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. 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 making, amending, or repealing any rule. (A.R.S. §§ 41-1013 and 41-1022)

NOTICE OF PROPOSED RULEMAKING

TITLE 7. EDUCATION

CHAPTER 2. STATE BOARD OF EDUCATION

[R04-520]

PREAMBLE

1. Sections Affected **Rulemaking Action**
R7-2-614 Amend

2. The specific authority for rulemaking, including both the authorizing statute (general) and the statutes the rules are implementing (specific):
Authorizing statute: A.R.S. 15-203

Implementing statute: A.R.S. 15-203(14)

3. A list of all previous notices appearing in the Register addressing the proposed rule:
None

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

Name:	Christy Farley, Executive Director
Address:	1535 W. Jefferson, Room 418 Phoenix, AZ 85007
Telephone:	(602) 542-5057
Fax:	(602) 5423046
E-mail:	cfarley@ade.az.gov

5. An explanation of the rule, including the agency's reason for initiating the rule:
The State Board of Education is responsible for "supervising and controlling the certification of persons engaged in instructional work directly as any classroom, laboratory or other teacher or indirectly as a supervisory teacher, speech therapist, principal or superintendent in a school district…and prescribe rules for certification…". In previous rulemaking, and thus under current Board Rule, the Board saw fit to provide an exemption to the certification requirements for superintendents in school districts with under 600 pupils. This exemption was provided through June 30, 2005. The State Board of Education received communication from several small school districts, the Association of Small and Rural Schools and county school superintendents requesting an extension to this exemption for small school districts.

The State Board of Education believes it is appropriate to conduct an analysis of the current qualifications of superintendents in small school districts and evaluate appropriate qualification criteria for this population. This analysis cannot be conducted and rulemaking complete, however, prior to the expiration of the current exemption. For this reason, the Board is seeking an extension of the exemption for one year in this rulemaking package. During the next six months the Board will convene a group of stakeholders to conduct the analysis, develop recommendations and report back to the Board so that we may pursue additional rulemaking in this area.

6. A reference to any study relevant to the rule that the agency reviewed and either proposes to rely on or not rely on in its evaluation of or justification for the rule, where the public may obtain or review each study, all data underlying each study, and any analysis of each study and other supporting material:
Not applicable.

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

The proposed rules will not diminish any previous grant of authority of a political subdivision of this state. Although not political subdivisions, these proposed rules do promote statewide interest by allowing small school districts to maintain current individuals who are performing well in positions of superintendent who may not currently hold superintendent certificates.

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

There is no anticipated negative fiscal impact as a result of these proposed rules. Adoption of these rules will maintain the current status quo. Should these rules not be adopted, school districts with under 600 students would be required to have superintendents who hold superintendent certificates. Not adopting these rules could, therefore, result in two possible negative consequences: vacant positions or additional costs to assist current individuals in these positions obtain the required coursework to be eligible for a superintendent's certificate or to hire individuals already holding a superintendent certificate.

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:	Christy Farley, Executive Director
Address:	1535 W. Jefferson, Room 418 Phoenix, AZ 85007
Telephone:	(602) 542-5057
Fax:	(602) 542-3046
E-mail:	cfarley@ade.az.gov

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:

An oral proceeding on the proposed rulemaking is scheduled as follows:

Date:	March 11, 2005
Time:	11:00 a.m.
Location:	State Board of Education 1535 W. Jefferson, Room 417 Phoenix, AZ 85007

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

None

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

None

13. The full text of the rules follows:

TITLE 7. EDUCATION

CHAPTER 2. STATE BOARD OF EDUCATION

ARTICLE 6. CERTIFICATION

Section
R7-2-614. Administrative Certificates

ARTICLE 6. CERTIFICATION

R7-2-614. Administrative Certificates

A. No change
B. No change
C. No change
D. Superintendent Certificate -- grades Prekindergarten-12

1. The superintendent certificate is required for superintendents, assistant or associate superintendents, district chief executive officers regardless of title, and others with similar district-level administrative duties. In school districts with a student population of fewer than 600, a superintendent certificate shall not be required until June 30, ~~2005~~2006.

2. The certificate is valid for six years.
3. The requirements are:
   a. A Master's or more advanced degree including at least 60 graduate semester hours;
   b. Completion of a program in educational administration for superintendents, including at least 36 graduate semester hours of educational administrative courses which teach the standards described in R7-2-603;
   c. Three years of verified teaching experience in grades Prekindergarten-12;
   d. A practicum as a superintendent or two years verified experience as a superintendent, assistant superintendent, or associate superintendent in grades Prekindergarten-12;
   e. A passing score on the Arizona Administrator Proficiency Assessment; and
   f. A valid Class 1 or Class 2 fingerprint clearance card.
4. A valid superintendent certificate from another state may be substituted for the program in educational administration, teaching experience, and practicum described in subsections (D)(3)(b), (c), and (d).
5. Individuals who hold an Alternative Superintendent Certificate before the effective date of this rule shall be issued a Superintendent Certificate at the time of renewal. Individuals who were evaluated for an Alternative Superintendent Certificate before the effective date of this rule and who meet the qualifications in effect at the time of evaluation within two years of the evaluation shall be issued a Superintendent Certificate.

NOTICE OF PROPOSED RULEMAKING

TITLE 7. EDUCATION

CHAPTER 2. STATE BOARD OF EDUCATION

[R04-521]

PREAMBLE

1. Sections Affected — **Rulemaking Action**
R7-2-806 — New Section

2. The specific authority for rulemaking, including both the authorizing statute (general) and the statutes the rules are implementing (specific):
Authorizing statute: A.R.S. § 15-747

Implementing statute: A.R.S. § 15-747(B)

3. A list of all previous notices appearing in the Register addressing the proposed rule:
None

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

Name:	Christy Farley, Executive Director
Address:	State Board of Education 1535 West Jefferson, Room 418 Phoenix, AZ 85007
Telephone:	(602) 542-5057
Fax:	(602) 542-3046
E-mail:	cfarley@ade.az.gov

5. An explanation of the rule, including the agency's reasons for initiating the rule:
The State Board of Education is seeking to add a new section to the Board rules, R7-2-806, governing public viewing of the nationally standardized norm-referenced test adopted by the State Board of Education pursuant to A.R.S. § 15-741. These proposed rules establish the process for making a request, viewing the test and prohibited acts.

6. A reference to any study relevant to the rule that the agency reviewed and either proposes to rely on or not rely on in its evaluation of or justification for the rule, where the public may obtain or review each study, all data underlying each study, and any analysis of each 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:
The proposed rules will not diminish any previous grant of authority of a political subdivision of this state.

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

Neither the State Board of Education, the Department of Education, nor any school districts or other political subdivisions will be subject to additional costs by these rules. There will be no effect on small business or on state revenues, and there is not a less-intrusive method for accomplishing the goals achieved by these rules.

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:	Christy Farley, Executive Director
Address:	State Board of Education 1535 West Jefferson, Room 418 Phoenix, AZ 85007
Telephone:	(602) 542-5057
Fax:	(602) 542-3046
E-mail:	cfarley@ade.az.gov

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:

An oral proceeding on the proposed rulemaking is scheduled as follows:

Date:	March 11, 2005
Time:	10:00 a.m.
Location:	State Board of Education 1535 W. Jefferson, Room 417 Phoenix, Arizona 85007

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

Not applicable

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

None

13. The full text of the rules follows:

TITLE 7. EDUCATION

CHAPTER 2. STATE BOARD OF EDUCATION

ARTICLE 8. COMPLIANCE

Section
R7-2-806. Nationally Standardized Norm-referenced Test; Public Viewing

ARTICLE 8. COMPLIANCE

R7-2-806. Nationally Standardized Norm-referenced Test; Public Viewing

A. Individuals shall be allowed to view the nationally norm-referenced standardized test or portion of test, required to be adopted by A.R.S. § 15-741.

B. An individual wishing to view the nationally norm-referenced standardized test or portion of test adopted by the State Board of Education shall comply with the following procedures and requirements:

1. Submit a written request to the Department of Education on a form developed by the Department of Education; and
2. Shall verify by signature, upon penalty of perjury, that the person is not a pupil required to take the nationally norm-referenced standardized test; and
3. Shall verify the individual's identity upon arrival to view the test through a state-issued picture identification, including but not limited to, a drivers license or state identification card, and
4. Shall sign a statement of nondisclosure prior to viewing the assessment(s); and
5. Will not use the information gained from the viewing to change the outcome of any individual's test.

C. Upon receiving a request from an individual under subsection (B) of this rule, the Department of Education Accountability Division shall provide a location for the individual to review the requested assessments within a reasonable amount of time but no later than twenty business days after receiving the request.

D. An individual is prohibited from taking any materials or electronic devices that could be used to duplicate or reproduce

any portion of the nationally norm-referenced standardized test and shall comply with all copyright protections afforded by federal law. Exceptions will only be made for a specific purpose and with express permission by the Arizona Department of Education in consultation with the Accountability Division.

E. Any individual viewing the assessments will be monitored by Arizona Department of Education staff, electronically, or a combination of both.

F. The viewing of the assessment(s) shall be limited to 60 minutes. An individual may submit a request for an additional viewing session(s), however, the Arizona Department of Education reserves the right to limit repeated requests.

NOTICE OF PROPOSED RULEMAKING

TITLE 18. ENVIRONMENTAL QUALITY

CHAPTER 9. DEPARTMENT OF ENVIRONMENTAL QUALITY WATER POLLUTION CONTROL

[R04-502]

PREAMBLE

1. Sections Affected	Rulemaking Action
R18-9-101	Amend
R18-9-103	Amend
R18-9-104	Amend
R18-9-105	Amend
R18-9-106	Amend
R18-9-107	Amend
R18-9-108	Amend
R18-9-109	Amend
R18-9-110	Amend
R18-9-A201	Amend
R18-9-A202	Amend
R18-9-A203	Amend
R18-9-A204	Amend
R18-9-A205	Amend
R18-9-A206	Amend
R18-9-A207	Amend
R18-9-A208	Amend
R18-9-A209	Amend
R18-9-A210	Amend
R18-9-A211	Amend
R18-9-A212	Amend
R18-9-A213	Amend
R18-9-A214	New Section
R18-9-B201	Amend
R18-9-B202	Amend
R18-9-B203	Amend
R18-9-B204	Amend
R18-9-B205	Amend
R18-9-B206	Amend
R18-9-A301	Amend
R18-9-A303	Amend
R18-9-A304	Amend
R18-9-A305	Amend
R18-9-A306	Amend
R18-9-A307	Amend
R18-9-A309	Amend
R18-9-A310	Amend
R18-9-A311	Amend
R18-9-A312	Amend
R18-9-A313	Amend
R18-9-A314	Amend
R18-9-A315	Amend
R18-9-A316	Amend

R18-9-A317	New Section
R18-9-B301	Amend
R18-9-C301	Amend
R18-9-C302	Amend
R18-9-C303	Amend
R18-9-C304	Amend
R18-9-C305	New Section
R18-9-C306	New Section
R18-9-D301	Amend
R18-9-D302	Amend
R18-9-D303	Amend
R18-9-D304	Amend
R18-9-D305	Amend
R18-9-D306	Amend
R18-9-D307	Amend
R18-9-E301	Amend
R18-9-E302	Amend
R18-9-E303	Amend
R18-9-E304	Amend
R18-9-E305	Amend
R18-9-E306	Amend
R18-9-E307	Amend
R18-9-E308	Amend
R18-9-E309	Amend
R18-9-E310	Amend
R18-9-E311	Amend
R18-9-E312	Amend
R18-9-E313	Amend
R18-9-E314	Amend
R18-9-E315	Amend
R18-9-E316	Repeal
R18-9-E316	New Section
R18-9-E317	Amend
R18-9-E318	Amend
R18-9-E319	Amend
R18-9-E320	Amend
R18-9-E321	Repeal
R18-9-E321	New Section
R18-9-E322	Amend
R18-9-E323	Amend
Table 1	Amend
Article 4	Amend
R18-9-401	Amend
R18-9-402	Amend
R18-9-403	Amend
R18-9-404	New Section

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. § 49-203(A)(4)

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

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

Notice of Rulemaking Docket Opening: 10 A.A.R. 1629, April 23, 2004

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

Name: Shirley Conard

Address: Department of Environmental Quality -Water Permits Section
1110 W. Washington, 5415B-3
Phoenix, AZ 85007

Telephone: (602) 771-4632

Fax: (602) 771-4674

E-mail: conard.shirley@azdeq.gov

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

GENERAL EXPLANATION OF THIS RULEMAKING

The Aquifer Protection Permit (APP) Program is Arizona's keystone program for protecting groundwater quality. Significant rule revisions were adopted in 2001 to restructure the permitting approach by reducing duplicative reviews, adding numerous general permits, and adopting a permitting approach for onsite wastewater treatment facilities that relies on performance standards. Since adoption of the APP rules in 2001, the Department has conducted numerous stakeholder outreach events, convened stakeholder groups, and accepted comments on suggested rule revisions from many sources.

Because much of the language proposed in the 2001 rule addressed permitting and technical requirements for onsite wastewater treatment facilities (septic tank/disposal field systems and alternative systems), the Department formed the Onsite Wastewater Advisory Committee (OWAC) in October 1999 to provide a forum to discuss technical issues related to onsite wastewater treatment facilities. OWAC has 15 members representing a cross section of interests including: an alternative system manufacturer, a homeowner, a realty-professional, several service providers, several delegated agencies, a university researcher, a registered sanitarian, and representatives from the Board of Technical Registration and the Department of Real Estate. In addition to these members, the Department notifies a group of more than 100 interested parties to keep them informed of the meeting schedules and activities of the committee.

Since 2001, OWAC has continued to discuss issues and provide recommendations and comments on the proposed rule revisions to the Department. Nineteen formal meetings of OWAC have been held since the 2001 rule adoption with numerous smaller, informal sessions during that same time period. In addition to OWAC, another group was formed in Pima County to conduct similar discussions and provide recommendations to the Department during the current rule development effort.

In December 2001 and January 2002, the Department held "listening sessions" across the state to hear how the changes made to the APP rules in early 2001 impacted stakeholders. Based on that feedback and on the input of OWAC and the Pima County group, the Department prepared a draft rewrite and a synopsis of the proposed changes to the APP rules at 18 A.A.C. 9, Articles 1, 2, 3, and 4. This draft was released to stakeholders by e-mail and posted on the Department's website. The informal comment period began on April 28, 2004 and the Department accepted comments through May 28, 2004. During this informal comment period, the Department hosted public meetings to explain how the earlier comments were addressed in the April 28th draft and to accept feedback from stakeholders. These meetings were held in Flagstaff, Phoenix, Lake Havasu City, Yuma, and Tucson.

Following completion of this informal comment period, the Department developed a summary of the first draft comments. The Department next developed a second draft of the rules and released this draft for another period of informal comment on August 16, 2004. Comments on the second draft were accepted through noon, September 22, 2004. Although the second informal comment period had ended, the Department again held public meetings throughout the state to explain the changes that the Department planned to make to the rule as a result of the comments received.

This rulemaking builds on the foundation established in the 2001 APP rule. During finalization of that rule, a number of comments were presented at the Governor's Regulatory Review Council (G.R.R.C.) hearing concerning the nitrogen management provisions of the rule. At the direction of the G.R.R.C., the Department removed that portion of the rule and committed to do more work in this area before the next rule revision. Nitrate is the most widespread groundwater contaminant in Arizona, and nitrogen sources threaten or continue to pollute groundwater with nitrate. It is with this overall goal in mind that the Department designed the nitrogen management aspects of this rulemaking. This rulemaking adds new provisions as well as changes existing provisions intended to reduce or eliminate sources of nitrogen pollution to groundwater including:

• Onsite Wastewater Treatment Facilities – enhances the performance-based approach; expands pre-sale inspection program to all onsite systems; adds a new general permit for an onsite wastewater system that is highly effective in removing nitrogen;

• Nitrogen Management Area Designation Process – modeled after the Department's Source Water Protection program to address areas of existing or potential contamination of groundwater by nitrate, often due to dense septic tank concentrations**;** establishes process and criteria for designation;

• Capacity, Management, Operations and Maintenance (CMOM) Plans for Sewage Collection Systems – provides a voluntary approach with incentives for maintenance and response to spills that will result in reduction of sewage discharges onto the land surface or into the subsurface through leaky sewer lines; and

• Concentrated Animal Feeding Operation (CAFO) General Permit Revision – emphasizes liner performance for manure and process wastewater impoundments and updates the rule by incorporating the latest Natural Resource Conservation Service (NRCS) guidelines.

Onsite Wastewater Treatment Facilities

Many of the changes in this rulemaking deal with onsite wastewater treatment facilities. In Arizona, onsite wastewater treatment facilities provide sewage treatment and disposal to an estimated 400,000 to 500,000 households, or almost 20 percent of the state's population. More than 11,000 new systems a year are being approved under the Department's current APP rules. An onsite wastewater treatment facility poses a threat to public health and water quality if not designed, constructed, and operated properly. Dense concentrations of onsite wastewater treatment systems have caused and threaten to cause nitrate contamination of groundwater at many locations throughout Arizona. For this reason, many changes to the onsite wastewater treatment facility provisions in this rulemaking ultimately enhance protection of public health and water quality. Several changes are specifically intended to prevent or mitigate the potential for nitrate contamination of groundwater.

This rulemaking expands the pre-sale inspection program in R18-9-A316 to cover transfers of property that contain onsite wastewater treatment facilities that were constructed before January 1, 2001. The pre-sale inspection program currently applies only to onsite wastewater treatment facilities constructed on or after January 1, 2001. The expanded program for transfer inspections will begin on January 1, 2006. The pre-sale inspection program ensures that septic tanks are pumped at the time of the property transfer. In addition, the inspection will identify other maintenance or repairs needed to ensure effective operation of the system. This program provides significant benefits to the property owner by reducing the chance of septic tank failure and extending the lifetime of the facility. It enhances the operational effectiveness of the system, thus minimizing the possibility that sewage effluent will reach the surface and cause a public health hazard. Finally, by ensuring an effectively operating system, the threat of groundwater contamination is reduced.

The Department's intention for the pre-sale inspection program is to rely on market-driven forces rather than extensive state and county bureaucracies to promote maintenance and repairs to onsite wastewater treatment facilities at the time of a property transfer as a means to protect public health, improve water quality, and prolong the life of the systems. Already, the standard Arizona Association of Realtors contract for property sales, used widely throughout Arizona, includes a provision for septic tank inspection and pumping as part of seller/buyer disclosure. These inspections are widely considered as being beneficial, but lacked comprehensiveness and consistency across the state. In this rulemaking, the Department establishes consistent inspection requirements and documentation. The Department expects that most maintenance and repairs to onsite systems, and hence O&M and environmental benefits that will accrue, will remain outside of the view of the regulatory agencies as a natural consequence of seller/buyer disclosure negotiations that take place at the time of a property transfer. In this regard, the Department's rule fosters system repairs and improvements in the same way that other deficiencies of a property are dealt with at the time of sale and provides the required change of ownership information to the Department without resource-intensive and intrusive regulation.

To ensure consistency of the pre-sale inspections across the state, this rulemaking also specifies that persons interested in performing the transfer of ownership inspection must meet certain professional qualifications and successfully complete a training course that is approved by the Department. The Department already has approved a course developed jointly by the National Association of Waste Transporters and the University of Arizona and expects other providers to develop similar courses.

In addition to the Nitrogen Management Area provisions described separately in the next section, this rulemaking addresses nitrogen management in three other circumstances. First, the rule specifies in R18-9-E323 that nitrogen controls must be incorporated for large onsite wastewater treatment facilities. These facilities generate from 3,000 to less than 24,000 gallons per day of wastewater compared to a typical household that generates less than 600 gallons per day. Second, in R18-9-A309(A)(8)(c), nitrogen controls are specified for certain new subdivisions that will rely on onsite wastewater treatment facilities for wastewater disposal and treatment rather than sewering. Finally, this rulemaking provides a new general permit at R18-9-E316 for a nitrate-reactive media filter system. This is a relatively new treatment technology for onsite wastewater treatment facilities that is highly effective at removing nitrogen from wastewater while maintaining benefits of simplicity and economy.

Nitrogen Management Area Designation Process

The Department is aware of areas across the state where the cumulative loading of sources of nitrogen contributes to or causes a violation of the Aquifer Water Quality Standard (AWQS) for nitrate in an aquifer. These sources of nitrogen include individual onsite wastewater treatment facilities, usually where dense concentrations of septic tanks are present. To address the cumulative impacts from these sources, R18-9-A317 includes a process by which the Department designates areas where additional controls are needed for nitrogen sources. The process described in R18-9-A317 consists of the Department analyzing a long list of criteria to determine whether designation of a Nitrogen Management Area is justified, proposing a preliminary Nitrogen Management Area designation if warranted by the analysis, and soliciting comment from local town, city, and county authorities and affected sanitary districts. Based on these comments, the Department may either designate a Nitrogen Management Area "as is" or with boundary modifications, or may withdraw the proposal.

The Nitrogen Management Area provisions deal primarily with facilities covered by general permits. Within a designated Nitrogen Management Area, use of nitrogen removal technologies will be required for new installations of onsite wastewater treatment facilities or replacements of failed septic tank systems. Agricultural operations will be required to use the best control measure to reduce nitrogen discharge when implementing best management practices

in 18 A.A.C. 9, Article 4. The Department will require reassessment of liner performance at existing impoundments serving concentrated animal feeding operations (CAFOs) within the designated area. Finally, the Department may specify other nitrogen control provisions appropriate to the area.

