor may be required. Electric power is normally used to drive the aerator.

B. Restrictions. An aerobic system shall not be installed if electricity to operate the system is not available at the site.

C. Performance. An aerobic system with surface disposal shall achieve, and design calculations shall be based on:

1. TSS of 30 milligrams per liter, 30-day arithmetic mean.
2. BOD5 of 30 milligrams per liter, 30-day arithmetic mean.
3. Total nitrogen (as nitrogen) of 53 milligrams per liter, 5-month arithmetic mean.
4. The treated wastewater is nominally free of coliform bacteria, which is equivalent to a total coliform level of Log10 0 colony forming units per 100 milliliters, 99th percentile. Disinfection is by a way established under R18-9-450, General Permit 4.20.
5. Compliance with any applicable NPDES permit limits
6. Prevention of discharge of inadequately treated wastewater to the environment by means of a fail-safe mechanism included in the system design.

D. Reference Design. An aerobic system with surface disposal achieving the performance requirements specified in subsection (C) may be designed and installed following a reference design on file with the Department. The applicant shall file a form provided by the Department for supplemental information about the proposed system with the applicant's submittal of the Notice of Intent to Discharge Under a General Permit.

E. Alternative Design. An applicant may submit an alternative to the reference design for an aerobic system with surface disposal that achieves the performance requirements specified in subsection (C) by following R18-9-429(H). Under this circumstance, the Department shall consider the submittal of an alternative design as 1 design change for the purpose of establishing the applicable fee under R18-14-101 et seq. The applicant shall file a form provided by the Department for supplemental information about the proposed system with the applicant's submittal of the Notice of Intent to Discharge Under a General Permit.

R18-9-447. General Permit 4.17: Onsite Wastewater Treatment Facilities, Cap System, Less Than 3000 Gallons Per Day

A. Scope. A Type 4 General Aquifer Protection Permit is established for a cap fill cover over a conventional shallow trench disposal field receiving wastewater treated to a level equal to or better than that provided by a septic tank. A cap system is a disposal technology characterized by a soil cap consisting of engineered fill placed over a trench that is reduced in depth compared to a standard trench allowed by R18-9-432, General Permit 4.02. This design compensates for reduced trench depth by maintaining and enhancing the infiltration of wastewater into native soil by the trench sidewalls. Cap systems are considered for use when there is little native soil overlying fractured or otherwise excessively permeable rock or when a high water table does not allow the minimum vertical separation requirement to be met by a system authorized by R18-9-432, General Permit 4.02.

B. Performance. The design soil absorption rate, disposal density and vertical separation shall be as provided for in R18-9-432, General Permit 4.02, for a shallow trench based on the following performance unless additional pretreatment is provided:

1. TSS of 75 milligrams per liter, 30-day arithmetic mean.
2. BOD5 of 150 milligrams per liter, 30-day arithmetic mean.
3. Total nitrogen (as nitrogen) of 53 milligrams per liter, 5-month arithmetic mean.
4. Total coliform level of 100,000,000 (Log10 8) colony forming units per 100 milliliters, 95th percentile.

C. Additional Notice of Intent Submittal Requirements. In addition to the requirements specified in R18-9-401(B)(3), R18-9-426(C) and R18-9-432, General Permit 4.02, for a shallow trench disposal field, the applicant shall submit specifications for the cap fill material proposed for use.

D. Design Requirements.

1. The soil texture from the natural grade to the depth of the layer or the water table that limits the soil for unsaturated wastewater flow is no finer than silty clay loam.
2. Cap fill material used shall be free of debris, stones, frozen clods or ice, and shall be 1 of the approved additive soil groups. The texture of the additive soil shall be the same as or 1 soil group finer than that of the disposal site material, except that fill material finer than clay loam shall not be used as an additive.
3. Trench construction shall be as follows:
   a. The trench bottom shall be not less than 12 inches below the bottom of the disposal pipe nor more than 24 inches below the natural grade. Both the trench bottom and disposal pipe shall be level.
   b. The aggregate cover over the disposal pipe shall be 2 inches thick, and the top of the aggregate cover shall be level and not more than 9 inches above the natural grade.
   c. The cap fill cover above the top of the aggregate cover shall be a minimum of 10 inches and have sloped sides that are not more than 1 vertical to 3 horizontal. The horizontal extent of the finished fill edges shall be at least 10 feet beyond the nearest trench sidewall or endwall. Intersecting fill surfaces shall be sloped to route surface drainage to the ends of the trench.
   d. The criteria for trench length, bottom width and spacing, and disposal pipe size shall be the same as that for the shallow trench system described in R18-9-432, General Permit 4.02.
   e. Permeable geotextile fabric shall be placed on the aggregate top and trench end and sidewalls extending above natural grade.
   f. The native soil within the disposal site and the adjacent downgradient area to a 50 foot horizontal distance shall not exceed 12% slope if the top of the aggregate cover extends above the natural grade at any location along the trench length. The slope within the disposal site and the adjacent downgradient area to a 50 foot horizontal distance shall not exceed 20% if the top of the aggregate cover does not extend above the natural grade.
   g. The fill material shall be compacted to a density of 90% of the native soil when the invert elevation of the disposal pipe is at or above the natural grade at any location along the trench length.
   h. At least 1 observation port shall be installed to the bottom of each cap fill trench.
   i. The effective absorption area for each trench shall be determined by the sum of the trench bottom area plus the sidewall areas calculated between the trench bottom and the lowest elevation of the natural grade at any location along the trench length.
   j. The native soil absorption system design shall designed to ensure that the linear loading rate does not exceed site disposal capability. The design may be modified following R18-9-429(D)(3) and (E), as applicable, if additional wastewater pretreatment is provided.

E. Installation Requirements. The disposal site shall be prepared when high soil moisture is not present and equipment operations will not create platy soil conditions. Construction shall be sequenced as follows:

1. The fill area shall be plowed or scarified to disrupt the vegetative mat while avoiding smearing.
2. Trenches shall be constructed.
3. The site shall be scarified, and part of the cap fill applied to the fill area and blended with the scarified native soil within the contact layers.
4. Construction shall follow the design approved under the Provisional Verification of General Permit Conformance.

F. Operation and Maintenance Requirements.
1. Any pretreatment components shall be inspected and cleaned periodically as provided for in the specific general permit for the treatment works.
2. Ports for inspection and monitoring and other locations of access shall be periodically checked to verify operation is within expected limits. Corrective action shall be taken if anomalous ponding or dry conditions are observed.
3. The cap fill and other surface features shall be periodically inspected and repaired as needed to ensure proper disposal function, proper drainage of surface water and prevention of damaging loads on the cap.

R18-9-448. General Permit 4.18: Onsite Wastewater Treatment Facilities, Constructed Wetlands, Less Than 3000 Gallons Per Day

A. Scope. A Type 4 General Aquifer Protection Permit is established for constructed wetlands receiving wastewater treated to a level equal to or better than that provided by a septic tank. Constructed wetlands are a treatment technology characterized by a lined excavation filled with a medium for growing plants and planted with marsh vegetation. The treated wastewater flows horizontally through the medium and in contact with the aquatic plants. As the wastewater flows through the wetlands system, additional treatment is provided by filtering, settling, volatilization and evapotranspiration. The wetlands system also allows microorganisms to break down organic material and plants to take up nutrients and other pollutants. The wastewater treated by a wetlands is discharged to a subsurface soil disposal system. Constructed wetlands are considered when further wastewater treatment or polishing is needed prior to disposal.

B. Performance. A constructed wetlands shall achieve, and design calculations shall be based upon, release of treated wastewater out of the constructed wetlands that meets the following criteria:
1. TSS of 20 milligrams per liter, 30-day arithmetic mean.
2. BOD5 of 20 milligrams per liter, 30-day arithmetic mean.
3. Total nitrogen (as nitrogen) of 45 milligrams per liter, 5-month arithmetic mean.
4. Total coliform level of 100,000 (Log10 5) colony forming units per 100 milliliters, 95th percentile.

C. Reference Design. A constructed wetlands achieving the performance requirements specified in subsection (B) may be designed and installed following a reference design on file with the Department. The applicant shall file a form provided by the Department for supplemental information about the proposed constructed wetlands with the applicant's submittal of the Notice of Intent to Discharge Under a General Permit.

D. Alternative Design. An applicant may submit an alternative to the reference design for a constructed wetlands that achieves the performance requirements specified in subsection (B) by following R18-9-429(H). Under this circumstance, the Department shall consider the submittal of an alternative design as 1 design change for the purpose of establishing the applicable fee under R18-14-101 et seq. The applicant shall file a form provided by the Department for supplemental information about the proposed constructed wetlands with the applicant's submittal of the Notice of Intent to Discharge Under a General Permit.

R18-9-449. General Permit 4.19: Onsite Wastewater Treatment Facilities, Sand Lined Trench, Less Than 3000 Gallons Per Day

A. Scope. A Type 4 General Aquifer Protection Permit is established for a sand lined trench receiving wastewater treated to a level equal to or better than that provided by a septic tank. A sand lined trench is a disposal technology characterized by engineered placement of sand or equivalently graded glass in trenches in native soil. Wastewater is dispersed throughout the media by a timer-controlled pump in periodic uniform doses that maintain unsaturated flow conditions. Wastewater treated during travel through the media is then absorbed into the native soil at the bottom of the trench. Sand lined trenches are considered for use when the native soil is excessively permeable, when there is little native soil overlying fractured or otherwise excessively permeable rock or when reduction in setback distances or minimum vertical separation is desired.

B. Performance. A sand lined trench shall achieve, and design calculations shall be based upon, release of treated wastewater to the native soil that meets the following criteria:
1. TSS of 20 milligrams per liter, 30-day arithmetic mean.
2. BOD5 of 20 milligrams per liter, 30-day arithmetic mean.
3. Total nitrogen (as nitrogen) of 53 milligrams per liter, 5-month arithmetic mean.
4. Total coliform level of 100,000 (Log10 5) colony forming units per 100 milliliters, 95th percentile.

C. Additional Notice of Intent Submittal Requirements. In addition to the requirements specified in R18-9-401(B)(3) and R18-9-426(C), the applicant shall submit specifications for the media proposed for use in the sand lined trench.

D. Design Requirements.
1. Media used in the trench may be mineral sand, crushed glass or cinder sand. Media shall conform to ASTM C33-99ae1 as determined by ASTM C117-95, "Standard Test Method for Materials Finer than 75-µm (No. 200) Sieve in Mineral Aggregates by Washing," or equivalent approved method. Sieve analysis shall comply with ASTM C117-95 or equivalent approved method.
2. Trenches.

a. The spacing between trenches shall be no less than 2 times the depth of the trench bottom below finished grade.
b. The inlet filter media surface, wastewater distribution pipe and bottom of the trench shall be level.
c. The depth of sand below the gravel layer containing the distributions system shall be at least 24 inches.
d. The gravel layer containing the distribution system shall be 5 to 12 inches thick, at least 36 inches wide and level.
e. Permeable geotextile fabric may be placed at the base of and along the sides of the gravel layer as necessary. Geotextile fabric must be placed on top of the gravel layer. Any cover soil placed on top of the geotextile fabric must be capable of maintaining vegetative growth while allowing passage of air.
f. At least 1 observation port shall be installed to the bottom of each of the sand lined trenches.
g. If the trench is installed in excessively permeable soil or rock, at least 1 foot of loamy sand shall be placed in the trench below the filter media. The minimum vertical separation distance is measured from the bottom of the loamy sand.

3. The dosing system shall consist of a timer-controlled pump, electrical components and distribution network. Orifice spacing on the distribution piping shall not exceed 4 square feet of media infiltrative surface area per orifice. The dosing rate shall be no less than 4 doses per day nor no more than 24 doses per day.
4. Setbacks indicated in R18-9-429(C) may be reduced by 1/2 for wells, live streams, lakes or reservoirs, surface water drinking water intakes, and wash and drainage easements.

E. Installation Requirements. The filter media shall be placed in the trench to prevent differential settling and promote a uniform density throughout of 1.3 to 1.4 grams per cubic centimeter.

F. Operation and Maintenance Requirements

1. The effluent baffle screen and pump tank should be inspected and cleaned yearly.
2. The dosing tank effluent screen, pump switches and floats should be cleaned as least yearly and the residue properly disposed.
3. Monitoring ports should be checked periodically for ponding and corrective measures taken if ponding is observed. Any removed filter media shall be handled following applicable requirements.
4. Lateral lines should be flushed periodically and the liquid waste discharged into the treatment system headworks.