Capacity, Management, Operations and Maintenance (CMOM) Plans for Sewage Collection Systems

In response to incidents of releases from sewage collection systems, this rulemaking includes a new Type 2 General Permit (2.05 General Permit at R18-9-C305) to address releases. Currently, under the 4.01 General Permit, releases from sewage collection systems are prohibited. Studies show that, on occasion, sewage is released from even the best operated sewage collection systems. The intent of the 2.05 General Permit is to allow the owner or operator of a sewage collection systems to develop a Capacity, Management, Operations, and Maintenance (CMOM) Plan for the system that addresses operation and maintenance, capacity improvements, and spill response. In exchange, in the case of a spill or sanitary sewer overflow (SSO), the Department has flexibility in determining the nature of its compliance response, if any, based on a set of criteria established in the general permit. This permit borrows concepts from a draft regulation, since withdrawn, by the Environmental Protection Agency regarding overflows from Separate Sanitary Sewers. The Department anticipates that owners and operators of sewage collection systems will avail themselves of this general permit, which requires them to continuously implement the measures in their CMOM Plan, in exchange for the compliance flexibility the permit affords to the Department. Under the measures established in the CMOM Plan, SSOs onto the land surface and leakage out of sewer lines to the subsurface will be minimized, greatly reducing threats to public health and contamination of surface waters and groundwater by nitrate.

Nitrogen Management General Permit: Concentrated Animal Feeding Operations

The owner or operator of a Concentrated Animal Feeding Operation (CAFO) must operate impoundments under the APP program as required by A.R.S. § 49-241(B). The Department developed agricultural general permits in January 1991 (originally in 18 A.A.C. 9, Article 2 and now in 18 A.A.C. 9, Article 4). A.R.S. § 49-247 provides a framework for the general permit that relies on best management practices (BMPs) determined to be "the most practical and effective means of reducing or preventing the discharge of pollutants." The Best Management Practices Advisory Committee was formed to develop the BMPs that were published in the Best Management Practices Handbook in 1988 (BMP Handbook). The revisions in this rulemaking follows the BMPs for regulated agricultural activities contained in this publication.

Consistent with the focus of this rulemaking, the Department revisited implementation of the BMPs to determine whether adequate protection of groundwater quality was being achieved. The Department drafted changes to the general permit to emphasize liner performance of impoundments at CAFOs to minimize or eliminate potential nitrogen discharges to groundwater. The Department convened a group of interested parties to discuss the suggested rule revisions and to address their concerns to the rule. The first meeting of this stakeholder group was held May 17, 2004. During discussions with stakeholders, it was determined that attention will focus on liner performance for all new impoundments designed to hold process wastewater and contact stormwater. The adequacy of liner performance will rely on NRCS guidelines. These guidelines replaced and updated the USDA-Soil Conservation Service Bulletin referenced in the BMP handbook.

For existing impoundments, a list of criteria was developed to use in determining when reassessment of liner effectiveness is required. The rulemaking includes a process by which the Department may determine, based on criteria developed by the stakeholder group, that the liner of an existing impoundment requires reassessment. Additionally, if the CAFO is within a designated Nitrogen Management Area, reassessment of existing impoundment liner performance will automatically be required because the criteria that trigger reassessment will have been considered in the course of designating the Nitrogen Management Area. The Department will provide written notification to the CAFO owner or operator of the need to conduct the reassessment and to report the results to the Department. Based on this report, the Department will make a preliminary decision whether to require lining of the impoundment and provide the permittee with an opportunity to comment before the Department makes a final decision. Many CAFOs have moved in recent years due to encroachment of residential development. As a result, stakeholders requested that the Department include the projected longevity of the CAFO at its current location as a consideration in determining whether an existing impoundment liner must be upgraded. If the CAFO could be expected to move within a relatively short period of time (less than 5 years) then requiring retrofitting of existing impoundments may not be reasonable.

CAFOs are also regulated under the AZPDES CAFO General Permit AZG2004-002. This general permit requires the implementation of BMPs and development of a nutrient management plan (NMP) for the use and disposal of manure, litter, and process wastewater. This permit allows discharges to surface water in the event of a very large storm if the proper BMPs are in place. Because CAFOs are regulated by the Department under two different permitting programs and to prevent duplication of reporting, the Department provides an option to submit liner information required under this rule with the annual report required under the AZPDES general permit.

In addition to the changes to enhance nitrogen management, this rulemaking:

- Makes several changes to Articles 1 and 2 dealing with the individual permitting process requirements including revisions to the financial assurance capability demonstration under R18-9-A203;
- Adds seven new general permits and expands coverage for other general permits under Article 3;
- Modifies investigation, design, and installation requirements for onsite wastewater treatment facilities under

Article 3; and

- Enhances the requirements for sewage collection systems under R18-9-E301.

Justification for each change is provided under specific sections listed below.

SPECIFIC SECTION BY SECTION EXPLANATION OF THIS RULEMAKING

ARTICLE 1. AQUIFER PROTECTION PERMITS - GENERAL PROVISIONS

R18-9-101. Definitions

This rulemaking makes minor, conforming, or editorial changes to the following definitions: "aggregate," "Aquifer Protection Permit," "design flow," "final permit determination," "Groundwater Quality Protection Permit," "intermediate stockpile," "Notice of Disposal," "operational life," "process solution," "sewage collection system," and "waters of the United States."

The terms "chamber technology," "CMOM Plan," "Nitrogen Management Area," and "seasonal high water table" are used within the rulemaking and have been added to this Section.

The term "daily flow rate" is no longer used in this rulemaking and has been deleted from this Section.

This rulemaking revises the definition of "alert level" to match the authority in A.R.S. § 49-243(K)(7). Currently the definition of "alert level" is too restrictive when compared to the statutory authority. The current definition restricts an alert level to:

- A numeric value,
- A value expressed in concentration, and
- A value established to provide early warnings of a potential violation of an AWQS at the point of compliance OR a permit condition.

A.R.S. § 49-243(K) states that "[t]he director shall consider and may prescribe in the permit the following terms and conditions as necessary to ensure compliance with this article;" and A.R.S. 49-243(K)(7) states that "[a]lert levels which, when exceeded, may require adjustments of permit conditions or appropriate actions as are required by the contingency plans." A.R.S. Title 49, Chapter 2, Article 3 includes the authority to require compliance with BADCT, financial capability, and technical capability requirements with conditions that address prevention of AWQS violations. Because A.R.S. § 49-243(K) requires the Director to develop terms and conditions for alert levels to ensure compliance with the Article, the Department interprets that to mean that it has the authority to prescribe "alert levels" to ensure compliance with BADCT at A.R.S. § 49-243(B)(1).

The Department interprets the phrase "adjustments of permit conditions" in two ways. First, the Department interprets the phrase to include operational conditions as well as numeric values. An operational condition such as "maintaining 2 feet of freeboard in all impoundments" is measurable. The Department believes that this language does not need to be tied to an exceedance of an AWQS at the point of compliance because an alert level is appropriate to prevent any potential for unauthorized discharge. In the case of freeboard, having to report when the freeboard is less than 2 feet, is appropriate and measurable. That state of operation (less than 2 feet of freeboard remaining) is not yet a permit violation, but the operator will need to make some adjustments to restore compliance with the alert level and to prevent an unauthorized discharge.

Second, the Department interprets "adjustments of permit conditions" to mean that the Department has the authority to modify a permit if an alert level is exceeded and therefore is the basis for the addition of the last sentence in the definition of "alert level."

This rulemaking adds the definition of "AQL" (aquifer quality limit), a term used in APPs. Based on current practice, Department staff develops and sets AQLs in permits when the applicant or permittee supplies an adequate amount of ambient groundwater quality data, generally eight or more rounds (a statistically significant data set). Once the groundwater data are collected, the permittee or Department staff will calculate appropriate AQLs for the point of compliance. The AQL is set at the Aquifer Water Quality Standard (AWQS) when the concentration of a pollutant in the aquifer is less than the AWQS under A.R.S. § 49-243(B)(2). The AQL is based on the statistical evaluation of a pollutant's concentration in the aquifer if that pollutant already exceeds the AWQS under A.R.S. § 49-243(B)(3).

This rulemaking adds the definition of "AZPDES." In December 2002, EPA approved Arizona's Pollutant Discharge Elimination System (AZPDES) program as the NPDES program in Arizona, but not within Tribal Lands in Arizona. All NPDES permits became AZPDES permits on the date of approval, therefore the references to "NPDES" is no longer applicable.

The term "bedroom" is used throughout the rules when dealing with the requirements for the design of an onsite wastewater treatment facility for a dwelling, design of sewage collection systems, and in Table 1. The Department broadly defined this term to ensure that any room that could reasonably be used as a bedroom is factored into the design calculations. Lofts must be accounted for as a bedroom unless the design is such that the room will not have privacy and will be used as a family room or an office. Where a single family residence has many rooms that are assigned as bedrooms and additional rooms such as game rooms or offices that could meet the definition of "bedroom," the Department believes that it has the discretion to decide whether the other rooms should be counted as a

bedroom by evaluating the potential for use as a bedroom if there are other rooms that are dedicated as bedrooms. For example, if the dwelling design includes 4 or 5 "bedrooms" plus other rooms, then it may be reasonable for the approval authority to approve a design based on the 4 or 5 bedrooms even if those other rooms meet the strict definition. The onsite system must be designed appropriately in case future dwelling owners use the rooms to the full capacity.

In the case of an unfinished basement, the Department believes that any bedrooms or bathrooms added after discharge authorization will be accounted for when the home is sold. The home buyer will be responsible to ensure that the onsite wastewater treatment facility is adequate for the home, in the same manner as any other component of the home. The home buyer and seller may negotiate if the onsite wastewater treatment facility needs to be enlarged to account for any upgrades to the home.

This rulemaking revises the definition of "disposal works" to clarify that the term does not include activities relating to the reuse of reclaimed water covered under 18 A.A.C. 9, Article 7.

This rulemaking adds a definition of "dwelling" to clarify which structures are subject to the various design flow provisions in R18-9-A312 and in Table 1. The Department includes "an apartment unit" and "a condominium unit" to emphasize that a dwelling is an individual residence and not an apartment building or condominium building.

This rulemaking adds a definition of "homeowner's association" and includes the definition of "person" from Arizona Revised Statutes with an exclusion to the rule. These definitions are necessary to provide the basis for excluding a homeowner's association (HOA) from qualifying as a permittee for a sewage treatment facility. The current rules allow any person to be a permittee if that person meets the demonstrations for technical capability and financial capability and the other application requirements. The Department has determined, due to many overarching issues that a HOA should not be allowed to be a "permittee" in an individual permit for a sewage treatment facility. At the time the developer is transferring ownership of a development, the developer will need to sell the sewage treatment facility to a private or public utility that is qualified to operate the facility instead of turning it over to the HOA. The Department believes that a HOA may be able to qualify to be a permittee for other types of facilities and therefore this rulemaking only prohibits the status for an individual APP issued for a sewage treatment facility. In the other cases, the HOA will need to meet the permitting requirements before the Department will grant coverage.

This rulemaking adds a definition of "land treatment facility," a term used at A.R.S. § 49-241(B)(4) and highlights that biosolids drying, processing, or composting facilities are included.

This rulemaking makes minor changes to the definition of "sewage" and adds language to clarify that the term does not include reclaimed water that is reused according to 18 A.A.C. 9, Article 7. If the treated wastewater is not reused according to 18 A.A.C. 9, Article 7, its disposal must comply with APP requirements.

This rulemaking revises the definition of "sewage treatment facility" to clarify that the sewage treatment facility does not include a sewage collection system or a reclaimed water distribution system. The Department believes that this change is necessary because a sewage collection system is regulated under other parts of the APP rule and a reclaimed water distribution system is regulated under 18 A.A.C. 9, Article 6.

This rulemaking adds a definition of "treatment works" to clarify the use of the term in the requirements for onsite wastewater treatment facilities in Article 3 and to distinguish it from the term "disposal works."

This rulemaking revises the definition of "typical sewage" to clarify that this term only applies to onsite wastewater treatment facilities and to add a factor to describe the expected level of total nitrogen that will be found in typical sewage.

R18-9-103. Class Exemptions

This rulemaking makes editorial changes to the introductory paragraph of R18-9-103 and adds a reference to 18 A.A.C. 9, Article 9 to R18-9-103(4). The reference to 18 A.A.C., 9, Article 9 is needed because, although primary requirements are included in 18 A.A.C. 9, Article 10, the application of biosolids may also be subject to 18 A.A.C. 9, Article 9. (See R18-9-A902(C)(2))

R18-9-104. Transition from Notices of Disposal and Groundwater Quality Protection Permitted Facilities

This rulemaking revises this Section to emphasize the responsibility of a person who owns, operates, or operated a facility covered by a Notice of Disposal (NOD) or Groundwater Quality Protection Permit (GWQPP) to submit an application for an APP. The changes include:

- Deleting subsection (A). This language is not necessary because any person operating a facility under a NOD or a GWQPP should have submitted an application for an APP permit or closure to the Department because the NOD and GWQPP programs were replaced by the APP program.
- Adding the word "operates." This addition is necessary to clarify that any person who operates a facility under a NOD or GWQPP is also responsible for submitting an application for an APP.
- Deleting the phrase "or who owns or operates a facility required to obtain an Aquifer Protection Permit." This language is not needed because those persons are covered by 18 A.A.C. 9, Article 2.

• Adding the last sentence to clarify that anyone operating under a NOD or a GWQPP must obtain an APP permit and that failure to do so will mean non-compliance because coverage under an NOD or GWQPP is no longer extended. The Department is aware of persons who own or operate facilities operating or previously operated under an NOD or a GWQPP and who have not submitted an application for an APP (operating or closure) or a clean closure for the facilities.

The Department has the authority to require past operators to "close" the facility because of the definitions of "existing facility," "closed facility," and "new facility" found in A.R.S. § 49-201.

"'Existing facility' means a facility on which construction began before August 13, 1986 and which is neither a new facility nor a closed facility....." (A.R.S. § 49-201(16))

"'Closed facility' means:

(a) A facility that ceased operation before January 1, 1986, that is not, on August 13, 1986, engaged in activity for which the facility was designed and that was previously operated and for which there is no intent to resume operation.

(b) A facility that has been approved as a clean closure by the director.

(c) A facility at which any postclosure monitoring and maintenance plan, notifications and approvals required in a permit have been completed."(A.R.S. § 49-201(7))

"'New facility' means a previously closed facility that resumes operation or a facility on which construction was begun after August 13, 1986 on a site at which no other facility is located or to totally replace the process or production equipment that causes the discharge from an existing facility...." (A.R.S. § 49-201(22))

This rulemaking retains language referring to past operators because, in some cases, a facility although no longer operating, met the definition of "existing facility" or "new facility" and was subject to APP requirements including closure. If the facility did not close under an APP permit or meet clean closure requirements, then it is not a "closed facility" according to A.R.S. § 49-201(7), therefore it must comply with APP requirements.

R18-9-105. Permit Continuance

This rulemaking makes an editorial change to the Section title and changes to subsections (A) and (B) to coincide with the changes to R18-9-104. Subsection (C)(1) has been deleted because of language in the new R18-9-A214, This rulemaking also deletes subsection (C)(2) because the language is no longer applicable because either the facilities were constructed or the Approval to Construct (ATC) issued under the previous version of the APP rule, which is expired and the language is no longer applicable. (ATCs expired two years after issuance period and the last ATC was issued before January 1, 2001) In addition, the language in subsection (D) has been moved to R18-9-A211(D)(2)(l) as an reason for an "Other" amendment.

R18-9-106. Determination of Applicability

This rulemaking makes editorial changes to subsections (B) and (D). This rulemaking adds a new subsection (E) to state that the Department may determine that an operation or activity is subject to the APP rules without that determination being initiated by a request. If the Department makes the determination that an APP is required, the owner or operator of that operation or activity is required to submit an application for APP coverage or closure plan and do so within 90 days of the notification. The Department believes that 90 days is an appropriate time-frame for requiring submittal of the application or closure plan and is consistent with other rule provisions (see R18-9-105, Permit Continuance). The language in subsection (E) applies to any facility that did not submit a "determination of applicability" (DOA) request, and therefore did not receive a notification under subsection (C). If an owner or operator came in for a DOA and the Director made a determination under subsection (C), then any future issue will be addressed under subsection (D). The new subsection (E) applies to any operating facility. For any facility that is "proposed," the owner or operator must obtain permit coverage before the facility operates or discharges. If the plans change and the facility isn't built or never operates, then the owner or operator is not required to apply for permit coverage.

R18-9-107. Consolidation of Aquifer Protection Permits

This rulemaking revises the statement in subsection (A) to more accurately reflect what is consolidated. The Department issues general permits by rule, but authorizes the discharge under a general permit for a particular entity. In other words, the entity operating under a general permit is not "issued a general permit," rather the Department issues a discharge authorization for the facility. The Department does not "consolidate" an individual permit with a general permit. If appropriate, the authorization or authorizations to discharge for the general permit will be consolidated into the individual permit for the entity.

R18-9-108. Public Notice

This rulemaking adds an option to notify entities by electronic means (subsection (A)(1)) and it updates the Department's website address (subsection (A)(3)).

R18-9-109. Public Participation

This rulemaking revises this Section to specify the logical order of actions:

- Comment period and possible hearing (subsections (A) and (B)),
- Compilation and response to comments in writing (subsection (C)),
- Issuance of decision and notification about the availability of the decision and responsiveness summary (subsection (D)).

The Department interprets the term "respond in writing" in the new subsection (C) to include, at a minimum, the generation of a responsiveness summary document or writing response letters to each commenter. This rulemaking adds the option for the Department to electronically send the notice of amendment and the responsiveness summary to interested persons.

R18-9-110. Inspections, Violations, and Enforcement

This rulemaking makes editorial change to subsection (A).

ARTICLE 2. AQUIFER PROTECTION PERMITS – INDIVIDUAL PERMITS

PART A. APPLICATION AND GENERAL PROVISIONS

R18-9-A201. Individual Permit Application

This rulemaking makes an editorial change to the Section title and to subsection (A).

This rulemaking adds "land treatment facility" to the list of categories needing an individual permit. The term is listed as a categorical discharger (a facility required to be permitted under the APP program) in A.R.S. § 49-241(B)(4). The rulemaking explicitly states that "land treatment facility" includes facilities that dry, process, or compost biosolids. Land application of biosolids performed according to 18 A.A.C. 9, Article 10 is not included in this term.

This rulemaking makes several changes to subsection (B). This rulemaking deletes the requirement that an individual supply his or her social security number on the APP application. The rulemaking revises requirement for the information needed for environmental permits under R18-9-A201(B)(1)(f). The changes clarify that the applicant shall provide the permit number for federal or state environmental permits issued to the applicant "for that facility or site." In addition, the rulemaking replaces the reference to "the financial information required in R18-9-A203" in subsection (B)(5) with a specific listing of the types of information the applicant must submit to fulfill the financial requirements (to demonstrate financial capability). Most of the language is from the current R18-9-A203(A)(1) and (2). The applicant must develop and submit estimates for construction, operation, maintenance, closure, and post closure costs. The applicant must be able to come up with a cost estimate from one or more of the following sources: competitive bids, construction plan take-offs, specifications, operating history for similarly situated plants, or other appropriate sources. The Department understands that the cost figures for closure or post-closure are estimates that could be very broad or general and the accuracy of the estimates will depend on the level of detail in the closure plan or closure strategy submitted with the application.

Within subsection (B)(6)(a), this rulemaking requires the applicant for a sewage treatment facility to submit documentation that the sewage treatment facility or expansion conforms with the Certified Areawide Water Quality Management Plan and the Facility Plan. No sewage treatment facility may be constructed or expanded unless in compliance with 18 A.A.C. 5, Article 3. Under the existing rule in R18-9-B201(H), which is deleted in this rulemaking, the documentation only had to be received by the Department before it published its Notice of Preliminary Decision to issue the Aquifer Protection Permit. Often, this caused delays to the Department in reviewing an application until the Certified Water Quality Management Plan or Facility Plan was updated. This rule change put the demonstration of compliance with R18-5-303 in the permit application at the front of the process. This rulemaking adds a reference within subsection (B)(6)(b) to R18-9-B203 because of changes to R18-9-B202 and B203.

This rulemaking moves the language currently in R18-9-A201(A)(3) to a new subsection (C) and to add a reference to A.R.S. § 45-802.01(21) that defines "underground storage facility."

This rulemaking makes conforming and editorial changes to subsections (E), (F) and (G).

R18-9-A202. Technical Requirements

The majority of changes to this Section are editorial or conforming in nature. In subsection (A)(4)(c), a requirement is added for the applicant to supply a map outlining the pollutant management area for the facility. This map is

necessary to meet the statutory requirement of A.R.S. § 49-244 to define the point of compliance using the pollutant management area.

This rulemaking adds language to subsection (A)(6)(b) to state that as part of the point of compliance (POC) demonstration, if an AWQS is exceeded in the aquifer, the applicant must provide an ambient groundwater monitoring report as part of the application. The Ambient Groundwater Monitoring Report is necessary only if the permittee believes that the AWQS for a pollutant is exceeded in the aquifer at the time of permit issuance. Information on the quality of ambient groundwater is necessary if the permittee believes that the ambient concentration of a pollutant already exceeds the AWQS. To demonstrate this, the Department is requiring 8 or more samples. If data are not available before permit issuance, the Department may include a requirement within the permit to collect necessary information –in the meantime, the applicant/permittee is still responsible for ensuring that the facility does not cause or contribute to a violation of an AWQS at the point of compliance. The details can be worked out during the application process before the permit is issued. In general, the Department recommends that the applicant perform and collect the data up-front if the applicant wants to take advantage of that claim. Alternatively, the Department may choose to use limited information available at the time of permit issuance to set AQLs. For an application that was submitted years ago, the Department will view collecting more recent data as a negotiated item when reviewing the application. It is in the applicant's best interest to submit updated information if the applicant wants to claim that standards are already exceeded at the POC.

This rulemaking revises the hydrogeologic study requirement in subsection (A)(8)(b)(viii) by adding language to specify that the Department may require that the applicant evaluate whether the discharge will "cause the migration of contaminated groundwater." If the discharge is in an area with contaminated groundwater, the Department may require the applicant to evaluate the potential for the discharge to mobilize that contaminated groundwater and submit the information with the application. In general, contaminated groundwater is groundwater that exceeds an AWQS. The Department's concern is that such migration might impair the use of the aquifer or endanger human health. This requirement does not apply to every application. The Department will notify the applicant of the requirement to submit the information. If the Department determines that this type of assessment is necessary, the applicant should work with a hydrologist or other qualified person to assess whether there is a potential for the discharge to cause the migration of contaminated groundwater. In general, the applicant should:

• Consider the hydraulic response of the aquifer to the facility's discharge to assess whether migration is caused by the facility,

• Identify plumes or areas of contaminated groundwater within the discharge impact area of the facility, and

• Show that the facility's discharge will not cause migration of the poor quality groundwater so that an AWQS will be exceeded at a point of use of the aquifer that will otherwise remain unimpacted.

Depending on the conclusions from the assessment, the impact of a discharge on plume migration may be subject to permit conditions, discharge limitations, alert levels, etc. Fresh groundwater may not be covered if it is exempt under A.R.S. § 49-250. A.R.S. § 45-811.01(C)(5) addresses the issue of plume migration for recharge projects exempted from APP.

In addition, this rulemaking adds a separate condition that requires the submission of closure and post-closure strategies or plans in subsection (A)(10) because the requirement to address these areas in a "detailed proposal" in subsection (A)(9) was not appropriate.

R18-9-A203. Financial Requirements

This rulemaking revises the approach to demonstrating financial capability because of implementation issues since January 2001. The Department identified some deficiencies in the rule based on situations with permittees. For simplicity and because the majority of changes are relating to format, the language in this Section has been entirely rewritten and new language has been added for the financial requirements.

As mentioned earlier, this rulemaking moves the language currently in subsections (A)(1) and (2) to the application requirements in the proposed R18-9-A201(B)(5) and the introductory language currently in subsection (A) to the proposed subsection (B).

This rulemaking adds definitions that apply to this Section for the terms "face amount," "net working capital," "substantial business relationship," and "tangible net worth." The definitions for "face amount" and "net working capital" are from EPA's regulations on closure of Hazardous Waste Treatment, Storage, and Disposal Facilities at 40 CFR 264.143(e)(3) and 264.141(f), respectively. The definition of "substantial business relationship" is based on the federal definition at 40 CFRF 264.141(h). The following definition for "tangible net worth" was derived based on Generally Accepted Accounting.

"Tangible net worth" means an owner or operator's book net worth, plus subordinated debts, less goodwill, patent rights, royalties, and assets and receivables due from affiliates or shareholders."

"Tangible net worth" means an owner or operator's book net worth, plus subordinated debts, less goodwill, patent rights, royalties, and assets and receivables due from affiliates or shareholders."

Based on the definition in 40 CFR 264.141(f), "tangible net worth" does not include assets carried on the financial statements that are intangible. For clarity, this rulemaking does not use the term "intangible assets" but instead defines what assets fall into that category. The definition includes a specific list of items that are "intangible," such as goodwill, patent rights, royalties, and assets and receivables due from affiliates or shareholders. The Department believes that these types of "assets" are not certain enough and therefore, for purposes of demonstrating financial capability, should not be included as an asset under the "tangible net worth" for a company." "Book net worth" or owners' equity is generally understood as the net difference between total assets and total liabilities.

Subsection (B) provides details on what needs to be submitted depending on the type of entity (whether or not a governmental entity). In subsection (B)(3), this rulemaking adds a requirement that any entity that is not "a state or federal agency, county, city, town, or other local governmental entity" must provide financial assurance for closure using one or more of the mechanisms listed under subsection (C). This requirement applies to any private company, corporation, L.L.C., etc. This rulemaking moves the current language at subsection (D)(1)(h) to subsection (B)(3) that allows the entity to use one or more financial mechanisms listed under subsection (C) for the financial demonstration. Subsection (B)(4) requires an operator of a sewage treatment facility or a utility subject to A.R.S. Title 40 to submit a description of the financial arrangements, such as rate structure, to cover the costs of operating and maintaining the facility. The Department has incorporated this requirement because of several situations since 2001 that showed that it is important to verify that the owner or operator of a sewage treatment plant or a utility is financially capable of operating and maintaining the facility.

This rulemaking lists various options for financial mechanisms in subsection (C). Subsections (C)(1)(b) and (c) deal with self assurance demonstrations that are addressed at subsections (B), (C) and (D)(1) in the current rule. The current rule takes the approach that all entities will first try to demonstrate capability by self assurance. If an entity isn't qualified (the disqualification criteria are currently in subsection (C)), then the entity must use a mechanism currently in subsection (D) to demonstrate financial capability. This rulemaking lists the self-assurance mechanism as one option of many mechanisms in a new subsection (C) by moving the "self assurance mechanism" requirements to subsection (C)(1) and adding specific requirements to clarify exactly what an applicant needs to provide for the financial demonstration while allowing flexibility in the type of documents that may be submitted. The conditions are more generic allowing each entity to submit documentation to show financial strength that is appropriate to its status. The self assurance mechanism in subsection (C)(1) is based on 40 CFR 264.143(f). If the applicant is a publicly traded corporation, it may be appropriate to submit a 10K form or 20F Form for the financial report under subsection (C)(1)(a)(ii).

This rulemaking replaces the "publicly traded corporation" and "privately traded corporation" labels from the current subsections (C)(1) and (2) with more generic language in subsections (C)(1)(b) and (c). In addition to meeting the financial strength criteria, this rulemaking adds language in subsection (C)(1)(a) to require a chief financial officer (CFO) of a company to certify the analysis, submit a report from an independent certified public accountant (CPA) on the examined financial statements for the latest fiscal year or more recent financial data, and a special report from an independent CPA to verify that the information in the CFO letter and the examination report is accurate and no adjustment is necessary. The requirement for a special report is based on 40 CFR 264.143(f)(3). The special report by an independent CPA will allow the Department to expedite its review of the financial information submitted for the financial demonstration by "self-assurance."

This rulemaking moves the individual financial mechanisms currently in subsections (D)(1)(a) through (D)(1)(g) and (D)(1)(i) to subsections (C)(2) through (C)(8). The Department added specific provisions for each mechanism. This rulemaking adds language to state that these mechanisms may cover all or part of the needed amount for the financial demonstration.

For situations when a third-party is the guarantor under subsection (C)(8), this rulemaking adds language in subsection (C)(8)(b) to require the guarantor to notify the Department if the guarantor is subject to an increase in financial responsibility, receives an adverse auditor's notice, or is required to report to the Department on its financial condition, if the Department requests an update.

This rulemaking merges the current language in subsections (E) and (F) into subsection (D) to address loss of coverage. If the Department suspects that there is loss of coverage, the Department will notify the permittee and require a response within 30 days. Alternatively, based on the Department's general authority to specify permit conditions to maintain compliance with these rules, the Department may specify a permit condition to require the permittee to report on the permittee's financial capability at some frequency.

This rulemaking moves the language in subsection (D)(2) to the new subsection (E).

This rulemaking adds language in the new subsection (F) to address when a permit amendment is required for a change in financial demonstration, including a change in the mechanism. A substitution of a financial mechanism is handled as an other amendment under R18-9-A211(D)(2)(c). In addition, because the permittee has an obligation to maintain financial capability, to verify that it is maintained, this rulemaking requires that, when the permittee submits an application for a significant amendment under R18-9-A211(B), the permittee submit a complete financial capability demonstration for all facilities to be covered by the amended permit. The applicant will need to demonstrate finan-

cial capability for the currently permitted facilities in addition to the facilities covered the application for permit amendment.

In subsection (G), this rulemaking replaces the words "duplicative of" with "covered within." The Department believes that if the financial demonstration for the APP facilities is covered within a demonstration that was provided to another governmental agency and the Department has access to that information, then an additional demonstration is not necessary. The demonstration must deal with all the closure requirements as mentioned in R18-9-A201(B)(5) and the operation and maintenance costs noted in subsection (B)(4), as applicable. Additionally the financial demonstration must reflect the current financial condition or it is not valid for the purposes of the Section.

This rulemaking adds a new subsection (H) to state the Department's ability to require recordkeeping and reporting.

The Department reminds the reader that, consistent with A.R.S. § 49-243(N), the Department maintains all financial demonstration information as confidential.

R18-9-A204. Contingency Plan

In addition to several editorial changes to this Section, this rulemaking revises subsections (A)(2) and (C)(3) and adds a new subsection (B)(4).

Because of the addition of the definition of "AQL" to R18-9-101, this rulemaking also adds language to subsection (A)(2) to describe a violation of an AQL in the list of triggers for contingency plan actions in response to a discharge. This means that the applicant must prepare a contingency plan that addresses what the permittee will do if the discharge results in any of the conditions listed in subsection (A) including a violation of an AQL. Currently, R18-9-A202(A)(7) requires the applicant to submit a contingency plan with the application.

This rulemaking requires that a permittee include within its contingency plan the action of evaluating BADCT effectiveness if the discharge results in any of the conditions listed in subsection (A). The permittee must be prepared to upgrade the facilities, if necessary to return the facility to compliance.

This rulemaking adds language to subsection (C)(3) to clarify that the Department's approval of a proposed corrective action is based on whether the proposed corrective action will return the facility to compliance within an expedient time-frame in case some of the corrective action tasks take place in the future.

R18-9-A205. Alert Levels, Discharge Limitations, and AQLs

This rulemaking revises the Section title to include a reference to AQLs.

The rulemaking shifts subsection (A)(1) from requiring the Department to establish alert levels in individual permits to describing how the Department will prescribe alert levels when it determines that an alert level is necessary. This rulemaking makes a similar change to subsection (B) for discharge limitations. This rulemaking adds a new subsection (C) to address AQLs. As described by this rulemaking, these provisions emphasize the authority in A.R.S. §§ 49-243(B)(2) and (3).

R18-9-A206. Monitoring Requirements

This rulemaking makes conforming and editorial changes to this Section. In addition, in response to comments from stakeholders, this rulemaking adds a clause in subsection (B)(3) to allow a shorter time period for retaining monitoring records, if the Department specifies the shorter period in the permit.

R18-9-A207. Reporting Requirements

This rulemaking makes editorial changes to this Section and revises subsection (C) to state that the environmental protection statutes or rules may be either federal or state.

R18-9-A208. Compliance Schedule

This rulemaking makes clarifying changes to this Section. In addition, in subsection (A)(3), this rulemaking states the 30-day reporting requirement in this provision is a default requirement and that a different time-period may be specified in the permit.

R18-9-A209. Temporary Cessation, Closure, and Post-closure

In addition to editorial changes, this rulemaking makes several changes throughout the Section.

In subsection (A)(3), this rulemaking requires the permittee to submit proposed measures for temporary cessation for Department approval prior to implementation. The current rule implies that the permittee must wait for Department approval before implementing.

This rulemaking modifies the remaining subsections to clearly state the process for review of closure plans, closure, and post-closure requirements.

This rulemaking includes several changes to subsection (B). The first change is to incorporate a "pre-closure plan" review process so that the Department works with the person to ensure that the necessary information on closure is provided with the closure plan. Step one (subsection (B)(1)) requires that a person submit a plan for investigating the site – "site investigation plan." This step allows the Department to ensure that the plan is adequate and will evaluate all necessary areas of the site. This rulemaking requires the person to prepare a plan to evaluate the extent of

contamination (soils and groundwater) resulting from past discharges and the materials that will be removed or remain on site. The site investigation activity requirement in this rulemaking is within the scope of the Department's authority, similar to the "administrative completeness" review for individual permits or request to modify permits. Also, the Department believes it has the responsibility to evaluate information about the entire site to ensure that closure will reduce or eliminate a discharge and prevent further impact on groundwater. This evaluation will include information on soils that exceed soil remediation levels (SRLs) and groundwater protection levels (GPLs). The site investigation plan will be customized to fit the site. For simple sites (e.g. those with only one point of discharge), the Department envisions a simple site investigation plan. In some cases, there may be no need to obtain additional soil or groundwater monitoring data. In other cases, the plan will describe sampling at several areas of the site. The Department believes this language is necessary and appropriate based on current experience reviewing closure plans. The Department finds that often those plans are misdirected and fail to demonstrate whether the site can achieve clean closure even though significant resources have been expended in those areas. The Department believes that working with the person early on in the process will ensure that efforts are efficient. This rulemaking requires that a plan be submitted to the Department for review and approval. The Department will approve the site investigation plan if it meets the criteria specified in the new subsections (B)(1)(b) and (c). In addition, this rulemaking adds language in new subsection (B)(1)(d) to state that once the site investigation plan is approved, the person may submit the notification under A.R.S. § 49-252(A) and begin the formal closure process.

Once the site investigation is complete, the person needs to prepare the closure plan. This rulemaking adds details about the components of the plan in subsection (B)(2). The "closure plan" includes a summary of the results of the site investigation, a closure design, an estimate of closure costs, and a schedule for implementing the plan if clean closure will not be achieved. This rulemaking adds a new subsection (B)(2)(a)(i) to require the permittee to provide information on the extent of contamination from the discharge, if any. This rulemaking moves the language currently in subsections (B)(1)(a)(iv) and (vii) to subsection (b) to define the "closure design." In addition, this rulemaking moves the language currently in subsections (B)(2)(a)(viii) and (ix) to (B)(2)(c) and (d), respectively.

This rulemaking deletes subsection (B)(1)(b) of the current rule because typically the time between receipt of a "complete closure plan" and the Department's final decision is very short. The public notice requirement must be made upon receipt of the notification. The language under R18-9-108 is adequate.

This rulemaking moves the language in the current R18-9-A209(B)(2) to a new subsection (B)(3) and adds language to describe the decision-making process for facilities not covered by an APP. When the facility is not covered under an APP, after all closure activities have been fully implemented and clean closure has been achieved, the Department will issue a letter of approval. If the facility is covered by an individual permit, this rulemaking adds language to describe the issuance of a Permit Release Notice under a new subsection (C)(2)(c).

This rulemaking deletes subsection (B)(3) because facilities that need to close under a permit are addressed by the language in the new subsections (B)(3)(b) and (C).

In addition to editorial changes, this rulemaking revises post-closure requirements in subsection (C) by clarifying that the permittee submits post-closure information through an application for an individual permit or an amendment to an individual permit. The permittee must submit the applicable fee (proposed subsection (C)(1)(g)) with the amendment. If the facility does not qualify for clean closure, post-closure activities must be included in an APP as envisioned in A.R.S. § 49-252(E). This is a separate activity from the closure plan review. The Department will need to either amend an existing permit or to issue an APP to cover post-closure requirements. As a separate action from the closure review, the post-closure amendment will be subject to a separate fee.

This rulemaking moves the current language in subsection (D) to new subsections (C)(2)(a) through (c). These provisions describe permit conditions that address when the closure plan and post-closure plans have been fully implemented. Subsection (C)(2)(b) specifies that the Department may inspect the facility to verify that the closure and post-closure plans have been implemented. Subsection (C)(2)(c) specifies that the Department will issue a document called a "Permit Release Notice" to verify that the permittee has met all closure and post-closure requirements for the facility. This step makes it clear to all parties that the permit has been satisfied and the file may be closed.

R18-9-A210. Temporary Individual Permit

In addition to updating the citations, this rulemaking adds two provisions in subsection (D) regarding public participation for temporary individual permits.

For subsection (D)(4), this rulemaking adds a provision to state that the Department will not initiate another public participation process for the renewal of a temporary permit. The Department believes it is not necessary to conduct additional public participation on a renewal of a temporary permit if there will be no change. Subsection (E) allows for the temporary permit to be renewed only once, for a maximum of one year. Because the length of the permit is in rule, the Department believes that the public has already received notice that the permit may be extended for up to one year after expiration and therefore additional notice is not required.

This rulemaking adds language to subsection (D)(5) to require public participation (public notice) for significant amendments of temporary individual permits.

This rulemaking revises the new subsection (E) by replacing "[a] permittee" with "[t]he Director" because it is the Director who has the authority to renew a temporary permit.

R18-9-A211. Permit Amendments

This rulemaking adds a new subsection (A)(3) to state that when a permit is amended and the amendment is effective, the amended permit supersedes the previous permit. The phrase "effective date of the amendment" is necessary in case the amendment is appealed. The amendment is final after the appeals have been exhausted.

This rulemaking revises subsection (B)(4) to state that an amendment to include any less stringent monitoring requirement will be treated as a significant amendment.

In subsection (B)(6), this rulemaking adds language that if the Department determines for a permitted facility that is not built within five years of permit issuance that the BADCT needs to be updated, then the Department must follow the requirements for a significant amendment. The Department believes that technology will advance greatly over a five year period. This is an appropriate length of time to determine, if the facility has not been built yet, whether an amendment must be made to the permit. If that decision is made, then the amendment will be handled as a significant amendment.

This rulemaking adds "including a change in disposal method" to subsection (B)(9) to emphasize that a change in disposal method is significant enough to warrant the public notice process of a significant amendment.

This rulemaking adds another situation to the list of minor amendments in subsection (C)(6) to addresses a change in recordkeeping retention requirements.

This rulemaking changes or adds scenarios for the list of "other amendments" in subsection (D) because the Department views these types of amendments as being more substantial than a minor amendment but does not think they warrant the public participation requirements for a significant amendment. Specifically the changes include:

• Allowing a change in "treatment method" if that method "provides equal or better performance" (subsection (D)(2)(a));

• Adding alert levels, AQLs, or other permit limits into a permit based on monitoring subsequent to permit issuance (subsection (D)(2)(h));

• Adding a point of compliance monitor well (subsection (D)(2)(i));

• Incorporating monitoring requirements to ensure that Reclaimed Water Quality Standards are met (subsection (D)(2)(k)); and

• Allowing a change in a contingency plan resulting in equal or more efficient responsiveness (subsection (D)(2)(l)).

This rulemaking adds new language at subsection (F) to prevent backsliding of permit conditions relating to BADCT except for specific instances. The Department believes that it is not appropriate to allow less protective technology if the operation was previously approved using a more protective technology. This approach is appropriate because one of the purposes of BADCT is to encourage better treatment of wastewaters. Therefore, once a permit has been issued that incorporates a particular type of technology, then that level of treatment must always be met unless it meets one of the criteria listed in subsection (F). The specific situations where a less stringent control technology may be used are:

• The industrial classification of the facility has changed,

• The pollutant load has decreased or the pollutant composition has changed significantly,

• The Director approves a corrective or contingency action that necessitates a change in the treatment technology, or

• The approved discharge control technology is not operating properly due to circumstances beyond the control of the owner or operator.

The Department believes that these may be appropriate reasons to reevaluate BADCT.

R18-9-A212. Permit Transfer

In addition to editorial changes throughout the Section, this rulemaking adds new language to subsection (A)(5) to highlight that the transferor is required to pay annual registration fees under A.R.S. § 49-242. The requirement to pay annual registration fees is currently part of the standard permit conditions. The Department finds that some buyers do not realize that this requirement exists and believes that including it in this provision is beneficial.

R18-9-A213. Permit Suspension, Revocation, Denial, or Termination

This rulemaking revises the title to reflect all the topics covered in this Section.

This rulemaking adds two conditions for which the Director may suspend or revoke an individual permit. Subsection (A)(5) addresses when a permittee has failed to construct a facility within five years of permit issuance. The Department originally planned to propose that the Director may suspend or revoke if the facility wasn't built within

three years of permit issuance. The Department believes that this type of provision is important if BADCT has changed and the facility is not built. Many permittees have permits, but the facilities have not been built yet. This is a problem if the permittee only applies for the permits to avoid advances in BADCT. During informal review, stakeholders expressed that this provision was inappropriate because the Department could address this through the permit amendment process. Stakeholders also expressed that a three year period is not long enough because a project could be delayed due to the fluctuations in market conditions. Based on that stakeholder input, this rulemaking adds a provision under R18-9-A211(B) to evaluate after five years from permit issuance. The Department stresses that the language in this Section is permissive, e.g., the Department "MAY suspend or revoke…" (emphasis added) The Department believes that if the facility hasn't been built within five years, BADCT may need to be updated. If the Department determines that BADCT needs to be upgraded and the applicant has not come in for a permit amendment, the Department will be justified in proceeding to suspend or revoke the permit. The Department will take into account all factors for the particular situation including stage of construction for the facility.

Subsection (A)(6) addresses when a permittee failed to maintain the financial capability required under R18-9-A203(B).

Subsection (C) describes the situations when the Department will terminate a permit. The individual permit is no longer necessary if the facility closes and the Department issues a Permit Release Notice under R18-9-A209(C)(2)(c) or if the facility is covered under a different permit. If the permit covers more than one facility, the permit will only be terminated when all the facilities are either closed or covered under a different permit.

R18-9-A214. Requested Coverage Under a General Permit

This new Section has been added to include language describing the process for an applicant to request coverage under a general permit for one or more facilities covered under an individual permit. The rule specifies the circumstances when the individual permit coverage will no longer apply to the discharge.

ARTICLE 2. AQUIFER PROTECTION PERMITS – INDIVIDUAL PERMITS

PART B. BADCT FOR SEWAGE TREATMENT FACILITIES

R18-9-B201. General Considerations and Prohibitions

This rulemaking makes conforming and editorial changes throughout the Section.

In subsection (A), this rulemaking strikes "including BADCT requirements" because the BADCT requirements for sewage treatment facilities are included by the language of "this Article."

As part of BADCT for a sewage treatment facility, this rulemaking adds a provision at subsection (C) that requires a permittee to ensure that the sewage treatment facility is operated by a certified operator (A.A.C. R18-5-105). During the informal review, stakeholders requested that the provision be deleted because in their opinions:

1. The language created double jeopardy in the regulatory context by requiring compliance in one set of regulations with another set of regulations,

2. The certified operator requirements in R18-5-105 stand on their own and can be enforced by the Department outside of the APP program,

3. The requirement that sewage treatment facilities be operated by a certified operator is too broad as many sewage treatment facilities are exempt from the certified operator requirements (*see* A.A.C. R18-5-102(B)), and

4. The certified operator requirement is already appropriately addressed by the existing rule language in R18-9-A202(B) that requires a demonstration that a certified operator operate the facility *if* a certified operator is required under 18 A.A.C. Chapter 5.