R18-9-450. General Permit 4.20: Onsite Wastewater Treatment Facilities, Disinfection Devices, Less Than 3000 Gallons Per Day

A. Scope. A Type 4 General Aquifer Protection Permit is established for a disinfection device that receives wastewater from a septic tank or other treatment device of an onsite wastewater treatment facility authorized by a general permit under this Article and reduces the level of harmful microorganisms in the wastewater during passage through the device. The disinfection device kills the microorganisms by exposing the wastewater to heat, radiation or a chemical disinfectant. Some means of disinfection require detention prior to discharge. A disinfection device is considered if a reduction in harmful microorganisms, as measured by the total coliform level, is needed for surface or near surface disposal of the wastewater or when it is desired to reduce the minimum vertical separation distance specified in R18-9-429(E).

B. Restrictions.

1. Unless designed to operate without electricity, no disinfection device shall be installed if electricity is not permanently available at the site.
2. This general permit does not authorize a disinfection device that releases chemical disinfectants or disinfection byproducts harmful to plants or wildlife in the discharge area or would cause a violation of an aquifer water quality standard.

C. Performance. The required performance of a disinfection device is dependent on the level of disinfection needed for a particular type of disposal. For an onsite device wastewater treatment facility with discharge to the land surface, the disinfection device, in conjunction with all preceding treatment processes, shall achieve, and design calculations shall be based on all of the following:

1. Treated wastewater that is nominally free of coliform bacteria, which is equivalent to total coliform level of Log10 0 colony forming units per 100 milliliters, 99th percentile.
2. Treated wastewater with a dissolved oxygen content of no less than 6 milligrams per liter.
3. Treated wastewater that is clear and odorless.
4. If the disinfection device relies on the addition of chemicals for disinfection, the device shall be operated to minimize the resultant levels to the lowest practicable while achieving the required level of disinfection.
5. Incorporation of a fail-safe mechanism to prevent inadequately treated wastewater from being discharged.

D. Reference Design. A disinfection device achieving the performance requirements specified in subsection (C) may be designed and installed following a reference design on file with the Department. The applicant shall file a form provided by the Department for supplemental information about the proposed system with the applicant's submittal of the Notice of Intent to Discharge Under a General Permit.

E. Alternative Design. An applicant may submit an alternative to the reference design for a disinfection device that achieves the performance requirements specified in subsection (C) by following R18-9-429(H). Under this circumstance, the Department shall consider the submittal of an alternative design as 1 design change for the purpose of establishing the

applicable fee under R18-14-101 et seq. The applicant shall file a form provided by the Department for supplemental information about the proposed system with the applicant's submittal of the Notice of Intent to Discharge Under a General Permit.

R18-9-451. General Permit 4.21: Onsite Wastewater Treatment Facilities, Sequencing Batch Reactor, Less Than 3000 Gallons Per Day

A. Scope. A Type 4 General Aquifer Protection Permit is established for a sequencing batch reactor that consists of a minimum of 2 vessels, a receiving vessel and a process vessel, in which the key unit treatment processes such as aeration and settlement are sequenced one after the other in the process vessel. The treatment process is similar to that which occurs in aerobic systems described in other general permits in this Article except that in an aerobic system separate vessels or partitions of the vessel are used for each unit treatment step. Sequencing batch reactors are considered for use when enhanced biochemical processing is needed to treat wastewater with high organic content, when soil conditions are not adequate to allow installation of a standard septic tank and disposal field as described in R18-9-432, General Permit 4.02, or when a more highly treated and disinfected effluent is otherwise needed.

B. Restrictions. A sequencing batch reactor shall not be installed if electricity to operate the system is not available at the site.

C. Performance. A sequencing batch reactor shall achieve, and design calculations shall be based on:

1. TSS of 30 milligrams per liter, 30-day arithmetic mean.
2. BOD5 of 30 milligrams per liter, 30-day arithmetic mean.
3. Total nitrogen (as nitrogen) of 53 milligrams per liter, 5-month arithmetic mean.
4. Total coliform level of 300,000 (Log10 5.5) colony forming units per 100 milliliters, 95th percentile.

D. Reference Design. A sequencing batch reactor achieving the performance requirements specified in subsection (C) may be designed and installed following a reference design on file with the Department. The applicant shall file a form provided by the Department for supplemental information about the proposed system with the applicant's submittal of the Notice of Intent to Discharge Under a General Permit.

E. Alternative Design. An applicant may submit an alternative to the reference design for a sequencing batch reactor that achieves equal or better performance than specified in subsection (C) by following R18-9-429(H). Under this circumstance, the Department shall consider the submittal of an alternative design as 1 design change for the purpose of establishing the applicable fee under R18-14-101 et seq. The applicant shall file a form provided by the Department for supplemental information about the proposed system with the applicant's submittal of the Notice of Intent to Discharge Under a General Permit.

R18-9-452. General Permit 4.22: Onsite Wastewater Treatment Facilities, Subsurface Drip Irrigation Disposal, Less Than 3000 Gallons Per Day

A. Scope. A Type 4 General Aquifer Protection Permit is established for a subsurface drip irrigation system that receives high quality wastewater from an advanced onsite wastewater treatment facility and dispenses it to a irrigation system that is buried at a shallow depth in native soil. Depending on wastewater quality delivered to the drip emitters, a thin layer of soil or engineered fill cover may have to be placed on the surface of the native soil. The drip irrigation system is designed to disperse the treated wastewater into the soil under unsaturated conditions by pressure distribution and timed dosing. A subsurface drip irrigation system reduces the downward percolation of wastewater by enhancing evapotranspiration to the atmosphere. Drip irrigation systems are considered when high groundwater, shallow soils, slowly permeable soils or highly permeable soils are present at the site, or when water conservation is needed.

B. Restrictions. A drip irrigation system shall not be installed if electricity to operate the pressurization system is not available at the site.

C. Performance.

1. The performance of a drip irrigation system is dependent on the quality of wastewater delivered to the drip emitters.
   a. A category "A" drip irrigation system requires wastewater delivered to the system that meets the following minimum water quality criteria:
      i. TSS of 10 milligrams per liter, 30-day arithmetic mean.
      ii. BOD5 of 10 milligrams per liter, 30-day arithmetic mean.
      iii. Total nitrogen (as nitrogen) of 53 milligrams per liter, 5-month arithmetic mean.
      iv. Total coliform level of 10 (Log10 1) colony forming units per 100 milliliters, 95th percentile.
   b. A category "B" drip irrigation system requires wastewater delivered to the system that meets the following minimum water quality criteria:
      i. TSS of 20 milligrams per liter, 30-day arithmetic mean.
      ii. BOD5 of 20 milligrams per liter, 30-day arithmetic mean.
      iii. Total nitrogen (as nitrogen) of 53 milligrams per liter, 5-month arithmetic mean.
      iv. Total coliform level of 100 (Log10 2) colony forming units per 100 milliliters, 95th percentile.