The Department does not believe that including this provision creates a "double jeopardy" situation. In fact, the addition of the provision is analogous to a provision for water treatment plants at R18-4-114 that states:

"A water supplier of a public water system shall provide for a certified operator who is properly certified pursuant to 18 A.A.C. 5, Article 1 to operate each water treatment plant in the system and the distribution system. The same certified operator may be in direct responsible charge of one or more water treatment plants and the distribution system provided the operator holds an operator certificate of the proper type and grade for each facility. Separate operator certificates are required to operate a water treatment plant and a distribution system."

In addition, the Department does not interpret the exemptions listed in R18-5-102(B) as applying to sewage treatment facilities covered by these provisions (18 A.A.C. 9, Article 2, Part B). The Department believes that the certified operator criteria in 18 A.A.C. 5, Article 5, are the qualifications. Therefore, the Department includes this provision in subsection (C) and violations of that provision may be subject to A.R.S. §§ 49-261, 49-262, or 49-263.

This rulemaking revises subsection (D) to include requirements for operation and maintenance of a sewage treatment facility, in particular that the permittee has an Operations and Maintenance (O&M) manual and uses it. The Department doesn't expect the permittee to submit the O&M manual to the Department, but requires the permittee to make it available to the Department upon request. The Department interprets "available" to include electronic format or located on a website.

This rulemaking revises subsection (E) to prohibit a person from creating or maintaining a connection between a sewage treatment facility and a potable water supply where sewage or wastewater contaminates a potable or public water supply. This change covers any scenario that may cause a connection including when a connection is not purposefully installed.

In subsection (F), this rulemaking removes "untreated" and adds "or partially treated sewage that has not completed the treatment process." Permit requirements are derived based on the treatment processes and operations described in the permit application for the sewage treatment facility. The permittee must not bypass wastewater that has not been treated with all the necessary treatment components that equate to BADCT. This rulemaking revises the language to prohibit the bypass of sewage and also partially treated sewage that has not completed the treatment process. This rulemaking deletes "untreated" because the definition of sewage begins "untreated wastes from toilets, baths, sinks, lavatories, laundries…" If the Department substituted "untreated wastes" for "sewage" in subsection (F), the expression will become redundant: "A person may not bypass *untreated* wastes. . ."

During the informal stakeholder process, some stakeholders expressed concern that the inclusion of the phrase "partially treated" suggests that an operator will not be able to divert treated wastewater from an individual treatment method in a plant (such as filtration), even if that treatment method is not needed for complying with permit discharge limitations. One commenter stated that the treatment plants have filtration as a final step in treatment to ensure that the wastewater meets turbidity limitations. However, it is often the case that the wastewater already meets turbidity requirements and does not need filtration. The commenter suggested that the operator should be free to bypass any treatment method as long as permit limits are met and suggested adding, to the end of this Section, the following: "This shall not preclude an operator from bypassing a treatment method within the plant if the method is not needed to meet discharge limitations." The Department believes this language is unnecessary, because the test of whether wastewater is fully treated is based on whether it meets the discharge limitations and other requirements (e.g., discharge location) of the permit. If the plant is being operated properly so that permit limits are met, regardless of whether specific unit processes were used, such as a chemical feed process or auxiliary disinfection process, the Department considers the wastewater to be "treated." For this reason, the language suggested by the commenter is unnecessary.

In subsection (I)(1), based on the authority in A.R.S. § 49-104(A)(10), this rulemaking describes what "full noise, odor, and aesthetic controls" means by adding specific criteria for noise and limiting the controls on "odor-producing components." R18-9-B201(I)(1) currently requires: "Full noise, odor, and aesthetic controls means that all treatment components are fully enclosed…" This rulemaking specifies a 50 decibel level or a level specified in a local noise ordinance. In addition, this rulemaking restricts the "fully enclosed" requirement to only the treatment components that are "odor producing." The Department believes that this approach is less restrictive than the current rule language. Because it is not feasible to comprehensively list all odor producing components, this rulemaking includes a generic reference to "odor-producing components." Also, the Department believes that the term "scrubbers" is inclusive of a variety of odor control devices, such as carbon filters and biological odor control.

This rulemaking adds subsection (I)(2)(a) to address a decreased setback for a facility undergoing a major modification if that decreased setback is allowed by local ordinance. The Department considered adding another provision to decrease the setbacks if the location of the facility or expansion was expressly described in a master plan (or similar document) so that the affected property owners will have been aware of distances to the sewage treatment plant. However, the Department determined that this means did not provide effective public notice. In this rulemaking, the owner or operator's options are to work to change the local ordinance or to obtain waivers. If the potential for shorter setbacks is not addressed by the option specified in subsection (I)(2)(a) or (b), then the entity must meet the setbacks specified in subsection (I). The Department uses the term, "major modification" as defined in statute at A.R.S. § 49-201(20). New facilities must meet the setback specified in the table within subsection (I).

This rulemaking adds the language in subsection (J) to address odor pollution. This provision is necessary if the setbacks specified in subsection (I) do not provide adequate distance for odors from the sewage treatment facility to dissipate. The Department has the authority to control odors as provided in A.R.S. § 49-104(B)(10). The permittee must take steps to control the persistent emission of offensive odors from the plant. Any occasional problems with odors will not be addressed by this provision. The Department is primarily worried about persistent problems that can be controlled within the operations.

R18-9-B202. Design Report

This rulemaking changes the title of the Section, because the Section only deals with the design report. The application requirements are found in R18-9-A201(B). This rulemaking adds to subsection (A)(3) citations to R18-9-B205 and R18-9-B206. These Sections also specify treatment performance requirements. This rulemaking deletes subsection (A)(9) as amended and moves the language to R18-9-B203 because that Section addresses plans and specifications.

In a new subsection (A)(9), this rulemaking requires the applicant to supply in the design report several types of flow for the sewage treatment facility. These flows were adapted from standard design document Metcalfe & Eddy, a frequently used guide for designing sewage treatment facilities. This rulemaking adds language for:

• "Average daily flow." This is the benchmark number for design flow. Engineers use this number for development of flow rate ratios and for estimating pumping and chemical costs. The Department plans to use this number as the basis for classifying a facility according to daily flow numbers that dictate the type of permit required for the facility, e.g., 3000 gallons per day (gpd), 24,000 gpd, etc.

• "Maximum day." This is used for sizing of equalization basins, chlorine contact tanks, sludge pumping systems, etc.

• "Maximum month." This is the means of rating the size of a sewage treatment facility and is based on the average daily flow. The maximum month flow is used for recordkeeping and reporting, and sizing of chemical storage facilities.

• "Peak hour." This is used for sizing of pumping facilities and conduits and many unit treatment processes and is an important number for developing process control strategies for managing high flows.

• "Minimum day." This is used for sizing of influent channels to control solids deposition and for sizing effluent recycle requirements for trickling filters.

• "Minimum month." This is used for selection of the minimum number of operating units during low flow periods and scheduling shutdown for maintenance.

• "Minimum Hour." This is used for sizing turndown of pumping facilities and determining low range of plant flowmeter.

These conditions only apply to sewage treatment facilities and are addressed in this Section rather than R18-9-101.

This rulemaking revises subsection (A)(10) because the requirement for the Professional Engineer is addressed in the introductory language in subsection (A). This rulemaking edits the remaining requirements of the subsection to require the applicant to submit specifications for pipe, standby power source, and water and sewer line separation in the design report.

This rulemaking deletes subsection (B) because the information was included in a new subsection at R18-9-A201(C)(2) as an application requirement. This rulemaking adds a new subsection (B) to emphasize that the Department may inspect a facility at any time without notice.

R18-9-B203. Engineering Plans and Specifications

In addition to conforming and editorial changes throughout the Section, this rulemaking changes the title of the Section, because the Section only deals with the engineering plans and specifications.

This rulemaking moves the language in R18-9-B202(A)(9) to a new subsection (A). This provision deals with sewage treatment facilities with design flow less than one million gallons per day.

This rulemaking adds subsection (B)(8) that allows the Department to request the permittee submit the plans and specifications for facilities that were constructed before Department approval, if the construction does not conform to the design report.

In response to comments during the informal stakeholder process, this rulemaking adds a new subsection (E) that requires the permittee to submit an Engineer's Certificate of Completion after the facility is constructed but before discharge.

R18-9-B204. Treatment Performance Requirements for a New Facility

In a new subsection (A), this rulemaking adds a definition of "calendar week" that conforms to the use in the AZPDES rules, "Sunday through Saturday."

This rulemaking revises subsection (B)(4) to add criteria for measuring the reduction of pathogens by measuring *E. coli* instead of fecal coliform. The applicant has the choice of measuring for either *E. coli* or fecal coliform. The *E. Coli* limits are based on EPA standards. If the level is not measurable using a currently available analytical method, this is an implementation issue. The Department addresses this situation for other pollutants. Alternatively, if the applicant has questions about the accuracy of the measuring techniques, the applicant has the option to monitor for fecal coliform instead. This rulemaking adds subsection (B)(4)(a)(i) to allow the applicant to collect four samples within the week. Also, this rulemaking allows the permittee to justify the use of an alternative indicator monitoring at a different frequency under subsection (B)(4)(c).

This rulemaking deletes language in (D) because it limits the Department authority in A.R.S. § 49-243(B)(1). In addition, this rulemaking adds a new subsection (E) to state that when alternatives are justified, the Department may issue an individual permit that places greater reliance on monitoring to ensure operational capability. The Department will include specialized monitoring requirements that may include an increase in the monitoring requirement that is more frequent than typically applied in permits for other similar facilities.

R18-9-B205. Treatment Performance Requirements for an Existing Facility

In subsection (2), this rulemaking increases the factor used to calculate costs of alternatives that are considered for BADCT from $0.05/gallon of design flow to $1.00/gallon of design flow. This provision will impact only a small

number of sewage treatment facilities – those that existed and were constructed before 1986 and have not undergone a major expansion since 1986. Although, most APPs do not expire, this provision will require an existing facility that is not preparing to expand to evaluate whether the facility can move closer to achieving BADCT as described in R18-9-B204. The facility will need to evaluate whether there are any additional improvements that could be made to the facility within the cost factor provided in the rule. Any sewage treatment facility covered by an APP and has met pre-January 2001 BADCT requirements, most likely will not be reevaluated until the facility needs to expand. The increase in the cost factor (from $0.05 to $1.00) will allow more options to be considered. The cost formula sets the bar for what is and is not regarded as BADCT for an existing facility. The statute requires the Department to look at cost versus discharge reduction achieved by a particular technology. The Department believes that the $1.00/gallon of design flow is reasonable. The Department estimates that the costs to construct a new sewage treatment facility runs between $4 and $13 per gallon of design flow. Comparatively, the $1.00 per gallon of design flow figure is less than 25 percent of the cost for constructing a new facility.

R18-9-B206. Treatment Performance Requirements for Expansion of a Facility

This rulemaking removes the word "permitted" from the title and "with a current individual permit" from the introductory sentence because all existing sewage treatment facilities that operated under a Notice of Discharge (NOD) or a Groundwater Quality Protection Permit (GWQPP) have been already permitted.

This rulemaking makes editorial changes to subsections (1) and (2). The existing language at subsection (1)(a) is implied as part of permit requirements and is no longer necessary. The existing language at subsection (1)(c) is now within the new subsection (1)(a). Some significant amendments to a permit will not affect the treatment performance of the facility, so this rulemaking adds language to subsection (1)(b) to describe that the new facility BADCT requirements in R18-9-B204 apply if the requirements "can practicably be achieved by the addition."

ARTICLE 3. AQUIFER PROTECTION PERMITS – GENERAL PERMITS

PART A. GENERAL PROVISIONS

R18-9-A301. Discharging Under a General Permit

This rulemaking makes several editorial changes to this Section and throughout Article 3. These changes include:

- Replacing "Provisional Verification of General Permit Conformance" with "Construction Authorization,"
- Replacing "Verification of General Permit Conformance" with "Discharge Authorization," and
- Emphasizing that the Department authorizes the discharge under a general permit instead of "issuing a general permit" for the discharge.

This rulemaking adds language to the new subsection (A)(4)(d) to clarify that a person may not discharge until a Discharge Authorization is issued. In addition, this rulemaking adds language to the new subsection (A)(4)(e) to clarify that a person may have to pay fees for Type 4 General Permits that are assessed by delegated agencies through the authority in A.R.S. §§ 49-107 and 49-112.

In subsection (B), this rulemaking deletes the requirement for an individual to supply his or her social security number on the Notice of Intent to Discharge (NOI) form.

In subsection (D)(1), this rulemaking adds language to emphasize that a person shall not begin construction of a facility to be authorized by a Type 4 General Permit until the Director issues a Construction Authorization. This language is currently in subsection (D)(1)(e)(i). Also, this rulemaking adds language to subsection (D)(1)(c) to list the information that must be included within a Construction Authorization. This information is critical for describing the approved onsite wastewater treatment facility.

This rulemaking includes a reference to R18-9-E301, the Type 4 general permit for sewage collection systems, to subsections (D)(1)(e)(iii), (D)(1)(f)(i), (D)(2)(a)(i), and (D)(2)(c)(i). The 4.01 General Permit contains different requirements than for onsite wastewater treatment facilities and therefore the reference to R18-9-E301 is necessary in these subsections.

R18-9-A303. Permit Renewal

This rulemaking includes editorial changes throughout this Section including the title. This rulemaking adds language in subsection (A) to emphasize that, in addition to transferring the general permit authorization, if the authorization is revoked or expires, a person may not discharge under the general permit. Also, this rulemaking revises the subsection to emphasize that the authorization is for the authorization period and not the operational life of the facility. Renewals are not required for Type 1 or Type 4 General Permits.

For subsections (B)(1)(d) through (f), this rulemaking adds a five year permit authorization renewal period for the 2.04 General Permit and two new Type 2 General Permits (2.05 and 2.06).

R18-9-A304. Notice of Transfer

This rulemaking adds language to describe the transfer requirements that apply for the various types of the general permits. This rulemaking adds a new subsection (A) to address the requirements for Type 1 General Permits. This

rulemaking does not require a notice of transfer for any facility covered by a Type 1.01 through 1.08 or 1.10 through 1.12 General Permit. In subsection (A)(2), this rulemaking adds a statement that transfer requirements for an onsite wastewater treatment facility covered by the Type 1.09 General Permit are included in R18-9-A316. In subsection (A)(3), this rulemaking requires a permittee who transfers ownership of a sewage treatment facility covered by the Type 1.09 General Permit to notify the Department of the transfer by certified mail within 15 days of the transfer.

This rulemaking addresses the transfer requirements for Types 2, 3, and 4.01 General Permits in subsection (B). This Section also directs the permittee for a Type 4.01 General Permit to submit a Notice of Transfer form to the appropriate delegated health or environmental agency.

This rulemaking addresses the transfer requirements for all other Type 4 General Permits (other than 4.01 General Permit) in subsection (C). The transfer requirements for facilities covered by one or more Type 4.02 through 4.23 General Permit are included in R18-9-A316.

R18-9-A305. Facility Expansion

This rulemaking makes editorial changes to this Section.

R18-9-A306. Closure

This rulemaking revises this Section to emphasize that closure options fall into four categories:

• Closure notification is not required and clean closure is assumed (subsection (A)(1)) when the specified conditions are met,

• Closure notification is required along with a closure plan as required under A.R.S. § 49-252 (subsection (A)(2)),

• Closure requirements are specified in the general permit, or

• Closure requirements are specified in R18-9-A309(D).

Most of the language in this Section comes from subsections (A) through (C) of the current rule. Additionally, this rulemaking clearly states the closure requirements that apply for facilities covered by Type 1 General Permits. If a discharge from a sewage treatment facility covered under the Type 1.09 General Permit ceases, the permittee shall follow the closure requirements in subsection (A)(1) (no notification, follow general closure requirements).

R18-9-A307. Revocation of Coverage Under a General Permit

Because the Department revokes coverage under a general permit instead of actually revoking the general permit, which is established in rule, this rulemaking revises the title of and makes conforming changes throughout the Section.

This rulemaking adds language in subsection (B)(2) to address situations when a discharge is authorized under one general permit and due to some set of circumstances the permittee applies for coverage and obtains authorization to discharge under another general permit for the same facility. This rulemaking adds a reference to R18-9-107 that addresses consolidation of permits to this subsection.

This rulemaking adds a new subsection (E) to require the Department to notify the permittee if the Director revokes coverage under a general permit. This language will apply if the Department has not yet issued an individual permit for the facility discharge. The notification contains several pieces of information including the reason for the revocation and the appeal rights of the permittee.

For the situations when the Department has already issued an individual permit for a discharge to replace coverage under a general permit, this rulemaking adds a new subsection (C) to explicitly state that the Department will not have to follow the notification process for revocation of coverage under a general permit specified in subsection (E). The Department believes this is appropriate because the permit coverage is being replaced by an individual permit and all the participation and appeals notices are included in the process to issue an individual permit.

R18-9-A309. General Provisions for Onsite Wastewater Treatment Facilities

This rulemaking makes editorial changes to this Section including the title.

This rulemaking revises subsection (A)(3) to be consistent with the change to R18-9-B201(F). This revised language is appropriate for onsite wastewater treatment facilities.

During the informal review period, the Department received comments on the language regarding when the owner or operator of an onsite wastewater treatment facility will have to hook-up to a sewage collection system. In response, this rulemaking strikes the current language in subsection (A)(5) (hook-up required if the distance to connect is less than 400 feet and the cost to hook up is not more than $6000) and adds two new subsections. This rulemaking adds language to subsection (A)(5)(a) to address connections to a sewer in response to a requirement of a local ordinance, a Nitrogen Management Area, or a community master plan or regional 208 planning document. The Department realizes that in some cases, however, a sewer might be available but none of the conditions in subsection (A)(5)(a) apply. For the situation when none of the conditions listed in subsection (A)(5)(a) apply, this rulemaking requires hook-up only if a sewer line is available and the service connection fee and construction costs of the building sewer are within the dollar figures specified. This situation usually occurs in areas where housing densities are

already high enough to justify the cost of providing a sewer. In these areas, the threat of groundwater contamination is also greater, further justifying the hookup requirement. The Department believes that there will be few, if any, cases where a sewer line will be extended in rural areas of low density. In these cases, it is likely that a connection ordinance or approved master plan already exists for the area, mooting the need to apply the last connection provision.

This rulemaking defines a "reasonable service connection fee" as $6000 for a dwelling or $10 times the daily design flow in gallons for sources other than a dwelling (subsection (A)(5)(b)(1)). In addition, this rulemaking defines reasonable "construction" costs of the building sewer as $3000 for a dwelling and $5 times the daily design flow in gallons for sources other than a dwelling. The Uniform Plumbing Code defines "building sewer" as "that part of the horizontal piping of a drainage system that extends from the end of the building drain and that receives the discharge of the building drain and conveys it to a public sewer, private sewer, individual sewage disposal system, or other point of disposal."

This rulemaking moves the language in subsection (A)(7) to a new subsection (A)(7)(f) and modifies the text to address any water quality standard (surface and aquifer).

To control the discharge of nitrogen, this rulemaking adds a new subsection (A)(8) to address how nitrogen contributions will be managed and calculated from various onsite wastewater treatment facilities. For onsite wastewater treatment facilities with less than 3000 gallons per day flow, special nitrogen management provisions apply if the facility is located within a Nitrogen Management Area (subsection (A)(8)(a)). For onsite wastewater treatment facilities with less than 3000 gallons per day flow, subsection (A)(8)(a) specifies that special nitrogen management provisions apply if the facility is located within a Nitrogen Management Area. For onsite wastewater treatment facilities with flow between 3000 and 24,000 gallons per day, subsection (A)(8)(b) specifies that nitrogen is managed according to R18-9-E323.

This rulemaking adds a new subsection (A)(9) to describe the types of repairs that are substantial enough to warrant submittal of a new NOI and ancillary requirements (subsection (A)(9)(b)). The Department believes that the list includes the "non-routine" type of repairs. This rulemaking does not require a new NOI for routine repairs as stated in subsection (A)(9)(a), but does recognize in subsection (A)(9)(d) that some counties have repair permits for routine repairs but that a county's requirements (local ordinances) are separate and independent of the requirements specified in this rule.

This rulemaking adds a new subsection (A)(10) to deal with cumulative loading to the groundwater from multiple onsite wastewater treatment facilities on a property or a site either under common ownership or subject to a larger plan of sale or development. The rule states that the cumulative loads must be addressed as if coming from one source. This provision will typically apply to situations such as RV parks, campgrounds, etc. The intent is to ensure water quality protection for situations where either because of the pattern of historical development of the property or advertent piecemealing to avoid the permitting flow thresholds, the cumulative flow at the property has become so high that the additional protective measures of the larger-flow permits are needed.

This rulemaking revises the NOI requirements in subsection (B). Many of the changes are editorial in nature and others are made to conform with changes to other parts of the rule, such as the changes in subsection (B)(1). This rulemaking revises subsection (B)(2)(b)(ii) to require the applicant to show, in the site plan, any feature within 200 feet of the boundary of the primary and reserve areas for the disposal works and not the property boundary. This rulemaking deletes subsection (B)(2)(c) because the location of wells, no matter the ownership, must be included in the site plan based on the language in subsection (B)(2)(b)(i) or (ii).

This rulemaking makes editorial changes to subsection (B)(3) and requires additional information for a single family dwelling or facilities that are not dwellings for a single family. The number of bedrooms is typically not an appropriate indicator of flow if the source is not a single family dwelling, such as an office or commercial building.

This rulemaking combines subsections (B)(4) and (6) and part of subsection (B)(5) into a new subsection (B)(4). The introduction to subsection (B)(4) is found within the old subsections (B)(4)(f) and (6). This rulemaking also specifies in the new subsection (B)(4)(c) a requirement that the operation and maintenance manual for the facility address tasks and schedules for operating and maintaining performance of the facility over a 20-year operational life. The applicant is required to design the facility for a 20-year operational life in R18-9-A312(B)(1). The Department believes it is appropriate to require that the operation and maintenance manual address how to maintain the facility for that period of time. This rulemaking revises subsection (C)(2)(c), similarly.