2. A drip irrigation system of either category "A" or category "B" shall achieve, and design calculations shall be based upon, the following performance criteria:
   a. No ponding on the land surface.
   b. Evapotranspiration of at least 50% of the emitted wastewater to the atmosphere.
   c. Incorporation of a fail-safe mechanism to prevent inadequately treated wastewater from being discharged.

D. Additional Notice of Intent Submittal Requirements. In addition to the requirements specified in R18-9-401(B)(3) and R18-9-426(C), the applicant shall submit
1. Documentation of the pretreatment method proposed to achieve the wastewater criteria specified in R18-9-452(C)(1) such as the type of pretreatment system and the manufacturer's warranty.
2. Initial filter and drip irrigation flushing settings.
3. Calculations of the site evaporation rate.
4. Design calculations showing the number of perennial plants needed achieving the required evapotranspiration rate.
5. If supplemental irrigation water is introduced to the drip system, the volume and volume percent of the supplemental water.

E. Design Requirements.
1. Placement of the drip irrigation lines and emitters shall be as follows:
   a. For a category "A" drip system, unless the manufacturer specifies deeper placement, lines and emitters shall be placed from 6 to 12 inches below the surface of the native soil. Soil shall be replaced over the top of the drip system components.
   b. For a category "B" drip system, unless the manufacturer specifies otherwise, lines and emitters shall be placed more than 6 inches below the surface of the native soil. A cover of soil or engineered fill shall be placed on the surface of the native soil to achieve a total emitter burial depth of at least 12 inches.
2. Wastewater shall be filtered to remove particles 100 microns in size and larger.
3. Applicable requirements of R18-9-434, General Permit 4.04, for pressure distribution systems shall be followed.
4. A pressure regulator shall assure that excessive operating pressure or surges do not damage the drip irrigation system.
5. Wastewater distribution pipe shall be Schedule 40 PVC or better, sized for a minimum flow velocity of 2 feet per second.
6. The system shall be designed to flush the irrigation components with wastewater. Piping and valves shall allow the wastewater to be pumped in a line flushing mode of operation with discharge returned to the treatment system headworks.
7. Air vacuum release valves shall be installed to prevent water and soil drawback into the emitter.
8. Emitters shall be spaced a minimum of 2 feet apart. Drip lines shall be placed between 12 and 24 inches apart unless slight variations in spacing will allow preservation of existing trees and shrubs or enhance performance to overcome site limitations. Emitters shall be designed to discharge from 0.5 to 1.5 gallons per hour.
9. Supplemental water for irrigation may be introduced to the pumping system with suitable backflow prevention. Supplemental water shall not be introduced to the treatment system.
10. Plant selection shall consider the ability of each species to maintain evapotranspiration rates and absorb nutrients.
11. Drip irrigation may be used for sandy clay loam, clay loam, silty clay loam or finer with weak platy structure and a percolation rate from 45 to 120 minutes per inch; and sandy clay loam, clay loam, silty clay loam or silt loam with massive structure and a percolation rate from 31 to 120 minutes per inch.
12. The setbacks for live stream, lake or reservoir and drainage easement or dry wash shall be 1/2 of those specified in R18-9-429(C). The setback from a private water supply well shall be 25 feet. The setback from a downslope cut bank and culvert or roadway ditch shall be 10 feet.
13. The minimum vertical separation distances shall be 1/2 of those specified in R18-9-429(E)(2) if the design evapotranspiration rate is 50% or more of design flow, except that the minimum vertical separation distance shall not be less than 1 foot.

F. Installation Requirements.
1. The irrigation pipe shall be installed by a plow mechanism that cuts a furrow, dispenses pipe and covers it in 1 operation, or by digging a trench no more than 4 inches wide with a trencher and hand tools.
2. Drip irrigation pipe shall have an incorporated herbicide to prevent root intrusion for a minimum of 10 years and shall have an incorporated bactericide to reduce bacterial slime build-up. Drip irrigation pipe kept in reserve should be stored to preserve the herbicidal and bactericidal characteristics of the pipe.

G. Operation and Maintenance Requirements.
1. If an effluent filter is installed as part of the pretreatment system, the filter shall be cleaned at pre-determined intervals. Automatic flushing of the final drip system filter is preferred to manual flushing. Flushing water shall be discharged into the pretreatment system headworks.
2. The fail-safe mechanism to prevent discharge of inadequately treated wastewater shall be tested quarterly.

R18-9-453. General Permit 4.23: Onsite Wastewater Treatment Facilities, 3000 to less than 24,000 Gallons Per Day

A. Scope. A Type 4 General Aquifer Protection Permit is established for onsite wastewater treatment facilities with a design flow from 3000 gallons per day to less than 24,000 gallons per day if all of the following apply:

1. The treatment and disposal works consist entirely of technologies or designs that are covered under other general permits established in this Article for onsite wastewater treatment facilities with a design flow of less than 3000 gallons per day, but that are simply sized larger to accommodate the increased flows, except as noted in subsection (A)(3).
2. The onsite wastewater treatment facility complies with all other applicable and relevant requirements of this Article, this Section and the specific general Aquifer Protection Permit for the corresponding facility with a design flow of less than 3000 gallons per day.
3. The facility is not a system or a technology covered by 1 of the following general permits available for a design flow of less than 3000 gallons per day:
   a. An aerobic system with subsurface disposal described in R18-9-445, General Permit 4.15.
   b. An aerobic system with surface disposal described in R18-9-446, General Permit 4.16.
   c. A disinfection device described in R18-9-450, General Permit 4.20.
   d. A sequencing batch reactor described in R18-9-451, General Permit 4.21.
   e. A seepage pit or pits described in R18-9-432, General Permit 4.02.

B. Additional Notice of Intent Submittal Requirements. In addition to the requirements specified in R18-9-401(B)(3) and the particular general permit for the facility with a design flow of less than 3000 gallons per day, the applicant shall submit:

1. A performance assurance plan consisting of tasks, schedules and estimated annual costs for operating, maintaining and monitoring performance over a 20-year useful service life.
2. Design documents and the performance assurance plan sealed by a Professional Engineer registered in Arizona.
3. Any documentation submitted under the alternative design procedure specified in R18-9-429(H) that pertains to achievement of better performance levels than those specified in the general permit for the corresponding facility with a design flow of less than 3000 gallons per day, or for any other alternative design, construction or operational change proposed by the applicant.

C. Additional Requirement for Verification: In addition to any other requirements, the applicant shall submit:

1. A signed and sealed Engineer's Certificate of Completion in a format approved by the Department that affirms that the project was completed in compliance with the requirements of this Section, either as described in the plans and specifications corresponding to the Provisional Verification of General Permit Conformance issued by the Department, or with changes that are reflected in as-built plans submitted with the Engineer's Certificate of Completion.
2. The name of a certified operator or service company that will be will responsible for implementing the performance assurance plan.

D. Reporting Requirement. The permittee shall provide to the Department annually:

1. A form signed by the certified operator or service company which:
   a. Provides any data or documentation required by the performance assurance plan,
   b. Certifies compliance with the requirements of the performance assurance plan and
   c. Describes any additions to the system during the year that increased flows and certifies that the flow did not exceed 24,000 gallons per day during any day.
2. Any applicable fee as required by A.R.S. § 49-242 or R18-14-101. et. seq.

Table 1. Unit Flows for Sewage Flow Design

Type of Facility Served	**Applicable Unit**	**Sewage Design Flow per Applicable Unit, Gallons Per Day**
Airport	Passenger (average daily number) Employee	4 15
Apartment Building 1 bedroom 2 bedroom 3 bedroom 4 bedroom	 Resident (if max. number fixed) Apartment Apartment Apartment Apartment	 100 200 300 400 500
Auto Wash	Facility	Per manufacturer
Bar/Lounge	Seat	30
Barber Shop	Chair	35
Beauty Parlor	Chair	100
Bowling Alley (snack bar only)	Lane	75
Camp Day camp, no cooking facilities Campground, overnight, flush toilets Campground, overnight, flush toilets and shower Campground, luxury Camp, youth, summer or seasonal	 Camping unit Camping unit Camping unit Person Person	 30 75 150 100-150 50
Church Without kitchen With kitchen	 Person (maximum attendance) Person (maximum attendance)	 5 7
Country Club	Resident Member Nonresident Member	100 10
Dance Hall	Patron	5
Dental Office	Chair	500
Dog Kennel	Animal, maximum occupancy	15
Hospital All flows Kitchen waste only Laundry waste only	 Bed Bed Bed	 250 25 40
Hotel/motel Without kitchen With kitchen	 Bed (2 person) Bed (2 person)	 50 60
Industrial facility Without showers With showers Cafeteria, add	 Employee Employee Employee	 25 35 5

Institutions		
Resident	Person	75
Nursing home	Person	125
Rest home	Person	125
Laundry		
Self service	Wash cycle	50
Commercial	Washing machine	Per manufacturer
Office Building	Employee	20
Park		
Picnic, with showers, flush toilets	Parking space	40
Picnic, with flush toilets only	Parking space	20
Recreational vehicle, no water or sewer connections	Vehicle space	75
Recreational vehicle park, with water & sewer connections	Vehicle space	100
Mobile home/Trailer	Space	250
Residence		
Dwelling, per person (for sewer collection system design only)	Person	100
Dwelling, single family	Dwelling (3 bedrooms assumed)	450
Dwelling, per bedroom if count available	Bedroom	150
Dwelling, per fixture if count available	Fixture unit	25
Mobile home, family	Home lot	250
Mobile home, adults only	Home lot	150
Seasonal and summer	Resident	100
Restaurant/Cafeteria	Employee	20
With toilet, add	Customer	7
Kitchen waste, add	Meal	6
Garbage disposal, add	Meal	1
Cocktail lounge, add	Customer	2
Kitchen waste disposal service, add	Meal	2
Restroom, public	Toilet	200

School		
Staff and office	Person	20
Elementary, add	Student	15
Middle and High, add	Student	20
with gym & showers, add	Student	5
with cafeteria, add	Student	3
Boarding, total flow	Person	100
Service Station with toilets	First bay	1,000
	Each additional bay	500
Shopping Center, no food or laundry	Square foot of retail space	0.1
Store	Employee	20
Public restroom, add	Square foot of retail space	0.1
Swimming Pool, Public	Person	10
Theater		
Indoor	Seat	5
Drive-in	Car space	10

Note: Unit flow rates published in standard texts, literature sources or relevant area or regional studies may be approved by the Department, if appropriate to the project.

ARTICLE ~~2.~~ 5. AGRICULTURAL GENERAL PERMITS

~~R18-9-201~~ R18-9-501. Definitions

In addition to the definitions in A.R.S. § 49-101 and 49-201, the terms of this Article shall have the following meanings:

1. "Application of nitrogen fertilizer" means any use of a substance containing nitrogen for the commercial production of crop plants. The commercial production of crop plants includes commercial sod farms and nurseries.
2. "Crop plant needs" means the amount of water and nitrogen required to meet the physiological demands of the crop plant to achieve a defined yield.
3. "Crop plant uptake" means the amount of water and nitrogen which can be physiologically absorbed by the roots and vegetative parts of a crop plant following the application of water.

~~R18-9-202~~ R18-9-502. Agricultural general permits: nitrogen fertilizers

All persons who engage in the application of nitrogen fertilizers are issued an agricultural general permit and shall comply with the agricultural best management practices listed in this Section. A person who engages in the application of nitrogen fertilizer pursuant to an agricultural general permit shall comply with all of the following:

1. Application of nitrogen fertilizer shall be limited to that amount necessary to meet projected crop plant needs.
2. Application of nitrogen fertilizer shall be timed to coincide as closely as possible to the periods of maximum crop plant uptake.
3. Application of nitrogen fertilizer shall be by a method designed to deliver nitrogen to the area of maximum crop plant uptake.
4. Application of irrigation water to meet crop plant needs shall be managed to minimize nitrogen loss by leaching and runoff.
5. The application of irrigation water shall be timed to minimize nitrogen loss by leaching and runoff.
6. The operator shall use tillage practices that maximize water and nitrogen uptake by crop plants.

~~R18-9-203~~ R18-9-503. Agricultural general permits: concentrated animal feeding operations

All persons who engage in concentrated animal feeding operations are issued an agricultural general permit and shall comply with the agricultural best management practices listed in this Section. A person who operates a concentrated animal feeding operation facility pursuant to an agricultural general permit shall comply with all of the following:

1. Harvest, stockpile and dispose of animal manure from concentrated animal feeding operations to minimize discharge of nitrogen pollutants by leaching and runoff.
2. Control and dispose of nitrogen contaminated water resulting from activities associated with a concentrated animal feeding operation, up to a 25-year, 24-hour storm event equivalent to minimize the discharge of nitrogen pollutants.
3. Close facilities in a manner to minimize the discharge of nitrogen pollutants.