This rulemaking adds a requirement in subsection (C)(1) for the applicant to certify on the Request for Discharge Authorization form that the septic tank passed a watertightness test. This requirement is necessary to ensure that the tank is still leak-proof after shipping or installation and to ensure adequate environmental protection.

This rulemaking makes editorial or conforming changes to subsections (C)(2), (C)(2)(f), and (C)(3). This rulemaking adds a requirement to "show changes" on the as-built plans required in subsection (C)(2)(a) and the final list of equipment and materials in subsection (C)(2)(b). This rulemaking revises subsection (C)(2)(c) by replacing "plan" with "manual for the onsite wastewater treatment facility" and requiring the manual to include "tasks and schedules for operating and maintaining performance over a 20-year operational life." These changes are necessary to ensure that the facility is operated and maintained properly for long-term environmental protection.

To address comments about the need to ensure proper operation and maintenance for facilities that include more complicated technology or disposal features, this rulemaking adds a new subsection (C)(2)(d). This subsection requires that for facilities permitted under any of the general permits in R18-9-E304, R18-9-E308 through R18-9-E315, R18-9-E316 if there is a pump, or R18-9-E318 through R18-9-E22, the permittee shall enter into a one-year service contract so that the onsite wastewater treatment facility will be operated and maintained properly. This will ensure that the permittee's system is working properly during startup, and provides a period of familiarization with the system so that the permittee can take over O&M responsibilities after one year, or more likely, renew the service contract.

During the informal comment period, the Department received comments that the Department should not require that the Certificate of Completion (COC) be sealed by registered professional engineers (P.E.s) for onsite wastewater treatment facilities because the Board of Technical Registration (BTR) waives that requirements for residential properties or commercial properties up to $12,500. The Department stresses that the current and rules and this rulemaking do not require that a registered P.E. seal plans for an onsite wastewater treatment facility. (subsection (C)(2)(f) states: "[a] Certificate of Completion signed by the person responsible for assuring….") The APP rules do not include such a requirement, but neither do they waive the BTR requirements. If the BTR rules require the P.E. to seal plans, then those rules govern. The APP rules require a P.E. to sign and seal COCs for sewage collection systems (see R18-9-E301(C)(8)).

This rulemaking requires in a new subsection (C)(2)(g) the applicant to submit the name and Registrar of Contractor's license number of the installation contractor. This information is needed to ensure that an onsite wastewater treatment facility is installed properly so that it doesn't create a public health or environmental problem. Additionally, this requirement conforms to Registrar of Contractor practices that allow only certain classifications of registered contractors to install onsite wastewater treatment facilities.

For subsection (D), this rulemaking makes mostly editorial or conforming changes with a few modifications. In the introductory language of subsection (D), this rulemaking adds "or a cesspool" so that it is clear that the closure requirements apply to cesspools. Cesspools are prohibited under subsection (A)(4), however some still exist and if a person discontinues use or is ordered to close an abandoned cesspool, the rule clearly states that closure requirements apply. This rulemaking adds a new subsection (D)(3)(a) to deal with the fact that an abandoned septic tank may float if it is in an area where the groundwater table may rise above the bottom of the tank. This is a potential problem in only a few localities in Arizona, but in those situations, the rule requires that the person punch a hole in the bottom of the tank. This rulemaking also revises subsection (D)(3)(c) to clarify that "positive drainage" means "drainage away from the closed area." In addition, this rulemaking revises subsection (D)(5) to require the permittee to notify the Department instead of the applicable county health or environmental department. This change is necessary because the delegation agreements vary too much in the type of general permits that the Department delegates. The Department has not delegated authority for all facilities covered under the Type 1.09 General Permit to every county (e.g. facilities discharge between 3000 and 20,000 gallons per day). As with other issues, the Department will amend each county's delegation agreement to reflect that the Department is delegating this authority to the county for each type of general permit that the county has review and approval authority over. Thus, for example, closures of facilities over 3000 gallons per day will come to the Department for some counties and directly to the county for others.

This rulemaking makes minor changes to the language in subsections (E)(2) and (3) and deletes subsection (E)(4). This Section requires the Department to maintain a list of proprietary and other reviewed products. In the past, the Department has not listed septic tanks or effluent filters because detailed technical standards already in rule govern materials, construction, configuration, etc. Changes to subsection (D)(2) explicitly establish that practice in rule. Finally, because the Department has broad authority to "contract for services" under A.R.S. § 49-203(B)(7), the specific requirement under subsection (E) is not required.

During the informal review period, the Department received several comments on the language in subsection (E). One commenter stated that the current list of proprietary and reviewed products was totally arbitrary and rather capriciously developed. The commenter requested that the Department provide the rationale behind its decision on prior approved propriety products, such as the parameters used to develop the Department's proprietary list. The commenter stated that as of May 2004, the Department had not provided the rationale used and the commenter went on to state: "the products in the ground on or about January 5, 2001 were essentially 'grandfathered' and were not required to submit any supporting data, nor undergo any further review." The Department disagrees. The listing process was developed under R18-9-A309(E) in consultation with OWAC. The Department distributed documents relating to rationale and a process for listing products during at least two OWAC meetings. In addition, the Department discussed these issues with OWAC attendees. Under the product listing process, products that were suitable for the Engineering Bulletin #12 program were evaluated based on the treatment technologies and default performance standards specified in the rule. This evaluation process resulted in the development of the product listing that was provided to OWAC for comments.

The Department disagrees that the list of proprietary and reviewed products is arbitrary and capriciously developed. The list was developed based on the promulgated categories of general permits. The Department had extensive input from stakeholders in developing the general permit categories. The performance standards for the various general permits were based in large part on the body of information for existing products supplied by stakeholders. When

the general permits were finalized, the Department concluded that those products met those standards. A small stakeholder group did evaluate the Department's draft list of products. Where the stakeholder group concurred with Department conclusions, the Department listed the products.

Another person commented during the informal review period and asked "[w]hat must I do to request the necessary language changes during the rule revision process to the applicable sections that currently disallow sequencing batch reactors (i.e., Chromaglass) as a treatment alternative?" As of May 2004, the Department had listed the following four Chromaglass models, CA-12, CA-15, CA-15, and CA-30, under R18-9-A309(E) at http://www.adeq.state.az.us/environ/water/permits/download/listpro.pdf. The smaller Chromaglass units were not listed because they failed to meet the performance requirements under R18-9-E321(B). In this revised rule, sequencing batch reactors are considered an aerobic system under the 4.15 General Permit, and will be so designated on the Department's list of proprietary and reviewed products when the rule becomes effective.

Stakeholders also suggested changes to subsection (E)(2) to address treatment performance of treatment technologies in series and to subsection (E)(3) that requires that the performance values reflect treatment performance for defined sewage characteristics. Instead of including the suggested language, the rulemaking adds a sentence at the end of subsection (E)(3) to require that the performance values in the list reflect the treatment performance for defined wastewater characteristics. The treatment performance will be noted for technologies in series in the Department's list of proprietary and reviewed products.

This rulemaking adds a new subsection (F) to emphasize that there are documents (records) that must be retained for the operational life of the onsite wastewater treatment facility.

R18-9-A310. Site Investigation for Type 4 Onsite Wastewater Treatment Facilities

This rulemaking makes editorial changes to subsection (A) and editorial and conforming changes to subsection (B). This rulemaking splits the current language in subsection (B)(1) between the new subsections (C) and (D) and retains subsections (B)(2) and (3) in the proposed subsection (B). In the existing rule, limiting conditions identified at a site by an investigator performing the site characterization were lumped together into one provision in subsection (B)(1), which created confusion on both the investigation and regulatory sides. In this rulemaking, limiting conditions to be identified on the surface and applicable characterization methods are described separately in subsection (C); limiting conditions to be identified in the subsurface and corresponding applicable methods are described separately in subsection (D). This conforms to how site investigations are actually performed and eliminates the problems in the existing rule. Many of the changes to the rule in this section relate to the splitting out of the surface and subsurface characterization requirements.

As stated above, this rulemaking revises subsection (C) to address requirements for surface characterization only. Subsection (C)(1)(a) contains just the method for surface characterization. This rulemaking adds standard language for incorporating a document by reference. This rulemaking adds language in subsection (C)(1)(b) to address other methods for surface characterization similar to the provision currently at subsection (C)(6). This rulemaking adds language to reflect the type of information that the alternative method must provide for surface characterization. This rulemaking moves language from subsections (B)(1)(d), (e), and (g) to the new subsections (C)(2)(a) through (c). This rulemaking includes three additional limiting conditions in subsections (C)(2)(d) through (f). The additional conditions deal with whether the onsite wastewater treatment facility will be located on property within a 100-year flood hazard zone, with an outcropping of rock that will impair the function of soil receiving the discharge, or with fill material deposits.

As described in the introductory paragraph to this section, this rulemaking moves all the conditions that address subsurface characterization to a new subsection (D). The language currently in subsections (C)(2) and (3) is addressed in the new subsections (D)(1)(a)(i) and (ii). This rulemaking references the updated American Society for Testing and Materials (ASTM) standards. This rulemaking moves the language in subsections (C)(4) through (6) to new subsections (D)(1)(b) through (d). This rulemaking expands the requirement moved to subsection (D)(1)(d) to generically address water quality standards instead of "Aquifer Water Quality Standards." Subsurface characterization should verify that the disposal in the area won't cause effluent to surface on the ground to ensure compliance with surface water quality standards.

The subsurface limiting conditions listed in the new subsections (D)(2)(a) through (f) are based on current language subsections (B)(1)(a), (b), (c), (f), and (h). This rulemaking splits the language from subsection (B)(1)(c) into new subsections (D)(2)(b) and (c). Also, this rulemaking splits the language in subsections (B)(1)(f) into new subsections (D)(2)(d) and (e) and adds specifics types of subsurface conditions. This rulemaking moves the language currently in subsection (B)(1)(h) to a new subsection (D)(2)(f). The Department makes editorial changes to that subsection including replacing the citation to A.R.S. Title 49, Chapter 2, Article 2, with the citation to rule at 18 A.A.C. 11, Articles 1 and 4. Instead of referring to the minimum vertical separation requirement in R18-9-A312(E) as is in the current subsection (B)(1), new subsection (D)(2) requires the investigator to determine if a limiting condition exists within a minimum of 12 feet of the land surface or to an impervious soil or rock layer if encountered at a shallower depth.

The new language in subsection (D)(3) primarily comes from the current rule provisions at subsection (D) with a few changes. This rulemaking specifies an investigation depth of 12 feet from the surface in subsections (D)(3)(b)(ii)

and (iv). This change corrects a problem with circular references between these subsections and R18-9-A312(E). In the existing rule, the depth of investigation is dependent on the minimum vertical separation specified in R18-9-A312(E). That, in turn, is dependent on the soil absorption rate, which is determined by the procedure in this Section. Therefore, in this rulemaking, an unambiguous minimum depth of investigation of 12 feet is specified. This allows at least 2 feet of subsurface materials to be investigated below the 10 foot minimum vertical separation distance to groundwater (for sandier soils) as specified in R18-9-A312(E). This also conforms to the typical depth of excavation of equipment often used to construct the test trench.

This rulemaking splits the language in subsection (D)(2)(d) into two provisions at subsections (D)(3)(b)(iv) and (v). Additionally, in response to stakeholder comment in the drafting process, this rulemaking revises the language in the new subsection (D)(3)(b)(iii) by eliminating the requirement for the size of the rock fragments currently provided in subsection (D)(2)(c) ("greater than three inches across"). This change requires the investigator to use one or more ASTM methods if the native soil consists of more than 35 percent rock fragments no matter the size which, as defined in the ASTM methods, are fragments greater than 2 millimeters.

In addition, this rulemaking moves the language in subsection (G) to subsection (E) and reletters the remaining subsections. This rulemaking makes editorial and conforming changes to the language throughout subsections (E) and (F).

This rulemaking adds a provision at subsection (G)(3)(d) for seepage pits that specifies how to calculate the percolation test rate for seepage pits. The equation is based on previous work by stakeholders and was issued by the Department in a rule clarification in February 2001.

During the drafting process, the Department received some comments questioning the effectiveness of seepage pits for use as a disposal works in treating effluent from septic tanks. The Department continues to consider that seepage pits, constructed in conformance with the requirements in the existing rule, are effective for this purpose. Because of stakeholder concerns expressed prior to the existing rule, the Department funded a study by the University of Arizona on this matter. That study, completed in June 2003, concluded: "[d]ata collected in this study indicate that the current onsite wastewater treatment regulations for seepage pit MVS [minimum vertical separation] are adequate for the protection of public health and water quality." The existing rule at R18-9-A312(E)(1) provides for a minimum vertical separation distance from the bottom of the seepage pit to the top of the water table of 25 or 60 feet depending on soil type. (At R18-9-A312(E)(1), this rulemaking revises the table to include just one criterion for minimum vertical separation 60 feet to provide an even greater safety margin for those seepage pits that currently could be constructed 25 feet from the water table.

Finally, in subsection (H), this rulemaking specifies the qualifications required for a person (investigator) performing site investigations. The existing rule did not specify classifications of practitioners that the Department believes can competently perform site investigations. To provide guidance on this matter, the Department issued a list of the practitioner categories in February 2001. The categories listed in subsection (H) of this rulemaking derive largely from that document.

R18-9-A311. Facility Selection for Type 4 Onsite Wastewater Treatment Facilities

This rulemaking makes editorial or conforming changes to this Section, with several other changes.

This rulemaking reorganizes the paragraphs of this Section by switching subsections (A) and (B). This rulemaking makes only editorial changes to those two subsections.

This rulemaking revises subsection (C) to allow the applicant to justify the use of a design solely under R18-9-E302 for a winder range of limiting conditions than currently allowed.

This rulemaking revises subsection (D) slightly. The Section already requires that if the site conditions will allow the use of a "conventional" onsite wastewater treatment facility under R18-9-E302, but the applicant wants to use treatment or disposal technology in R18-9-E303 through R18-9-E322, then the applicant must include a statement with the NOI acknowledging that the applicant is applying for approval of a design that is different from R18-9-E302. The Department included this language in the current rule to ensure that designers do not push a more expensive onsite wastewater treatment system unless the applicant desires it. This rulemaking expands the statement so that the applicant verifies that:

• The applicant desires to install a treatment works or disposal works authorized under R18-9-E303 through R18-9-E322; and

• The applicant is aware that such a system may result in higher capital, operation, and maintenance costs than for a conventional septic tank and disposal works system.

R18-9-A312. Facility Design for Type 4 Onsite Wastewater Treatment Facilities

This rulemaking makes editorial or conforming changes to this Section, with several other changes.

In subsection (B)(3), this rulemaking deletes the requirement to use Table 1 design flows to determine the design flow of the onsite wastewater treatment facility, substituting this with a statement that the applicant shall design the

facility based on the facility's design flow and the wastewater characteristics of the wastewater according to R18-9-A309(B)(3). In that subsection, the requirement to use Table 1 is specified.

This rulemaking revises subsection (B)(4)(b) by using the term "hydraulic analysis" instead of "linear loading rate analysis" and provides the specific soil absorption surfaces that must be used in the hydraulic analysis calculations.

In subsection (B)(4)(c), this rulemaking requires the applicant to design caps and covers to protect from damage and prevent entry from rodents, mosquitoes, flies, or other organisms (vectors) capable of transporting disease causing organisms (pathogens).

This rulemaking allows in subsection (B)(5) an applicant to follow a reference design on file with the Department and requires the applicant to submit that information with the NOI. The Department intends to maintain a file of acceptable reference designs for technologies allowed by the various general permits. Each reference design will consist of drawings, equations, and tables to properly configure the facility to specific site conditions, and a general list of site conditions for which the reference design is appropriate. The Department will maintain a list of reference designs on the Department's website.

In subsection (C), this rulemaking revises the table of default setbacks applicable to an onsite wastewater treatment facility to greatly improve its utility. The revised table received consensus approval by OWAC sponsored by the Department. The changes include numbering each setback category for ease in referencing, merging the setbacks from the septic tank and the disposal field into one column and moving the "Notes" into a column labeled "Special Provisions." For setback #2, this rulemaking clarifies that any document indicating agreement from adjacent property owners must be "appropriately recorded." This rulemaking adds the qualifier "horizontally from" to the special provisions for setbacks #5, #6, #8, and #10 through #12 and the special provision for setback #7 to clarify how to measure the setback distance. This rulemaking revises the setback requirement in setback #8 to apply to washes with a drainage area of 20 acres instead of 5 acres. Based on feedback from stakeholders, 5 acres is too small an area for defining a drainage area, so the Department the setback now applies to drainage areas of 20 acres or more.

In the existing rule, application of setback #11 has been confusing. This rulemaking sorts out the variations that are encountered in dealing with downslopes and cut banks, several of which were not anticipated in the existing rule, and provides separate and appropriate setbacks for each. The setback distances are based on feedback from stakeholders and supported by the OWAC.

This rulemaking adds to the special provision in setback #12 the phrase "except for disposal works" to clearly state that disposal works may not be located under a driveway. This rulemaking adds a setback requirement for earth fissures at setback #15. If information is available about earth fissures, the onsite disposal area must be located at least 100 feet from the feature.

In subsection (D)(1), this rulemaking adds a sentence to clarify how to calculate the soil absorption area.

In the tables in subsection (D)(2), for the case in which a very permeable or very impermeable soil is encountered outside the range of the test methods, this rulemaking specifies that: "[a] site-specific SAR must be provided." Regardless of the type of disposal works that is ultimately selected by the designer for installation in this type of soil, the sizing of the disposal works depends on a determination of a design SAR appropriate for the site conditions and quality of wastewater delivered to the disposal works. This rulemaking does not describe how to determine the design SAR in this circumstance because of the multitude of different types of out-of-range conditions that may exist and the different types of methods that may be used to determine an appropriate SAR. The Department expects the designer to determine a site-specific SAR for sizing the disposal works using appropriate methods and best professional judgment.

This rulemaking revises the adjusted soil absorption rate (SAR_a) equation in subsection (D)(3) for use when a limiting condition requires use of a treatment technology described in 4.03 through 4.22 General Permits. This equation allows a designer to apply a greater wastewater load per unit area to the disposal works for those technologies that provide treatment performance better than a conventional septic tank system as established in R18-9-E302(B)(1) and (2). For the purposes of the equation, treatment performance is measured in terms of removal of biochemical oxygen demand (BOD_5) and total suspended solids (TSS). This higher wastewater loading rate into the soil translates into smaller disposal fields for progressively better treatment performance and, hence, progressively lower cost for the disposal works portion of the onsite wastewater treatment facility. Some stakeholders have commented that the equation in the existing rule does not provide enough wastewater loading credit, particularly at the lower end of the SAR scale. In other words, in low permeability soils, stakeholders have stated that technologies authorized in a general permit that can provide better treatment performance should be allowed a greater wastewater loading rate to soil than the current equation allows.

In response, the Department has considered the implication of making this change in terms of ensuring sustained operation of the disposal works without causing plugging or effluent surfacing and has modified the equation to yield a greater treatment credit for better performing treatment technologies. The changes increased the allowable native soil loading rate by 4 percent to 9 percent for a range of treatment performance improvements at the low end of the soil permeability scale (SAR = 0.2 gallons per day per square foot) and by 24 percent to 55 percent at the high end of

the soil permeability scale (SAR = 1.2 gallons per day per square foot). Some stakeholders have commented that even greater treatment performance credit should be allowed and suggested use of a formula developed by Dr. Rein Laak. However, Dr. Laak's formula does not provide a seamless transition that accommodates the full range of soil permeabilities and treatment performance improvement and, as Dr. Laak even stated in his paper, the equation cannot be used for soils with low permeability. In the end, the Department used best professional judgment in determining the appropriate increases in the soil loading rate so as to ensure that disposal works do not fail due to overloading at the low end of soil permeability range and that groundwater quality is protected from rapid pathogen movement at the high end of the soil permeability range. The Department recognizes that this is an area needing further research as well as a topic for continued discussion by OWAC. The Department will continue to support efforts in both.

This rulemaking revises subsection (D)(4) to exempt pre-1974 subdivisions approved for onsite system installations from the requirement for providing a reserve area equal to 100 percent of the primary area. This language conforms to a Rule Clarification that the Department issued in February 2001. The exemption is necessary because there was no regulatory requirement for a reserve area prior to 1974, therefore, many subdivisions were approved with smaller lots than were approvable after 1974. The provision in subsection (D)(4)(b) was added to address non-residential properties.

This rulemaking adds subsection (D)(5) to ensure that the designer considers performance of the disposal works in wet or cold weather. This aspect of the design is particularly important in the wetter areas of the state or where freezing weather is common.

Based on stakeholder input, this rulemaking makes several changes to the vertical separation requirements in subsection (E). In the existing rule, this subsection was difficult to apply because it lumped different types of limiting conditions together, including the depth to groundwater, in the determination of allowable vertical separation. This rulemaking reorganizes this subsection by distinguishing between categories of limiting conditions and provides appropriate vertical separation distances and other relevant requirements for each category, as follows:

• Subsection (E)(1) specifies the minimum vertical separation to the seasonal high water table for a disposal works described under R18-9-E302;

• Subsection (E)(2) specifies the minimum vertical separation to the seasonal high water table for a disposal works described under in any of the general permits in R18-9-E303 through R18-9-E322. This subsection allows higher performing systems that remove increasingly greater proportions of pathogenic organisms to be installed proportionately closer to the water table;

• Subsection (E)(3) specifies added treatment performance requirements when the vertical separation distance from the bottom of the disposal works to a subsurface limiting condition is small enough to potentially cause surfacing of wastewater. This provision recognizes that, except for a disinfection device, other general permit technologies reduce microorganism levels only down to 10^4, or 10,000 cfu/100 ml, whereas disinfection devices (4.20 General Permit) can be reliably operated at full disinfection, i.e., at the 10^0 level. There is no other technology allowed by a general permit that operates in that gap. Also, when the limiting condition is so close to the surface (less than 4 feet), it is impractical to precisely design for a specific bacterial log reduction at 1/2-foot elevation difference intervals with respect to the subsurface limiting condition, considering the mounding of wastewater on top of the limiting condition. If mounding increases, which easily could happen due to small differences in soil absorption rate, measurement error in the depth to the limiting condition, or subsequent grading of the site, the chance of surfacing increases, with potential discharges of wastewater to the land surface that are undertreated by one or two log cycles. The requirement for full disinfection for those last few feet of soil between the limiting condition and the land surface is thus rooted in practicality to ensure that public health is protected; and

• Subsection (E)(4) specifies the vertical separation from the bottom of the disposal works to a subsurface limiting condition that promotes accelerated downward movement of insufficiently treated wastewater. In this case, a minimum of two feet of intervening soil is required for treatment or, alternatively, treatment down to the 10^6 level, 1,000,000 cfu/100 ml. Either of these should provide sufficient treatment to the wastewater before further downward percolation.