ARTICLE 8. ~~SEWERAGE SYSTEMS~~ REPEALED

~~R18-9-801.~~ ~~Legal authority~~ Repealed

~~The rules in this Article are adopted pursuant to the authority granted by A.R.S. º49-104(B)~~

~~R18-9-802.~~ ~~Definitions~~ Repealed

~~**A.** "Approved" or "approval" means approved in writing by the Department.~~

~~**B.** "Department" means the Department of Environmental Quality or a local health department designated by the Department.~~

~~**C.** "Disposal system" means a system for disposing of wastes, either by surface or underground methods, and includes sewerage systems, treatment works, disposal wells, and other systems.~~

~~**D.** "Engineer" means the person or firm which designed the sewage works and conceived, developed, executed, or supervised the preparation of the plan documents.~~

~~**E.** "Individual disposal system" means a device or system for the treatment or disposal of sewage from a single housing unit.~~

~~**F.** "Person" means the state or any agency or institution thereof, any municipality, political subdivision, public or private corporation, individual, partnership, association, or other entity, and includes any officer or governing or managing body of any municipality, political subdivision, or public or private corporation.~~

~~**G.** "Plan documents" means reports, proposals, preliminary plans, survey and basis of design data, general and detail construction plans, profiles, specifications, and all other information pertaining to sewage works planning.~~

~~**H.** "Pollution" means such contamination, or other alteration of the physical, chemical, or biological properties of any waters of the state, including change in temperature, taste, color, turbidity, or odor of the waters, or such discharge of any liquid, gaseous, solid, radioactive, or other substance into any waters of the state as will or is likely to create a public nuisance or render such waters harmful, detrimental, or injurious to public health, safety, or welfare, or to domestic, agricultural, commercial, industrial, recreational, or other beneficial uses, or to livestock, wild animals, birds, fish or other aquatic life.~~

~~**I.** "Sewage" means wastes from toilets, baths, sinks, lavatories, laundries, and other plumbing fixtures in residences, institutions, public and business buildings, mobile homes, watercraft, and other places of human habitation, employment, or recreation.~~

~~**J.** "Sewerage system" means pipelines or conduits, pumping stations, and force mains, and all other structures, devices, appurtenances, and facilities used for collecting or conducting wastes to an ultimate point for treatment or disposal.~~

~~**K.** "Treatment works" means any plant or other works used for the purpose of treating, stabilizing, or holding wastes.~~

~~**L.** "Wastes" means sewage, industrial wastes, and all other liquid, gaseous, solid, radioactive, or other substance which may pollute or tend to pollute any waters of the State. The term "wastes" does not include agricultural irrigation and drainage waters for which water quality standards shall have been established pursuant to Chapter 11.~~

~~**M.** "Waters of the State" means all waters within the jurisdiction of this state including all streams, perennial or intermittent, lakes, ponds, impounding reservoirs, marshes, watercourses, waterways, wells, springs, irrigation systems, drainage systems, and all other bodies or accumulations of water, surface and underground, natural or artificial, public or private, situated wholly or partly within or bordering upon the state.~~

~~**N.** "Certified Water Quality Management Plan" means a plan prepared by the designated Water Quality Management Planning Agency pursuant to Section 208 of the Federal Water Pollution Control Act (P.L. 92-500) as amended by the Clean Water Act of 1977 (P.L. 95-217), adopted by the Water Quality Control Council, and certified by the Governor.~~

~~**O.** "Designated management agency" means those entities designated in the Certified Water Quality Management Plans to manage sewerage systems and sewage treatment works in respective area.~~

~~**P.** "Facility plan" means the plans, specifications, and estimates for proposed sewerage systems and sewage treatment works prepared pursuant to Sections 201 and 203 of the Federal Water Pollution Control Act (P.L. 92-500) as amended by the Clean Water Act of 1977 (P.L. 95-217), and submitted to the Department by and for a designated management agency.~~

~~**Q.** "Service area" means that geographic region specified for a designated management agency by the applicable Certified Water Quality Management Plan or by a subsequent Facility Plan.~~

~~**R.** "General plan" means a plan prepared by a responsible government entity.~~

~~R18-9-803.~~ ~~General considerations~~ Repealed

~~**A.** No sewage or industrial wastes shall be permitted to flow into any of the waters, or upon or under any of the lands, of the state in any manner determined by the Department to be detrimental to the quality of the receiving body of water, or to the use of the receiving lands, or prejudicial to the health, safety or welfare of persons who may be affected by the resulting environmental condition. Where characteristics of the wastes or the receiving bodies indicate pollution to exist, treatment works as are determined to be necessary by the Department shall be installed and operated.~~

~~**B.** The use of cesspools for waste disposal is prohibited.~~

~~**C.** Individual disposal systems are prohibited under the following conditions:~~

~~1. Where connection to a public sewer system is determined by the Department to be practical.~~

2. ~~Where soil conditions or topography are such that individual disposal systems cannot be expected to function satisfactorily, or where groundwater conditions are such that individual disposal systems may cause pollution of the groundwater supply.~~
3. ~~Where such installations may create an unsanitary condition or public health nuisance.~~

~~D.~~ ~~Minimum design guidelines for sewage systems, including septic-tank systems, and treatment works are found in the Engineering Bulletins of the Department. Copies of these Bulletins may be obtained from the Department.~~

~~E.~~ ~~Bypassing of untreated sewage from sewage treatment systems is prohibited.~~

~~R18-9-804.~~ ~~Approval of plans required~~ Repealed

~~A.~~ ~~No person shall begin construction of any sewerage system, including septic-tank systems, treatment works, reclamation systems, or extensions of works or systems, or make any change which affects capacity, quality, flow or operational performance of a sewerage system, and no person shall install any process, device, or equipment, either in whole or in part, prior to receiving an Approval to Construct from the Department. Application for an Approval to Construct shall be submitted to the Department at least 30 days prior to the date upon which Department approval is desired. For septic-tank systems, the application shall be submitted at least five working days prior to the date upon which Department approval is desired.~~