This rulemaking adds subsection (F)(4) to explicitly state that the requirements of Article 3 apply over manufacturer's specifications. An applicant may request a manufacturer's specification to override a design requirement of this rule by submitting a request under subsection (G), but the Department will not accept a request to override a requirement of subsection (D) or (E). The Department believes that the requirements in subsection (D) for SAR and disposal works sizing and subsection (E) for vertical separation should override any manufacturer's specification.

The first paragraph of subsection (G) in the existing rule states that a request under subsection (G) may be used for an alternative setback. The addition of subsection (G)(7) provides criteria for approval of such a request.

R18-9-A313. Facility Installation, Operation, and Maintenance for Onsite Wastewater Treatment Facilities

This rulemaking makes mostly editorial and conforming changes to this Section. In subsection (B)(1), this rulemaking specifies that, in addition to inspecting and cleaning distribution components, the permittee shall pump accumulated residues from the components and then manage the residues to protect human health and the environment. This rulemaking deletes "pretreatment" and broadens the remaining term to include "wastewater treatment and

distribution components" that include "pretreatment components." In subsection (B)(2), this rulemaking adds a requirement to "replace filters" according to manufacturer's specifications and for the permittee to manage residues to protect human health and the environment. In addition, based on stakeholder input, this rulemaking adds four new tasks for operation and maintenance manuals in subsections (B)(11) through (14).

R18-9-A314. Septic Tank Design, Manufacturing, and Installation for Onsite Wastewater Treatment Facilities

This rulemaking makes editorial and conforming changes to this Section. This rulemaking updates the documents that are incorporated by reference in subsections (B)(1)(b), (3), and (4).

In subsection (A)(8), this rulemaking changes the minimum open space distance from the water level in the septic tank to the top of the tank from 12 inches to 9 inches to conform to the generally accepted national norm.

This rulemaking revises the format of subsection (C) including the title: "[c]onformance with design, material and manufacturing requirements." During the informal process, stakeholders suggested that the Department should specify a certification process for septic tank manufacturers. Stakeholders envisioned either a certification process that the Department or a third-party will perform. Because the rule details very specific design, material and manufacturing requirements for a septic tank, this rulemaking adds a certification process where the manufacturer certifies that the tank was designed and manufactured according to the requirements in R18-9-A314(A) and (B). The Department does not believe that a certification process by the Department or a third-party is a necessary requirement because of the detailed design requirements. Based on the proposed language at subsection (C)(4), the manufacturer must ensure that the manufacturer's certification along with the handling and installation instructions are provided with the sales documents for each septic tank.

This rulemaking makes several changes to subsection (D). For the introductory language in subsection (D), this rulemaking replaces "[a]n applicant" with "[t]he person designing the onsite wastewater treatment facility." This change is appropriate because the applicant is not always the designer of the onsite wastewater treatment facility. The Department wishes to emphasize that the designer must be responsible for complying with the conditions in subsection (D). Based on feedback from stakeholders that resulted in a Rule Clarification issued by the Department in November 2001, this rulemaking replaces the table in subsection (D)(1) for the design liquid capacity of a septic tank with two new subsections (D)(1)(a) and (b). Subsection (D)(1)(a) specifies that criteria for design liquid capacity of a septic tank and the daily design flow based on number of bedrooms and fixture count. This rulemaking replaces the table, eliminates the factors for number of occupants and number of baths, and modifies the factor for the maximum fixture count. The proposed table includes two fixture count groupings for each bedroom scenario. Based on the number of bedrooms and number of fixtures for the dwelling, the designer determines the required minimum design liquid capacity and the design flow for the onsite wastewater treatment facility. The Department believes that these fixture unit groupings provide an accurate way of sizing tanks for single family dwellings.

Subsection (D)(1)(b) includes a proposal for the number of fixture units associated with each type of fixture in a table format. This information is based on stakeholder feedback and essentially duplicates the guidance issued by the Department in the Rule Clarification noted in the previous paragraph. When calculating the number of fixture units to size the septic tank, the designer will rely on the information in this table. For example, for a home with two bedrooms with a bathroom with a low flush water closet (toilet), a single lavatory and bathtub and a kitchen with a sink including a dishwasher, the fixture unit count will be eight. (three for the toilet, one for the lavatory, two for the bathtub, and two for the sink/dishwasher). The designer will then look to the table in subsection (D)(1)(a) to determine the minimum design liquid capacity and the design flow for the onsite system. For two bedrooms and eight fixture units, the septic tank must be at least 1000 gallons and the design flow is 300 gallons per day.

Under subsection (D)(2), this rulemaking adds a statement that if the strength of the wastewater from a source other than a single family dwelling exceeds the strength of typical sewage, additional tank volume is required to provide more residence time in the tank for treatment of the added organic material. Based on stakeholder feedback, this rulemaking specifies in subsection (D)(3) that only two septic tanks may be placed in series and sizing requirements for the two tanks. The size of the first tank must be at least 67 percent of the total required tank capacity and the second tank must be at least 33 percent of the total required tank capacity.

This rulemaking makes editorial changes throughout subsection (E). More substantively, this rulemaking requires in subsection (E)(3) that the installer ensure that the septic tank effluent filter is removable for cleaning and maintenance. This is an important feature to ensure proper operation for the filter and onsite wastewater treatment facility. Based on the recommendation of the Onsite Wastewater Advisory Committee and feedback from other stakeholders, this rulemaking revises subsection (E)(4) to require in-field watertightness testing for all installed septic tanks. This is an important requirement to go along with the manufacturer's certification that the design and manufacturing requirements were met and ensures that the tank was not damaged during transport and installation. This rulemaking also eliminates the option of using a vacuum test to determine that a tank is watertight, as the vacuum test cannot determine stability of the tank in its excavation, as is the case with a tank that is fully weighted during the watertightness test.

R18-9-A315. Interceptor Design, Manufacturing, and Installation for Onsite Wastewater Treatment Facilities

This rulemaking makes only editorial and conforming changes to this Section.

R18-9-A316. Transfer of Ownership Inspection for Onsite Wastewater Treatment Facilities

This rulemaking revises this Section. Notice of transfer inspections apply to all onsite wastewater treatment facilities when the property is transferred including any facility that was constructed and operated before January 1, 2001. Specifically, this rulemaking adds language in a new subsection (A) to emphasize that an owner or operator of a facility that complies with R18-9-A316 also complies with the general transfer requirements described in R18-9-A304.

This rulemaking replaces the language in the old subsection (A) with new language in subsection (B). This new language requires the owner of a property (transferor) with an onsite wastewater treatment facility to hire an inspector to inspect the onsite wastewater treatment facility before the property is transferred. This rulemaking requires the transferor to ensure that the inspection occurs within six months of the property transfer date. This rulemaking also requires that a qualified inspector perform the inspection (subsection (B)) and describes the qualifications for such an inspector (subsections (B)(1) through (3)). Based on stakeholder comment, the Department added a qualification requirement for an inspector to hold a certificate of training from a course recognized by the Department. The certificate is a requirement before performing any inspections on or after January 1, 2006. This rulemaking includes a delayed implementation date for this requirement to allow various institutions to develop training courses and time for the potential inspectors to take the course. Depending on the timing for the rule, the Department will provide a minimum of nine months lead time. The date may change if the rulemaking is delayed. This rulemaking adds the types of licenses that are required to be "qualified" as an inspector. This list includes licenses that reflect knowledge about wastewater treatment processes or onsite wastewater treatment facilities. Based on stakeholder feedback, this rulemaking adds language to subsection (B)(3)(c) to state that an employee of an owner of a vehicle with a human excreta collection and transport license may qualify to be an inspector. However, the employee will still need to meet the criteria in subsections (B)(1) and (2) to be a qualified inspector.

In subsection (C), this rulemaking describes requirements of the inspection. The inspector must complete a Report of Inspection and provide it to the transferor. The inspector must describe any observed deficiencies with the physical or operational condition of the onsite wastewater treatment facility and document any repairs completed by the inspector (subsection (C)(1)), indicate whether the tank was pumped or explain why it wasn't pumped (subsection (C)(2)), and provide the date of the inspection (subsection (C)(3)).

This rulemaking describes the information that the transferor must provide to the transferee including the completed Report of Inspection and documents in the transferor's possession on the permitting, operation and maintenance of the onsite wastewater treatment facility.

This rulemaking requires in subsection (E) the transferee to submit the Notice of Transfer along with a fee to either the county health or environmental agency if the onsite wastewater treatment facility was constructed after January 1, 2001 or to the Department if the onsite wastewater treatment facility was constructed before January 1, 2001. This rulemaking requires the forms for facilities constructed before January 1, 2001 to be submitted to the Department because this is a new program that will involve a large number of facilities. The Department intends to implement the program statewide on a consistent basis and then evaluate the delegation of that authority to the appropriate local health or environmental agency.

Based on stakeholder feedback, in subsection (F), this rulemaking waives the inspection requirement for any onsite wastewater treatment facility that was not put into service before the property is transferred. The transferee must complete a Notice of Transfer form, however. The fees for transfer of ownership transactions will be described in any revisions to the Water Quality Protection Service Fee rules at 18 A.A.C. 14, Article 1.

The rulemaking lists the effective dates for these requirements in subsection (G). The Department does not include a delayed implementation date for transfer inspections for Type 4 onsite wastewater treatment facilities because these transfer inspections are required for those systems under the current rule. This rulemaking includes delay implementation of the overall transfer inspection requirement for other onsite wastewater treatment facility. The transfer inspection for these facilities will be required on or after January 1, 2006. This period allows the Department time for implementation and outreach.

R18-9-A317. Nitrogen Management Area

As promised to the Governor's Regulatory Review Council and to stakeholders in December 2000, this rulemaking includes an approach to managing sources of nitrogen in a particular area when other provisions in the Department's regulatory program do not provide enough protection to an aquifer. This approach is described in this Section. This Section is placed at the end of Article 3, Part A because it deals primarily with facilities covered by general permits. The Department anticipates that this process will be used primarily to address areas where dense concentrations of septic tanks threaten or have caused groundwater contamination. For permittees covered by individual permits such as sewage treatment facilities, the Department has the authority under R18-9-A213(A)(3) to amend or revoke the individual permits if a source causes or contributes to the violation of an AWQS.

This rulemaking adds a process for designating a new Nitrogen Management Area, modifying the boundaries of or requirements to a Nitrogen Management Area, or rescinding designation of a Nitrogen Management Area (subsection (A)). For an area where existing conditions or trends in nitrogen loading to an aquifer will cause or contribute to an exceedance of the AWQS for nitrate, this rulemaking lists 10 factors the Department will evaluate to determine whether an area must be designated as a nitrogen management area. The Department believes that reviewing these factors will ensure that any determination is appropriate for the site-specific circumstances. The Department will

evaluate information that is available to it through Department databases, regional databases, or national information sources (population). Once criteria are established in final rule, the Department will set up a schedule for evaluating areas, most likely looking first at areas with known nitrogen contamination of groundwater.

Additionally, this rulemaking allows the Department to modify the boundary of or the requirements to a Nitrogen Management Area if the Department becomes aware of a material change to one of the 10 criteria or if the local agency adopts a master plan to sewer an area in 10 years or less from the date of adoption of a master plan for the area (subsection (A)(2)).

Stakeholders commented in the informal comment period that the Department needs to specify the triggers for each of the criteria and that those triggers need to be subject to a peer review process so that they are scientifically defensible. The Department believes that for the criteria listed in subsection (A)(1), either a trigger isn't appropriate (e.g., subsection (A)(1)(a) – population of the area) or a trigger is implied (e.g., subsection (A)(1)(e) – existing contamination of groundwater by nitrogen species). Stakeholders also commented that the Department should require remedial investigation prior to designation. The Department does not agree that requiring remedial investigation prior to designation is necessary or appropriate. If information from a remedial investigation is available, then that will be considered based on the draft provision at subsection (A)(1)(j).

During the informal drafting process, some stakeholders commented that the Department should provide a list of Nitrogen Management Areas that the Department is considering for designation. The Department has not prepared such a list because the evaluation process will take time and the criteria will need to be finalized. Once the rule is final, the Department will compile all the information for those criteria, evaluate areas with respect to this information, and develop a candidate list of areas for potential designation and further study (subsection (B)).

If the need for areal nitrogen management is indicated by the detailed study, the Department will prepare a preliminary decision for designating the area. The basis for the decision will be specified in the preliminary report. As part of the preliminary designation process, this rulemaking requires the Department to provide a copy of the report on the Department's conclusions to the mayors and members of the Board of Supervisors of all towns, cities, and counties and to the presidents of all sanitary districts within the proposed Nitrogen Management Area (subsection (B)(1)). The Department considers it important for local authorities to participate in the management of nitrogen problems in their areas. To provide local, elected officials this level of participation in the decision-making process and to ensure that the Department receives unified input from each authority, the Department established the process described in subsection (B) to encourage one set of comments from each local authority. Local authorities may wish to consult with their employees who have the technical knowledge about this subject. Because the Department anticipates that the local authorities and sanitary districts will want to facilitate a stakeholder process for obtaining feedback from staff and stakeholders within their jurisdictions, the rulemaking provides time for that process (subsection (B)(2)). The Department includes a 120-day review period so that local authorities can solicit feedback from local stakeholders. All of these conditions apply when the Department proposes to modify or rescind a Nitrogen Management Area.

The Department specifies the final designation process for issuing, modifying, or rescinding a Nitrogen Management Area or for withdrawing a preliminary Nitrogen Management Area designation in subsection (C).

Subsection (D) describes the requirements for a Nitrogen Management Area. Any onsite wastewater treatment facility that will be constructed or replaced within a Nitrogen Management Area must include a means of nitrogen removal through an allowed general permit technology to achieve as a concentration of total nitrogen released to the native soil beneath the disposal works of no more than 15 mg/l (subsection (D)(1)). In addition, if a concentrated animal feeding operation (CAFO) is located within the Nitrogen Management Area, the CAFO will need to implement or modify best management practices. This may include lining any impoundment at the CAFO. Subsection (D)(3) of the rulemaking allows the Department to designate "special provisions" for the Nitrogen Management Area. Special provisions will have a regulatory basis and could include such things as:

- Corrective actions;
- Mitigation measures;
- Establishment or modification of best management practices; and
- For locations with a comprehensive master plan for construction of or connection to a sewage collection system, a tailored approach to allow installation of a conventional onsite wastewater treatment facility on a property as a temporary measure until the sewer connection is available.

ARTICLE 3. AQUIFER PROTECTION PERMITS – GENERAL PERMITS

PART B. TYPE 1 GENERAL PERMITS

R18-9-B301. Type 1 General Permit

For the 1.02 General Permit, this rulemaking allows the use of high quality reclaimed water that underwent denitrification (Class A+ or B+) for non-drinking water pipelines by adding language to subsection (B)(1).

For the 1.03 General Permit, this rulemaking expands this general permit to cover discharges from hydrostatic test of a tank or an appurtenance (accessories) for a pipeline or tank by adding language to subsection (C). This rulemaking deletes subsection (C)(3) and splits the conditions between subsections (C)(1) and (C)(5). For subsection (C)(1), this rulemaking adds the language requiring the removal of the liquid discharged to the impoundment within 60 days if the liner is 10 mils and adds an option to take up to 180 days to remove the liquid if the liner is 30 mils or greater. This rulemaking revises subsection (C)(2) to require that the permittee ensure that the calculated seepage rate of the lining system of the impoundment is less than 550 gallons per acre per day. This is the seepage rate that the Department typically considers acceptable for liners. For subsection (C)(5), this rulemaking adds language to replace the last sentence of subsection (C)(3), "Any other methods for removal of the test waters shall be approved in advance by the Department." For most "other methods" the Department review will primarily consist of checking to see whether the method ensured that AWQS will be met. Subsection (C)(5) states that a discharge under an AZPDES permit may be an acceptable method if the discharge does not violation AWQS.

This rulemaking makes editorial and conforming changes to the 1.04 General Permit (subsection (D)).

In addition to editorial changes to the 1.05 General Permit, this rulemaking adds a sentence to specify coverage under this APP general permit for the discharge to a navigable water, if the discharge is already authorized by an AZPDES permit.

In the 1.06 General Permit (subsection (F)), this rulemaking updates the citation to the waste tires rules from R18-8-703 to the current provision at R18-13-1203.

This rulemaking includes editorial changes to the 1.07 General Permit at subsection (G).

This rulemaking expands the 1.08 General Permit at subsection (H) to cover chemical or incinerator toilets, or various types of privies, if a county health or environmental department allows this means of waste containment.

In addition to editorial changes to the 1.09 General Permit at subsection (I), subsection (I)(1) of this rulemaking clarifies that the following two classes of pre-2001 facilities are eligible for coverage under this general permit:

Sewage treatment facilities with flows of less than 20,000 gallons per day; and

Onsite wastewater treatment facilities with flows less than 20,000 gallons per day.

These facilities were lumped together in pre-2001 general permits, but are clearly distinguished in this rulemaking because, since 2001, applicable APP regulatory requirements for the two classes of facilities have differed.

In subsection (I)(2), this rulemaking provides APP authorization to discharge from all onsite wastewater treatment facilities and sewage treatment facilities constructed before January 1, 2001, not just "permitted" facilities constructed before January 1, 2001 as stated in the existing rule. In other words, this rulemaking grandfathers in all pre-2001 facilities, regardless of whether documentation of any permitting or approval action by the Department or a local agency can be found. This expansion of general permit coverage to all pre-2001 facilities is a matter of practicality. It is well known that onsite wastewater treatment facilities are still being used that were constructed before approval processes existed, and for many operating facilities, permitting and approval records at local regulatory agencies have, over the years, been lost or destroyed. Furthermore, the existing rule provision has been interpreted by some local delegated agencies as a mandate to determine the permit status of a pre-2001 facility. The Department believes that these determinations will consume substantial resources for negligible regulatory benefit. In reality, the key issue is whether a pre-2001 system is being operated so that it does not to pose a public health or environmental threat. Regardless of documentation of pre-2001 permit status, an onsite wastewater treatment facility retains coverage under this general permit only as long as it is operated in a responsible manner and does not violate any of the requirements specified in subsection (I)(2).

This rulemaking adds two new general permits in subsections (J) and (K) to deal with sewage collection systems that aren't covered by the 4.01 General Permit and that were inadvertently omitted from coverage under any other general permit in the 2001 rulemaking.

The 1.10 General Permit at subsection (J) provides general permit coverage for certain sewage collection systems that were constructed before January 1, 2001. These include systems extending downstream of the point in a sewer pipe where the design flow is more than 3000 gallons per day and any system, regardless of size, that includes a manhole, force main, or lift station serving more than one dwelling. To retain coverage under this general permit, the system must be operated in compliance with the provisions of subsections (J)(1), (2), and (3). The 4.01 General Permit at R18-9-E301 covers new construction of sewage collection systems with these characteristics.

This rulemaking adds the 1.11 General Permit at subsection (K) and provides coverage for construction and operation of sewage collection systems that do not reach the size or complexity threshold of systems covered under the 1.10 General Permit. Under this general permit, coverage is provided for the operation of any such "sub-threshold" system, regardless of construction date, and construction of any new system with these characteristics. Subsections (K)(1) through (8) provide the criteria for coverage of construction and operation under this general permit. As indicated in subsections (K)(5) and (6), the Department expects that these systems will continue to be designed,

reviewed, approved, and constructed under local agency oversight and procedures. Discharge violations under this general permit, however, under Department authority and jurisdiction.

Finally, a 1.12 General Permit has been added in subsection (L) that provides coverage for certain concrete washout activities that are also covered under the Arizona Pollutant Discharge Elimination System (AZPDES) Construction Stormwater General Permit. Without this general APP, concrete washout activities will need coverage under the more complex Type 3 General Permit under R18-9-D301 or an individual APP. This general permit relies on the requirements of the AZPDES general permit and is aimed at protection of surface water quality, plus additional criteria specified in subsections (1) through (10) to ensure protection of groundwater quality.

ARTICLE 3. AQUIFER PROTECTION PERMITS – GENERAL PERMITS

PART C. TYPE 2 GENERAL PERMITS

R18-9-C301. 2.01 General Permit: Drywells That Drain Areas Where Hazardous Substances Are Used, Stored, Loaded, or Treated

This rulemaking makes editorial and conforming changes throughout this Section.

To address all drywells that were constructed before submitting an NOI, this rulemaking replaces the phrase "before January 1, 2001" in subsection (B) with "more than 90 days before submitting the NOI to the Department." This rulemaking adds options for the site investigation at subsection (B)(2) that primarily conform to the options provided in the 2.04 General Permit because of the similar structure and nature of the discharge. The applicant needs to submit site investigation information via a statement from a registered engineer or geologist. The current rules focus on analytical results from sampling the drywell settling chamber sediment. The Department realizes that if the drywell has not been operated for very long, sediment may not have accumulated. This rulemaking adds an option for that situation. In addition, if the chamber was cleaned out within six months, the engineer or geologist must take soil borings or perform a groundwater investigation. The goal of the options is to ensure that the previous operation of the drywell did not discharge pollutants. This rulemaking adds language on where borings must be taken (subsection (D)(2)(c)) and an option for where coarse grained lithology prevents the collection of representative soil samples (subsection (D)(2)(d)). This rulemaking uses the soil remediation levels and groundwater protection levels as screening levels to determine whether there is a need for further investigation (higher concentrations then expected). In most cases, the boring location described in subsection (B)(2)(c) is an acceptable point of compliance as required under R18-9-A302.

New subsection (B)(3) requires the applicant to submit design information with the NOI so that the applicant demonstrates that the design of the drywell meets the requirements in subsection (C). This may be in the form of a statement on the NOI form.

Subsection (C)(3) replaces the reference to Arizona Department of Water Resources (ADWR) rules (12 A.A.C. 15, Article 8) with explicit instructions for when the driller encounters groundwater.

Subsection (C)(4) adds "or drainage area design" to clarify that more than just the drywell design can be used to remove, intercept, or collect pollutants from reaching the drywell. This rulemaking also adds the last sentence to inform applicants that flow control or pretreatment devices listed in R18-9-C304(D)(1) or (2) meet the design requirements of subsection (C).

This rulemaking adds two new design criteria, that the applicant records the accurate latitude and longitude of the drywell and develop and maintain a current site plan. Accurate locational information is critical for a permitting program. Global Positioning System (GPS) data or a site survey should provide accurate latitude and longitude information. In general, the location of the drywell means the top of the drywell. The site plan is a critical component of the design requirements, so that the Department can ensure that the applicant has considered all potential sources to the drywell and included appropriate design features.

Subsection (D) has been revised to include "maintenance requirements." Although already prohibited by the initial statement in subsection (D)(1), this rulemaking adds an explicit prohibition on the release of industrial process waters or wastes to drywell.

In subsection (D)(2), this rulemaking replaces "detrimental practices" with "pollutants."

In subsection (D)(4), the current rule allows the applicant to submit a plan that was prepared for another regulatory program as a substitute for the Best Management Practices Plan (BMPP) if it meets the requirements in subsection (D). The 3.01 General Permit is a Type 2 that should require little Department review time. The Department has experienced that when an applicant submits a substitute plan, Department review time increases to ensure that the plan met the conditions of subsection (D). This rulemaking adds a statement that if a substitute document is submitted for the BMPP, the permittee needs to provide a statement identifying the conditions of the substitute plan that satisfy the requirements of subsection (D). This cross-walk document will reduce the amount of time Department staff invests in reviewing a document that wasn't specifically created for compliance with this Type 2 General Permit.

This rulemaking revises subsection (D)(5)(b) to state that the BMPP is to address "any pollutant that may be present at the operation with the potential to reach the drywell." The Department interprets the current language in this manner and includes this clarification.

This rulemaking adds examples for inspection and maintenance activities that apply to the drywell and to the associated pretreatment and flow control devices to subsection (D)(5)(d). These practices came from R18-9-C304(F)(3) through (7) and apply if that type of feature has been installed. This rulemaking clarifies in subsection (D)(5)(e) that for the purposes of this general permit, employee training only has to be specific to the drywell and prevention of unauthorized discharges. This rulemaking adds subsection (D)(6) and requires the permittee to implement waste management practices to prohibit and prevent discharges. This is a critical component of any effective inspection and maintenance program.

This rulemaking adds requirements for inspections to a new subsection (E). This language is based on the language currently in R18-9-C304(E) (proposed as R18-9-C304(F)). Consistent with R18-9-C304(E)(1), subsection (E)(1) requires the permittee to remove sediments annually or when 25 percent of the effective capacity of the drywell chamber is filled, characterize any sediments that are removed, and to dispose of the sediments properly. Consistent with R18-9-C304(E)(2), subsection (E)(2) requires the permittee to make repairs and perform maintenance to restore proper function of the drywell. These additions are common sense requirements that are being explicitly mentioned in rule to achieve effective inspections.

This rulemaking moves the recordkeeping requirements from subsection (E) to subsection (F)(1) and adds several other requirements including a requirement to maintain the records for at least 10 years to be consistent with the language currently in R18-9-C304(I). This rulemaking provides a list of the records that must be maintained based on other parts of the general permit. The additional records listed are necessary to demonstrate compliance with the general permit requirements and it is important for the permittee to keep those records.

This rulemaking revises subsection (G) on spills to conform with R18-9-C304(H). This rulemaking eliminates the reference to a spill of reportable quantities (or 25 gallons for petroleum products) and specifies a notification, sampling and reporting process in subsection (G)(1). The permittee must notify the Department about any spill to the drywell. Depending on what the data show, the Department may require the permittee to submit an application for clean closure or an individual APP. It is not appropriate to deal with an elaborate clean up situation under a Type 2 General Permit. If there is a significant spill, the Department will handle it under clean closure or the individual APP process. This rulemaking references soil remediation levels and groundwater protection levels for investigation purposes only in subsection (G)(1)(d). If there is a spill, the applicant may have to go through a risk assessment process or closure with a Declaration of Environmental Use Restriction (DEUR) consistent with 18 A.A.C. 7, Article 2.

This rulemaking adds requirements for closing and decommissioning a drywell within a new subsection (H). This language is based on R18-9-C304(G).

R18-9-C302. 2.02 General Permit: Intermediate Stockpiles at Mining Sites

This rulemaking makes editorial changes to this Section and specifies in subsection (D) that closure requirements specified in R18-9-A306 also apply.

R18-9-C303. 2.03 General Permit: Hydrologic Tracer Studies

This rulemaking makes editorial changes to this Section.

R18-9-C304. 2.04 General Permit: Drywells that Drain Areas at Motor Fuel Dispensing Facilities Where Motor Fuels are Used, Stored, or Loaded

This rulemaking makes editorial and conforming changes throughout this Section.

This rulemaking reorders or modifies the current options and adds another option for site investigation in subsection (B)(2). The current rule focuses on analytical results from sampling the drywell settling chamber sediment. In addition, if the chamber was cleaned out within six months, the engineer or geologist must take soil borings or perform a groundwater investigation. This rulemaking adds language to describe where borings should be taken (subsection (D)(2)(c)) and the option for where coarse grained lithology prevents the collection of representative soil samples (subsection (D)(2)(d)).

In subsection (C)(1)(e), this rulemaking replaces the reference to Arizona Department of Water Resources (ADWR) rules (R12-15-816(I)(1) and (2)) with explicit instructions for when the driller encounters groundwater.

This rulemaking adds design requirements to subsection (C)(1). In subsection (C)(1)(f), this rulemaking requires the applicant to record the accurate latitude and longitude of the drywell. Accurate locational information is critical for a permitting program. Global Positioning System (GPS) data or a site survey should provide accurate latitude and longitude information. In general, the location of the drywell means the top of the drywell. This rulemaking moves the requirement for marking the drywell grate "Stormwater Only" from subsection (B)(2)(b) to subsection (C)(1)(g). In subsection (C)(1)(h), this rulemaking requires the permittee to develop and maintain a current site plan. The site plan is a critical component of the design requirements, so that the Department can ensure that the applicant has considered all potential sources to the drywell and included appropriate design features. This rulemaking requires the

permittee to prepare design plans showing drywell and drainage design including the pretreatment and flow control methods for the drywell (subsection (C)(1)(i)).

This rulemaking makes editorial changes to (D) for the flow control requirements.

To conform to the organizational format of R18-9-C301, this rulemaking reorders subsections (E) and (F) and also subsections (G) and (I). Minor changes have been made to the new subsection (E). Editorial changes were made to subsection (G) and the permittee has been required to retain drywell sediment waste characterization and disposal manifest records and sampling plans, laboratory reports, and chain of custody forms for soil, sediment, and groundwater sampling (subsections (G)(5) and (6)).

In addition to editorial changes, this rulemaking specifies notification requirements for spills in subsections (H)(1)(d)(i) and (ii). Subsection (H)(2) has been revised to allow the Department to require submission of a clean closure or individual permit application instead of additional information on the spill. It is not appropriate to deal with an elaborate clean up situation under a Type 2 General Permit. If there is a significant spill, the Department will handle it under clean closure or the individual APP process.

The closure and decommissioning requirements were revised and moved to subsection (I). This rulemaking replaces the current provisions at subsections (G)(1)(c) through (e) with a requirement to remove the settling chamber in the new subsection (I)(1)(c). This is the ultimate requirement and the other steps are not necessary. The language currently at subsection (G)(2) is eliminated because the language in subsections (I)(1) and (2) specify the preferred approach. Minor editorial changes have been made to the language moved from the current subsection (G)(3) to the new subsection (I)(2) and clarifies that the goal of closure is to verify that all material that contributed to the discharge has been removed and the permittee has eliminated any reasonable probability of further discharge and of exceeding any AWQS at the applicable point of compliance. In addition, language in subsections (G)(4), (5), and (6) has been deleted because it is covered by other language.

R18-9-C305. 2.05 General Permit: Capacity, Management, Operation, and Maintenance of a Sewage Collection System

This rulemaking adds a new General Permit to cover capacity, management, operation, and maintenance (CMOM) of a sewage collection system as a means to reduce or eliminate releases from this type of system. Some provisions of this general permit are based on draft rule language from the United States Environmental Protection Agency (EPA) on Separate Sanitary Sewer Overflows (SSOs). EPA withdrew the rule in early 2001 and has not proposed another draft. This rulemaking adds this general permit as a Type 2 General Permit and requires only notification and some reporting.

The 2.05 General Permit is an optional General Permit and it is available to any operator of a public or private sewage collection system.

This general permit provides details on how the Department will respond to a situation when the sewage collection system does not meet performance standards and experiences an SSO. As mentioned above, some provisions of this general permit are drawn from the EPA draft SSO regulations; the Department, however, emphasizes that this general permit is solely an APP permit. If EPA issues requirements under the NPDES program, the Department will need to develop AZPDES permit requirements. The Department anticipates that the AZPDES program will address SSO/CMOM issues in the future. However, the APP program still covers discharges from sewer, so it is appropriate for the Department to create a permit like this under the APP program. The Department received a question on whether reclaimed water distribution systems are eligible for coverage under this general permit. Reclaimed water distribution systems are exempt from APP at A.R.S. § 49-250(B)(6) and will not be covered by this general permit

Subsection (A) contains a definition of "imminent and substantial threat to public health or the environment." This event is considered a release of more than 2000 gallons or more than 50 gallons if any of five severity criteria are met (subsections (A)(2)(a) through (e)). For example, a release of more than 50 gallons is considered "imminent and substantial" if the release is to a perennial stream or within 100 feet of a school.

The 2.05 General Permit is available to an operator of either a pre- or post-January 1, 2001 sewage collection system, or combination of the two, of any size. This general permit allows an operator to operate and maintain the collection system under the terms of a CMOM Plan to achieve compliance with the seven performance standards listed in R18-9-E301(B). This rulemaking provides that the Department will review the adequacy and implementation of the CMOM Plan in considering any enforcement response (subsection (E). The Department expects that many collection system owners will opt to obtain coverage under this general permit because of the benefits of operating under a CMOM Plan to meet APP program requirements. Operation under a CMOM Plan is desirable because of the Plan's preventative approach to collection system management and incorporation of a program of infrastructure improvements to achieve and maintain compliance with performance standards.

In contrast, the 4.01 General Permit applies to newly constructed sewage collection systems that carry flows of greater than 3000 gallons per day. The 4.01 General Permit provides design and construction standards for these new systems, administrative procedures for design review and approval, and O&M requirements for post-construction operation. Continued operation of the system must strictly comply with the six performance standards listed in R18-9-E301(B). Unlike the 2.05 General Permit, in which the Department must review a series of factors to determine its

enforcement response, the Department can initiate enforcement immediately for problems such as sewage releases and inflow and infiltration (I&I) for a collection system operating under a 4.01 (or 1.10 or 1.11) General Permit.

This rulemaking requires submittal of a NOI under subsection (C) containing ownership and system information, a map of the collection system service area, and other information. This general permit does not require submittal of the actual CMOM Plan as part of the NOI.

Subsection (D) specifies the components of and requirements for the CMOM Plan. This includes instructions on steps to properly manage, operate, and maintain the system; to maintain sufficient capacity during base and peak flows, including storm flows; to minimize infiltration; to prevent SSOs and to respond to releases when they occur; and to report releases to the Department.

Subsection (E) provides the criteria the Department considers in determining its compliance response in the case of a sewage release. These include detailed criteria regarding the sufficiency of the CMOM Plan, compliance with the CMOM Plan, compliance with reporting requirements in this general permit, and whether the release substantially endangered public health or the environment. Some stakeholders wanted the Department to include "cause and effect" language into the rulemaking, in which the Department will consider certain causes, such as those outside of the control of the owner, as a reason for diminishment of the Department's possible response. The Department believes that the CMOM Plan should be developed by the owner as a "living" management tool, not merely a document developed to fulfill the requirements of this general permit. The CMOM Plan will guide the system owner/operator in dealing with the full range of sewage collection system management issues such as SSO prevention and response, inflows and infiltration, maintenance, and capital improvements to increase capacity or otherwise upgrade the system.

Stakeholders suggested during the drafting process that the Department include third-party liability or affirmative defense language. The Department believes that the factors in subsection (E) serve the same purpose. The Department will consider the facts relating to the release, evaluate against the factors mentioned in subsection (E), then weigh the totality of information in determining whether or to what extent to pursue enforcement.

As indicated in subsections (E)(1)(g) and (2)(b)(iii), the CMOM Plan must address management of flows from upstream sewage collection systems not under the ownership and operational control of the permittee. In the event of SSOs caused by these systems, the Department will assess these provisions of the Plan for sufficiency and permittee compliance and factor the results of that assessment into any enforcement determination. The fact that the Department explicitly weighs these aspects in making its determination should alleviate some concerns of stakeholders with regard to "cause and effect" and third-party liability.

As indicated in subsection (E)(1)(d), the Department believes that a "sufficient" CMOM Plan include a capitol improvement plan to achieve adequate wet weather flow capacity in its sewage collection system. This provision indicates that adequate wet weather flow capacity must be achieved within 10 years. The actual schedule must be specified in the capital improvement plan. The Department believes that 10 years may be necessary for major upgrades so that the permittee has time to raise the money, contract for the work, and make the construction upgrades. In the event of an SSO, the Department will review the capital improvement plan as to sufficiency and compliance with the schedule as a part of any enforcement determination.

Subsection (F) establishes reporting requirements under this general permit. A permittee must report an imminent and substantial release within 24 hours and follow up with additional information in writing within five business days. Each year, the permittee must submit a report to the Department before March 1 providing information on all releases greater than 50 gallons over the previous year. If the permittee has added or removed areas from the service area during the year and wishes those changes to be reflected in coverage under this general permit, the permittee shall provide an amended map of the service area boundaries with the annual report.

Subsection (G) provides public notice requirements in the case of repetitive SSOs at the same location. Under this provision, the permittee is required to post a notice warning of the potential for a release at any location experiencing three SSOs within a 12-month period.

R18-9-C306. 2.06 General Permit: Fish Hatchery Discharge to a Perennial Surface Water

This rulemaking adds a 2.06 General Permit to allow a fish hatchery to discharge to a perennial surface water if Aquifer Water Quality Standards are met at the point of discharge and the fish hatchery is operating under a valid AZPDES permit. This general permit specifies NOI requirements and design and operation requirements.

ARTICLE 3. AQUIFER PROTECTION PERMITS – GENERAL PERMITS

PART D. TYPE 3 GENERAL PERMITS

R18-9-D301. 3.01 General Permit: Lined Impoundments

In addition to editorial changes to this general permit, this rulemaking adds additional sources that may be discharged to a lined impoundment to subsections (A)(2)(a), and (l) through (n). The additional sources are condensate from refrigeration units, swimming pool backwash, hydrostatic test water from a pipeline, tank, or appurtenance previously used for transmission of fluid, wastewater treated through an oil/water separator before discharge, and cooling water or wastewater from food processing.

In subsection (C)(4)(a)(iii), this rulemaking adds a provision for the protection of the liner including that the permittee must ensure that the liner material is compatible with any substance that may be discharged to the impoundment.

The rulemaking also revises subsection (G)(3) to require that if evidence of leakage is discovered and soil remediation levels are exceeded, the permittee shall define the lateral and vertical extent of contamination and submit an action plan for achieving clean closure for the Department's approval before implementing the plan.

R18-9-D302. 3.02 General Permit: Process Water Discharges from Water Treatment Facilities

In addition to editorial and conforming changes to this Section, this rulemaking makes changes to the 3.02 General Permit to allow wider applicability. In response to stakeholder comment received during the informal comment period, this rulemaking revises the general discharge requirements in subsection (A) to account for the liquid fraction and the solids fraction of the discharge from a water treatment facility. This rulemaking requires the liquid fraction to meet AWQS (subsection (A)(1)) and the solid fraction to qualify as an inert material (subsection (A)(2)).

R18-9-D303. 3.03 General Permit: Vehicle and Equipment Washes

This rulemaking makes only editorial or conforming changes to this Section.

R18-9-D304. 3.04 General Permit: Non-storm Water Impoundments at Mining Sites

This rulemaking makes only editorial or conforming changes to this Section.

R18-9-D305. 3.05 General Permit: Disposal Wetlands

This rulemaking makes only editorial or conforming changes to this Section.

R18-9-D306. 3.06 General Permit: Constructed Wetlands to Treat Acid Rock Drainage at Mining Sites

This rulemaking makes only editorial or conforming changes to this Section.

R18-9-D307. 3.07 General Permit: Tertiary Treatment Wetlands

This rulemaking makes only editorial or conforming changes to this Section.

ARTICLE 3. AQUIFER PROTECTION PERMITS – GENERAL PERMITS

PART E. TYPE 4 GENERAL PERMITS

R18-9-E301. 4.01 General Permit: Sewage Collection Systems

In addition to editorial or conforming changes, this rulemaking makes changes throughout this Section.

Subsection (A) clarifies that this general permit applies to construction and operation of new sewage collection systems and revises the description of the types of systems that are covered by this general permit. Based on stakeholder input and consistent with a rule clarification issued by the Department in April 2001, this rulemaking specifies that the threshold for coverage under this general permit is any sewage collections system constructed downstream from the point where the design flow in the sewer line is 3000 gallons per day. Additionally, a system of any size that contains a manhole, a force main, or lift station serving more than one dwelling is covered under this general permit. However, a gravity line conveying sewage from a single building drain directly to an interceptor, collector sewer, lateral, or manhole is not covered under this general permit. This type of sewer line, as well as sewage collection systems with a design flow of less than 3000 gallons per day that are not covered under this general permit (subsections (A)(2) and (3)) may be covered under the new 1.11 General Permit at R18-9-B301(K).

A performance standard has been added at subsection (B)(7) that requires the applicant to design the sewage collection system to minimize septic conditions in the collection system.

Subsections (C)(1) and (2) adds the phrase "on a form approved by the Director" to ensure that the appropriate information is consistently provided. A requirement has been added for the construction quality drawings to show the horizontal and vertical locations of utilities within the area affected by the sewer line construction. Inclusion of this information makes it possible to determine conformance with setback requirements. Subsection (C)(6) has been revised to require the applicant to submit an operation and maintenance manual for all sewage collection systems. The 10,000 gallons per day and up restriction no longer makes sense because of the changes to subsection (A). This requirement will not apply if the applicant has already provided to the Department a manual applicable to the sewage collection system. In addition, a requirement has been included requiring the applicant to specify a 24-hour emergency number within the plan.

References to the technical standards incorporated by reference in subsections (D)(1)(b), (D)(2)(h)(i), (D)(2)(h)(ii), (D)(2)(j), (D)(3)(c), and (D)(3)(e)(ii) have been updated.

This rulemaking reorganizes the general provisions in subsection (D)(1). In the existing rule, the process for determining design flows and peaking factors for sewage collection systems was not clear. Subsection (D)(1)(a)(i) clarifies the methodology, which in summary determines the unit daily flow from Table 1, multiply by the dry weather peaking factor determined from the table in subsection (D)(1)(a)(1), and then add a wet weather infiltration and inflow rate.

Language has been added in subsection (D)(1)(a)(ii) to address the sizing criteria for lift station pumps and in subsection (D)(1)(a)(iii) to allow the applicant to justify lower unit flow values if the applicant documents the use of low flow fixtures, hydrographs of actual flows or other factors. Subsection (D)(1)(d) adds a design requirement so that the applicant ensures that sewage collection systems are separated from reclaimed water system components as specified in 18 A.A.C. 9, Article 6.

For gravity sewer line requirements in subsection (D)(2), this rulemaking deletes subsection (D)(2)(b)(iii) in the existing rule regarding restrained joints. Changes to subsection (D)(2)(b)(ii) and the existing subsection (D)(2)(b)(iv), renumbered in this proposal to (iii), now cover this situation. In subsection (D)(2)(c), the Department limits the length of sewer line that can be constructed beneath a floodway to no longer than the applicable manhole spacing distance specified in subsection (D)(3), unless the applicant submits and justifies a request under the procedure described in R18-9-A312(G). Subsection (D)(2)(c) establishes additional criteria for sewer lines constructed beneath a floodway, including a requirement to ensure that the sewer line is placed below the calculated 100-year bed degradation depth.

Subsection (D)(2)(d) has been revised to require that all sewage collection systems covered by this general permit are 8 inches or more in diameter except for dead end sewer lines. The provision at subsection (D)(2)(d)(ii) that allowed 4- to 6-inch sewer lines to be used for sewage collection systems for a small manufactured home, mobile home or recreational vehicle park has been deleted.

Subsection (D)(2)(e) has been revised to require the design of the last 400 feet of a dead end sewer to accommodate flow of 3 feet per second when flowing full. In response to stakeholder input, this rulemaking also adds in subsection (D)(2)(e)(iii) that requires the applicant to ensure that the ratio of flow depth in the pipe to the diameter of pipe does not exceed 0.75 in peak dry weather flow conditions.