~~B.~~ ~~All applications to construct a septic-tank system shall include:~~

1. ~~A plot plan with location of the disposal system, structures and property lines.~~
2. ~~Soil percolation and boring log data. General soil percolation and boring log data for a specific area may be used in lieu of individual test data if approved by the Department.~~
3. ~~Location of groundwater, wells, live streams, dry washes and water lines.~~
4. ~~A report on the disposal system design, including the number of bedrooms or population to be served, septic tank capacity and size of leach field.~~
5. ~~Additional data as may be required by the Department. Septic tank systems to serve a private residence, a hotel, motel, restaurant, service station, picnic ground, recreational area camp, or other similar place shall not be required to comply with subsections (D) and (E) of this Section.~~

~~C.~~ ~~Except those for septic-tank systems, all applications shall be accompanied by the following plan documents in duplicate:~~

1. ~~Prints or photostatic copies of drawings of the work to be done. Sufficient detail shall be shown on the drawings to make clear to the Department the scope of the work.~~
2. ~~Complete specifications to supplement the drawings.~~
3. ~~Additional data as may be required by the Department.~~

~~D.~~ ~~The plan documents shall be accompanied by an engineering report, prepared by the designing or consulting engineer, which presents a description of the project together with all pertinent data upon which the design is based and other information necessary to permit a clear and full understanding of the work proposed to be undertaken.~~

~~E.~~ ~~All plan documents submitted to the Department shall be prepared by, or under the supervision of, a registered professional engineer as specified under A.R.S. § 32-141 through 32-145, inclusive. The engineer shall affix his signature and seal of registration in the state of Arizona to all plans submitted for approval. A nonregistrant may design a wastewater treatment plant, or extensions, additions, modifications or revisions, or extensions to collection systems, if the total cost of such construction does not exceed $12,500 as verified by a cost estimate for material and labor submitted with plan documents.~~

~~F.~~ ~~Plans and specifications submitted to the Department shall be reviewed and, if found satisfactory, the Department shall issue an Approval to Construct. If construction has not started within one year after the date of issuance of the Approval to Construct, or there is a halt in construction of more than one year, or if the construction is not completed within three years, the Approval to Construct shall be void, unless an extension of time has been granted in writing by the Department.~~

~~G.~~ ~~All work shall conform to the approved plans and specifications. Should it be necessary or desirable to make any change in the design which will affect capacity or sanitary features of the proposed work, revised plans and specifications, together with a written statement of the reasons for such change, shall be submitted to the Department for review, and approval shall be obtained in writing before the work affected by the change is undertaken. Structural changes or minor revisions not affecting capacity, quality, flow, or operation shall be permitted during construction without further approval. A set of "as built" drawings showing all changes made during construction shall be filed with the Department upon completion of the project.~~

~~H.~~ ~~A sewerage system owner shall notify the Department at least seven days prior to the date when construction will begin on the sewerage system, or of any change made which will affect capacity, quality, flow or operational performance of a sewerage system, authorized by an Approval to Construct, and of the date when installation of any process, device, or equipment authorized by an Approval to Construct will begin. Notification of completion of construction shall be given by the sewerage system owner to the Department at least ten working days prior to the expected completion date to permit the scheduling of a final inspection. For a septic-tank system, the notification shall be given at least five working days prior to the expected completion date.~~

~~**I.** The Department shall not issue approval for any sewerage system or sewage treatment works which is not in conformance with the Certified Water Quality Management Plan and Facility Plan that prescribes a particular sewerage system and sewage treatment works configuration for sewage management by a designated management agency within a service area. If no Facility Plan is applicable, the Certified Water Quality Management Plan shall be utilized by the Department to determine conformance.~~

~~**J.** The Department may issue an approval for a sewerage system or sewage treatment works which is consistent with General Plans prepared for an area when no sewerage system and sewage treatment works configuration is prescribed in the Certified Water Quality Management Plan. The Department shall confer with both the designated Water Quality Planning Agency for the area and the responsible and impacted governmental units to determine consistency with the General Plans.~~

~~**K.** The Department shall not approve additions or sewer main extensions to a sewerage system unless both of the following conditions are met:~~

~~1. The sewerage system is in compliance with the provisions of this Article or is making satisfactory progress toward compliance under a schedule approved by the Department.~~

~~2. The sewerage system possesses all appropriate discharge permits required by this Chapter. This requirement shall be waived if the purpose of the addition or extension is to comply with the provisions of this Chapter.~~

~~R18-9-805.~~ ~~Final approval of construction~~ Repealed

~~**A.** All of the following requirements shall be satisfactorily met before an Approval of Construction will be issued by the Department on a newly constructed sewerage system:~~

~~1. A final inspection has been completed either:~~

~~a. By the Department; or~~

~~b. By a registered engineer, with the approval of the Department.~~

~~2. An operator, certified by the Department pursuant to A.A.C. R18-4-105, at a grade appropriate for that facility, is employed to operate the system, excluding septic tank systems.~~

~~3. An operation and maintenance manual is submitted to and approved by the Department for new sewerage treatment systems or substantial modifications thereto.~~

~~4. Construction conforms to plans and specifications approved by the Department.~~

~~**B.** Operation of a newly constructed sewerage system shall not begin until an Approval of Construction is issued by the Department under subsection (A) of this Section.~~

~~R18-9-806~~. ~~Minimum requirements for sewage systems~~ Repealed

~~**A.** Sewage systems serving condominiums, mobile home parks, travel trailer parks, shopping centers and recreational vehicle parks may be designed using the requirements of the Uniform Plumbing Code ù (1982 Edition), incorporated by reference herein, and on file with the Office of the Secretary of State, excluding the water and sewer main separation requirements. Water and sewer main separations shall conform to R18-9-811.~~

~~**B.** For systems that treat, or which are designed to treat greater than 10,000 gallons/day, a standby power source shall be provided at all sewage treatment systems and/or pump stations where a temporary power failure could allow a discharge of raw or partially treated sewage. Standby power may be via a standby generator, two separate feeders from separate substations, a loop feeder on separate transformers from a common substation, or a high level alarm with portable generators. Standby power also shall be provided to any sewage treatment systems and/or pump stations, regardless of size, if a temporary power failure could allow a discharge into surface waters classified as "unique waters", pursuant to A.A.C. Title 18, Chapter 11, Articles 2 and 3.~~

~~**C.** The structures and electrical and mechanical equipment of sewage treatment systems and pump stations, on which original construction began on or after the effective date of these rules, shall be protected from physical damage from a 100-year flood. Flood protection shall be designed such that treatment works and pump stations will remain fully operational during a 25-year flood. Walls or berms of adequate size may be constructed where necessary to provide protection. Flood protection approval must be obtained from the appropriate flood control district before an Approval to Construct will be issued.~~

~~**D.** All treatment works with greater than 100,000 gallons/day capacity shall be provided with the necessary equipment to indicate, record and totalize the volume of wastewater being treated. Treatment plants with less than 100,000 gallons/day capacity are only required to indicate flow.~~

~~R18-9-807.~~ ~~Preliminary plans~~ Repealed

~~Designing or consulting engineers should confer with the Department before proceeding with detailed designs of major waste treatment works. It is advisable to submit, for preliminary consideration, tentative plans containing a general description of the existing or proposed plant, works, or systems, or proposed changes therein.~~

~~R18-9-808.~~ ~~Operation~~ Repealed

~~**A.** All sewage and industrial waste treatment works shall be operated at their highest practical efficiency at all times. If, after investigation, the Department determines that any treatment or disposal works is causing unsatisfactory conditions in the waters or stream course or on or under any land into which the effluent is discharged, or is otherwise interfering with the legitimate uses of such waters or lands or is creating a nuisance or a menace to public health, the owner shall make such changes in the plant or its operation as are necessary to produce satisfactory results. These changes shall be made within such time limits as are set by the Department.~~

~~**B.** If the Department determines that a sewerage system is not in compliance with the provisions of this Article and is creating an environmental nuisance pursuant to A.R.S. º49-141, the Department shall order the sewerage system to discontinue or limit hookups of new service lines to the sewerage system until such time as the Department determines that the system has achieved compliance with the provisions of this Article and is no longer creating an environmental nuisance.~~

~~R18-9-809.~~ ~~Inspection~~ Repealed

~~Inspections of sewage and industrial waste treatment works shall be made by personnel of the Department or its designated representative. Appropriate person or persons shall be notified of any unsatisfactory conditions with recommendations for correction.~~

~~R18-9-810.~~ ~~Cross-connections~~ Repealed

~~No person shall install, permit to be installed, or maintain connections between any part of a disposal system and a potable water supply or a public water supply, in such manner that sewage or waste may find its way into, or otherwise contaminate, any potable or public water supply.~~

~~R18-9-811.~~ ~~Separation of water and sewer mains~~ Repealed

~~**A.** In order to protect public water systems from possible contamination, a water main shall not:~~

~~1. Infringe upon an area which is within six feet of either side of a sewer main and shall not be below, at the same level as, or less than two feet above the top of the 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 or shall consist of encasing both the water and sewer mains in at least six inches of concrete.~~

~~2. Under any circumstances, infringe upon an area which is within two feet of either~~ side of or two feet below the sewer main.

~~**B.** When unusual conditions such as, but not limited to, highway or bridge crossings prevent the water and sewer main separations required by subsection (A) above from being met, the Department will review and may approve, requests for authorization to use alternate construction techniques, materials and joints on a case-by-case basis.~~

~~**C.** 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 six feet, measured from the center of the manhole.~~

~~**D.** The minimum separation between force mains or pressure sewers and water mains shall be two feet vertically and six feet horizontally under all conditions. Where a sewer force main crosses above, or less than six feet below, a water line, the sewer main shall be encased in at least six inches of concrete for 10 feet on either side of the water main.~~

~~**E.** Sewer mains (gravity, pressure, force) shall be kept at a minimum of 50 feet from drinking water wells, unless the following conditions are met:~~

~~1. Water main pipe, pressure tested in place to 50 psi without excessive leakage, may be used for gravity sewers at distances greater than 20 feet from drinking water wells.~~

~~2. Water main pipe, pressure tested in place to 150 psi without excessive leakage, may be used for pressure sewers and force mains at distances greater than 20 feet from drinking water wells.~~

~~**F.** No septic tank/disposal field system shall be constructed within 100 feet of a drinking water well.~~

~~**G.** All distances are measured perpendicularly from the outside of the sewer main to the outside of the water main. These separation requirements do not apply to building plumbing or individual house service connections.~~

~~R18-9-812.~~ ~~Tests and records~~ Repealed

~~The owner or operator of each waste disposal plant shall have equipment for and make such tests and keep such records as are necessary to assure efficient operation of the treatment works. Records of plant operation shall be transmitted to the Department on forms approved by the Department and as it may specify.~~

~~R18-9-813.~~ ~~Approval required~~ Repealed

~~No sewage or industrial waste treatment effluents shall be used for irrigation purposes without written approval from the Department. R9-20-400 series rules govern reuse of waste treatment effluents. Direct disposal of sewage or industrial waste treatment effluents for irrigation of crops to be used for human consumption or for watering of cattle is prohibited.~~

~~**R18-9-814.** **Limitations to discharges to wells**~~ **Repealed**

~~Unless permitted by the Department under Article 3, Chapter 2, Title 49 of the Arizona Revised Statutes and Article 1 of this Chapter, no privy contents, drainage from a building, or the effluent from any waste treatment device shall be discharged into any well, as defined in A.R.S. § 49-201.32.~~

~~**R18-9-815.** **Discharge to creviced formation prohibited**~~ **Repealed**

~~No privy contents, drainage from a building, or the effluent from any waste treatment device shall be discharged into any crevice, sink-hole, or other opening, either natural or artificial, or in a rock formation which will or may permit the pollution or contamination of ground water.~~

~~**R18-9-816.** **Discharge of sewage from watercraft prohibited**~~

~~No boat, houseboat, or watercraft of any type, shall be equipped with a marine toilet so constructed and operated as to discharge any sewage directly or indirectly into the waters of the state, nor shall any container of sewage be placed, left, discharged, or caused to be placed, left, or discharged in or near any waters of the state by any person at any time.~~

~~**R18-9-817.** **Acceptable toilets for watercraft**~~

~~Watercraft with marine toilets so constructed as to permit sewage to be discharged directly into the waters of the state shall be locked and sealed to prevent usage. Chemical or other type marine toilets with approved type storage containers shall be permitted where adequate, dockside disposal facilities are provided.~~

~~**R18-9-818.** **Dockside facilities**~~

~~**A.** Every dock servicing watercraft shall have, conveniently located thereto, approved type toilet facilities for men and for women.~~

~~**B.** Every dock servicing watercraft equipped with toilets shall provide approved sanitary facilities at dockside for the disposal of sewage from watercraft toilets.~~

~~**R18-9-819.** **Violations**~~

~~Any person who violates any provision of this Article is subject to the enforcement provisions of A.R.S. § 49-142 or as otherwise may be provided by law.~~