The Department received a comment regarding subsection (D)(2)(k) that questioned the validity and usefulness of the lamp lighting test for determining uniform slope. Note that this subsection also allows the use of remote camera or other methods approved by the Department. Nevertheless, the Department understands the commenter's concern about the efficacy of the lamp lighting test and the use of more appropriate alternative methods. However, since the Department is not aware of published standard methods for alternative tests to reference in this rule, the Department proposes working with stakeholders following this rulemaking to develop guidance to ensure that testing methods are valid. This could include development of alternative testing methods, such as mandrill testing, that the Department could approve under subsection (D)(2)(k). Lastly, this rulemaking adds a requirement in subsection (D)(2)(l) to minimize planting within the constructed area of the sewage collection system of plant species with roots likely to reach and damage the sewer.

Subsection (D)(3) deals with the design of manholes. In subsection (D)(3)(a), the Department increased the maximum manhole spacing for a sewer pipe diameter of less than 8 inches from 300 feet to 400 feet. In subsection (D)(3)(e)(i) regarding watertightness testing of manholes, based on stakeholder input, the Department changed the criteria for the maximum drop in water level in a watertightness test from 0.001 of total manhole volume per hour to 0.0034. In response to stakeholder input, this rulemaking incorporates the National Association of Corrosion Engineers (NACE) standard for Holiday testing, a method that may be used for watertightness testing of manholes. This method is only valid for lined manholes constructed with uncoated rebar. This rulemaking includes some substitutions for terms used within that method as noted in subsections (D)(3)(e)(iii)((1)) and ((2)).

Subsection (D)(4)(f) clarifies that the pressure test for force mains must be conducted for a period of two hours, after which the force main must be tested for leakage. In this rulemaking, both in subsection (D)(4)(h) for force mains and subsection (D)(5)(c)(vi) for lift stations, the Department added a requirement for the applicant to ensure that a force main or lift station is designed to control odor.

Based on stakeholder input, this rulemaking adds a provision regarding the design of depressed sewers (sometimes referred to as inverted siphons) in subsection (D)(6). Five specific design criteria are provided in subsections (D)(6)(a) through (e).

Subsection (E)(1)(c) requires that satisfactory field test results from the deflection, leakage, and uniform slope testing be included with the Engineer's Certificate of Completion. The existing rule requires only confirmation that those tests were performed.

Subsection (F) has been revised to conform to the changes in subsection (A) and to eliminate any overlap with the 2.05 General Permit. This rulemaking also moves the requirement in subsection (D)(5)(f) to subsection (F)(3). Subsection (F)(2) requires the permittee to operate the sewage collection system according to operator certification requirements in 18 A.A.C. 5, Article 1. This rulemaking includes recordkeeping requirements in subsection (G). Subsection (H) specifies that repairs are not subject to NOI submittal requirements.

Subsection (H) specifies that repairs are not subject to NOI submittal requirements. The Department believes that repairs include all types of sewer rehabilitation (inversion lining, sliplining, pipe bursting, etc.) but do not include changes in vertical or horizontal alignment (replacement sewers adjacent to existing sewers or any other changes in grade or horizontal alignment).

The following table compares the requirements of the four general permits in this rulemaking that cover sewage collection systems.

Framework for General Permit Coverage of Sewage Collection Systems				
Applicability	**GP 1.10 (new)**	**GP 1.11 (new)**	**GP 2.05 (new)**	**GP 4.01 (existing)**
1. *Date of System Construction*				
a. Before 1/1/01	**X**	**X**	**X**	
b. Since 1/1/01		**X**	**X**	**X**
2. *Daily Design Flow*				
a. Collection system serving upstream of point where the daily design flow is 3000 gpd*, except any system that includes a manhole, force main, or lift station serving more than one dwelling. *Includes a single gravity sewer line conveying sewage from a building drain directly to an interceptor, lateral, or manhole, regardless of flow.		**X**	**X**	
b. Collection system downstream of point where the daily design flow is 3000 gpd, and any system that includes a manhole, force main, or lift station serving more than one dwelling, except a single gravity sewer line as noted above	**X**		**X**	**X**
3. Activities Covered by Permit				
a. Design & construction		**X**		**X**
b. O&M	**X**	**X**	**X**	**X**
4. Standard of Compliance That Informs ADEQ Enforcement Action Determination				
a. Operator strictly complies with the 7 performance standards established in GP 4.01	**X**	**X**		**X**
b. Operator follows a CMOM Plan that adequately addresses capacity, management, and O&M with respect releases and the other 6 performance standards			**X**	

R18-9-E302. 4.02 General Permit: Septic Tank With Disposal by Trench, Bed, Chamber Technology, or Seepage Pit, Less Than 3000 Gallons Per Day

Similar to the change in R18-9-A312, this rulemaking removes the distinction between shallow and deep trenches and establishes the requirements for a trench as those that applied to a shallow trench in the existing rule. Subsection (A)(2)(c) and (C)(4) replaces the term "disposal field using chamber technology" with "chamber technology."

Subsection (C)(1)(h) adds another reason why paving over disposal works is not desirable.

This rulemaking revises the trench absorption area calculation in subsection (C)(2)(a) to allow up to 48 inches below the bottom of the disposal pipe for the maximum trench sidewall areas. In the existing rule, only the distance from 12 inches to 36 inches below the bottom of the disposal pipe could be counted. This change was included based on stakeholder input. Subsection (C)(2)(b) has been revised to require disposal pipes to be level and the applicant to calculate the trench sizing from the design flow established in R18-9-A312(B). This latter item was inferred in the existing rule but not explicitly stated. Both of these changes ensure the trench is designed and constructed properly. Minor editorial changes have been made to the table under subsection (C)(2)(c) including adding a design criterion for the trench absorption area of 11 square feet (maximum) per linear foot of trench at criterion #4 based on the consensus recommendation of the OWAC, and adding Note #1 to address the length of a trench. In response to stakeholder input, subsection (C)(2)(d) was added to specify that the applicant may substitute clean, durable, crushed and washed recycled concrete for aggregate with restrictions.

The table in the new subsection (C)(3)(b) has been revised by making editorial changes and adding a new design criterion for the spacing of disposal beds. This rulemaking also adds a Note at the end of the table to explain the term "effective depth."

The equation in subsection (C)(4) was revised for the effective absorption area for chambers by replacing the "1.43" with "1.8" and revising the definition of width to the exterior bottom width of the chamber. The multiplier and chamber based measurement incorporates recently published performance testing results.

The reference to R18-9-A311 in subsection (C)(5)(a) has been deleted. A reference to R18-9-A311(B)(1) has been added to subsection (C)(5) to highlight the fact that seepage pits are only allowed under certain conditions.

This rulemaking adds a requirement to subsection (C)(5)(c) when multiple seepage pits are used. Seepage pits must be spaced a minimum of 12 feet or three times the diameter of the seepage pit. This requirement is in lieu of the stricken language in subsection (C)(5)(h)(ii) and derives from a recommendation in a Department-commissioned study on seepage pits and deep trenches that was conducted by the University of Arizona.

Subsection (D) has been added to remind applicants of the operation and maintenance requirements in R18-9-A313.

R18-9-E303. 4.03 General Permit: Composting Toilet, Less Than 3000 Gallons Per Day Daily Flow

In addition to the editorial and conforming changes to this Section, this rulemaking adds requirements for disposal works associated with the use of a composting toilet in subsections (B)(2), (F) and (G)(2). The existing rule specifies requirements only for the composting toilet unit itself. In this rulemaking, the applicant is required to properly manage all of the wastewater flows generated at the site using the composting toilet in conjunction with a means for disposing or reusing the remaining flows. This rulemaking specifies that the remaining wastewater flows must be treated with a properly sized interceptor and dispersed into the subsurface in a properly sized trench or bed. This requirement does not apply to gray water that is separated out from the wastewater stream and reused. For this situation, the gray water may be used in accordance with the reclaimed water permitting requirements in R18-9-711 or R18-9-719, as applicable, and does not have to be routed through the interceptor to the disposal works. If gray water is not reused under either of these provisions, this rulemaking specifies the interceptor size and design flow for treatment and subsurface disposal of all wastewater not associated with the composting toilet. However, if gray water is reused under R18-9-711 or R18-9-719, the remaining wastewater from the property—kitchen wastewater—still must pass through an interceptor into the subsurface disposal works. In this situation, the interceptor may be sized smaller but the design flow and, hence, disposal trench or bed size is the same as if gray water is not being reused.

This rulemaking adds design requirements for the subsurface disposal works for the wastewater sources in a new subsection (F). The table under subsection (F)(1)(d)(i) specifies minimum interceptor size for dwellings. This table includes requirements for small homes with less than seven fixture units to accommodate homes that are focused on extreme water conservation. Subsection (F)(2) requires that the dispersal of wastewater is by trench or bed consistent with the requirements in R18-9-A312 and R18-9-E302 for those types of disposal works. Subsection (F)(3) specifies setback requirements from the dispersal works.

This rulemaking includes language regarding reference design requirements in subsection (H).

In the Department's next rulemaking for reclaimed water permits, 18 A.A.C. 9, Article 7, the Department will make a corollary change in R18-9-711(A)(10) to exclude composting toilets from the requirements of that provision. This is because all wastewater flows generated at a site using a composting toilet are now fully addressed in this rulemaking as described in the preceding paragraphs. The Department intends to begin the stakeholder process for revising the reclaimed water permitting rules in early 2005.

R18-9-E304. 4.04 General Permit: Pressure Distribution System, Less Than 3000 Gallons Per Day Daily Flow

In addition to editorial and conforming changes to this Section, this rulemaking updates the reference to the technical standard that is incorporated by reference in subsection (D)(3)(a)(i). Based on stakeholder input, this rulemaking also adds six design requirements for pressure distribution systems at subsections (D)(3)(a)(vi) through (xi). Subsection (D)(4) allows a 10 percent credit (increase in design SAR by a factor of 10 percent) for use of a pressure distribution system in a situation where it is not specifically needed. This addition is based on stakeholder input and takes into account the superior dispersal characteristics of a pressure distribution system.

This rulemaking moves and condenses the installation requirements currently at subsection (E) to subsection (D)(3)(b). Subsection (E)(1) has been deleted because the essential concept is equivalently stated in subsection (D)(2)(c)(i) and subsection (E)(2) because these provisions are pertinent to the surface disposal and have been added as conditions in the new surface disposal general permit at R18-9-E321(D)(3).

R18-9-E305. 4.05 General Permit: Gravelless Trench, Less than 3000 Gallons Per Day Daily Flow

This rulemaking makes only editorial and conforming changes to this Section.

R18-9-E306. 4.06 General Permit: Natural Seal Evapotranspiration Bed, Less Than 3000 Gallons Per Day Daily Flow

In addition to the editorial and conforming changes to this Section, this rulemaking deletes subsection (D) on reference design and subsection (E) on alternative design because they are covered in R18-9-A312(B)(5) and (G), respectively. This rulemaking adds subsections (D) through (H). Subsection (D) specifies NOI requirements for natural seal evapotranspiration (ET) beds. Subsection (E) adds specific design requirements for this technology, replacing a requirement to use a reference design in the existing rule. These design requirements borrow from the design requirements contained in the 4.07 General Permit for lined ET beds at R18-9-E307(E). Subsection (F) specifies

installation requirements modeled after the language at R18-9-E307(F). Subsection (G) specifies an additional Discharge Authorization requirement that the applicant must submit leak test results signed and sealed by a P.E., similar to the requirements in R18-9-E307(G). Also, subsection (H) specifies operation and maintenance requirements similar to R18-9-E307(H).

R18-9-E307. 4.07 General Permit: Lined Evapotranspiration Bed, Less Than 3000 Gallons Per Day Daily Flow

In addition to editorial and conforming changes to this Section, this rulemaking updates the reference to the technical standard that is incorporated by reference in subsection (E)(1). Subsection (E)(2) adds a requirement that the applicant shall ensure that the media used in the ET bed is sand or other durable material.

R18-9-E308. 4.08 General Permit: Wisconsin Mound, Less Than 3000 Gallons Per Day Daily Flow

In addition to editorial and conforming changes to this Section, this rulemaking establishes two performance categories for the Wisconsin Mound technology. This rulemaking designates the current performance requirements as "Category B" and adds requirements for a new "Category A" that achieves better treatment levels for TSS, BOD_5 and total coliform. Subsection (B)(1)(d) establishes a total coliform value of $\log_{10}3$ for performance. The superior treatment provided by the Category A configuration allows the Wisconsin Mound technology to be used under R18-9-A312(E)(2) when the available vertical separation to groundwater is either 2 feet or 4 feet, depending on the properties of the native soil.

Although updated manuals are available, this rulemaking retains the incorporation in subsection (C)(3) of the 1990 Mound Edition of the manual for the Wisconsin Mound technology because it is it is compatible with the other provisions of the rule relative to design and site evaluation.

This rulemaking updates the technical standard incorporated by reference in subsection (D)(2).

The reference to R18-9-A312(G) has been deleted from subsection (D)(2)(b) because it is not necessary.

Subsection (D)(6) has been amended to specify the appropriate minimum depth of mound bed media for the two performance categories. For Category A, this rulemaking specifies that 24 inches is the minimum depth of mound bed media. For Category B, this rulemaking applies the current requirement for the minimum depth of mound bed media of 12 inches.

This rulemaking adds a reminder that if the mound system shows evidence of overloading or failure, increasing the basal area may be appropriate, but it may require submission of a new NOI if the footprint will be extended more than 10 feet (R18-9-A309(A)(9)(b)(iv)). This language replaces the language currently in subsection (F)(2).

R18-9-E309. 4.09 General Permit: Engineered Pad System, Less Than 3000 Gallons Per Day Daily Flow

In addition to editorial and conforming changes to this Section, this rulemaking replaces the word "treated" with "pretreated" in subsection (A)(1)(a) because the wastewater must first go through a septic tank as required in subsection (D)(1). This clarifies that the engineered pad provides added treatment to reach the performance levels instead of implying that the wastewater is treated to those levels before it reaches the engineered pad.

Subsection (B)(2) clarifies the basis for pad listing under R18-9-A309(E). Subsection (D)(3) provides spacing between multi-row pad installations in a manner similar to those specified for trench and sand-lined trench technologies.

A commenter requested that the Department include a "technology specific SAR" in the rule for a proprietary treatment product covered under this Section. It is not appropriate to include technology specific SARs in the rule because a fundamental premise of the SAR is that it is technology-independent, depending only on documented site and soil conditions under R18-9-A310, and the tables and equation in R18-9-A312(D). A "design SAR" for any proprietary treatment technology is determined in the existing rule under R18-9-A312(D)(2) or (3) based either on the default performance value for that technology as specified in its general permit in Article 3, Part E or its listed performance value under R18-9-A309(E), as applicable.

R18-9-E310. 4.10 General Permit: Intermittent Sand Filter, Less Than 3000 Gallons Per Day Daily Flow

In addition to editorial and conforming changes to this Section, this rulemaking updates the reference to the technical standard that is incorporated by reference at subsection (D)(4). The inlet surface loading rate in subsection (D)(5) was adjusted to be consistent with the loading practices and the specifications for the same element of a sand filter unit process as used for sand-lined trench and mound technologies.

R18-9-E311. 4.11 General Permit: Peat Filter, Less Than 3000 Gallons Per Day Daily Flow

In addition to editorial or conforming changes to this Section, this rulemaking requires the applicant to submit additional specifications about the peat media used in the peat filter in subsections (A)(1)(b), (c) and (d).

The design requirement for a dosing timer in subsection (D)(1)(b) has been so that it provides more flexibility. The main requirement is to dose at the applicable loading rate.

Subsection (D)(2)(b) has been deleted to eliminate an error in the original rulemaking.

This rulemaking revises the peat bed inlet surface loading rate in subsection (D)(2)(d) to 5.5 gallons per day per square foot of inlet surface based on new performance information for peat module technology.

The design requirement for peat filter bed system in subsection (D)(3)(e) has been revised to provide more flexibility. The main requirement is for the peat to meet the porosity and particle size specifications. The Department includes the change because of an improved understanding of material specifications.

R18-9-E312. 4.12 General Permit: Textile Filter, Less Than 3000 Gallons Per Day Daily Flow

In addition to editorial or conforming changes to this Section, this rulemaking requires in subsection (D)(3)(a) that the applicant ensure that the textile media loading rate and wastewater recirculation rate are based on Department approved performance data.

R18-9-E313. 4.13 General Permit: Denitrifying System Using Separated Wastewater Streams, Less Than 3000 Gallons Per Day Daily Flow

This rulemaking changes the title of this Section to a generic title for systems that denitrify using separate wastewater streams. This rulemaking adds language to define tank "A" as the tank holding dishwasher, kitchen sink, and toilet flush water and tank "B" as holding all other wastewater.

In addition to other editorial or conforming changes to this Section, this rulemaking adds subsections (C) and (D) as a reminder to applicants about the NOI, design, installation, operation, and maintenance requirements specified elsewhere in this rule.

The current subsection (D) has been deleted because it is covered under R18-9-A312(G).

R18-9-E314. 4.14 General Permit: Sewage Vault, Less Than 3000 Gallons Per Day Daily Flow

The use of a sewage vault is appropriate either for a property with severe site or operational limitations that is far from a sewage collection system (subsection (A)(1)) or as a short-term measure, less than two years (subsection (A)(2)). This rulemaking adds "or operational" to the language in subsection (A)(1) to address vault systems used in remote locations, e.g., parks or campgrounds, where employees may not be available on a frequent basis to maintain a system that required pumps, motors, or controls, or that requires a source of water.

In addition to editorial changes to this Section, this rulemaking changes subsection (C) that currently includes language on restrictions to subsection (D) that addresses design requirements and adds or replaces requirements for the size of the vault, preventing the vault from floating, leak testing, installing a water level indicator alarm or signal, and a pumping contract.

The current subsection (E) has been deleted because it is covered under R18-9-A312(G).

R18-9-E315. 4.15 General Permit: Aerobic System, Less Than 3000 Gallons Per Day Daily Flow

In addition to editorial or conforming changes to this Section, this rulemaking changes the 4.15 General Permit so that it addresses aerobic systems as a treatment type without specific requirements for the disposal method. In the existing rule, the 4.15 General Permit covers aerobic systems with subsurface disposal and the 4.16 General Permit covers aerobic systems with surface disposal. This rulemaking revises the 4.15 General Permit to establish one general permit to cover aerobic system treatment technology. This change eliminates the need for the 4.16 Aerobic System with Surface Disposal General Permit. Additionally, the Department considers sequencing batch reactor technology, currently covered by the 4.21 General Permit in R18-9-E321, to be a class of aerobic system and therefore falls under the 4.15 General Permit. This change eliminates the need for the 4.21 Sequencing Batch Reactor General Permit.

Subsurface disposal, currently covered in this Section, continues to be available under several different Type 4 General Permit options. By revising this Section to focus on aerobic system treatment technology only, the designer of the wastewater distribution and disposal subsystems has the freedom to use other general permits to satisfy the design, installation, and operational objectives of the APP rule.

References to subsurface disposal have been deleted throughout this Section. Language has been added to subsections (A)(2)(d), (B)(1)(c), (B)(2)(c), and (C)(6) regarding removal of nitrogen from the wastewater. If the applicant or designer believes that an aerobic system is appropriate for reducing the nitrogen level in wastewater, this rulemaking requires in subsection (C)(6) that the applicant submit information on the nitrogen removal capabilities of an aerobic system with the NOI including evidence of product listing under R18-9-A309(E) or third-party test results verifying the results.

An option has been added in subsection (B)(2) for using an aerobic system that meets an acceptable, but lower effluent quality, if the Department, through its product listing process under R18-9-A309(E), determines that the system provides enhanced cost-effectiveness and operational simplicity.

Subsection (C)(4) requires that pretreatment components be submitted with the NOI for the system.

Subsection (D) adds two addition design requirements. In subsection (D)(3), this rulemaking requires the applicant to ensure the system provides a clarifier after aeration treatment for any technology that treats to a better quality (lower levels of BOD_5, TSS, nitrogen and Total Coliform) than specified in subsection (B)(1). In subsection (D)(4), this rulemaking requires that the applicant ensure that the system has ports for inspection and monitoring.

A new subsection (F)(2) requires that the permittee ensure that filters are cleaned and replaced as necessary to ensure proper operation and maintenance. This rulemaking specifies reference design requirements in a new subsection (G).

R18-9-E316. 4.16 General Permit: Nitrate-reactive Media Filter, Less Than 3000 Gallons Per Day Daily Flow

The current 4.16 General Permit for Aerobic Systems with surface disposal has been deleted. Aerobic systems are now covered solely under the 4.15 General Permit. Surface disposal as a disposal option is now addressed in this rulemaking in the new 4.21 General Permit (R18-9-E321).

A new general permit for a nitrate-reactive media filter technology has been added. This rulemaking establishes restrictions, performance criteria, NOI requirements, and design, installation, operation, and maintenance requirements for this technology. As indicated in subsection (C)(3), this technology is capable of reducing the total nitrogen from the wastewater to a level at or below 10 milligrams per liter, which results in a wastewater that meets the AWQS for nitrate of 10 milligrams per liter.

R18-9-E317. 4.17 General Permit: Cap System, Less Than 3000 Gallons Per Day Daily Flow

In addition to editorial or conforming changes to this Section, this rulemaking adds a trench construction design requirement at subsection (D)(3)(c)(iii) specifying that the horizontal extent of the finished fill edges of the cap system extend at least 10 feet beyond the nearest trench sidewall or endwall.

R18-9-E318. 4.18 General Permit: Constructed Wetlands, Less Than 3000 Gallons Per Day Design Flow

This rulemaking makes only editorial or conforming changes to this Section and deletes subsection (D) because it is redundant with R18-9-A312(G).

R18-9-E319. 4.19 General Permit: Sand Lined Trench, Less Than 3000 Gallons Per Day Design Flow

In addition to editorial or conforming changes, this rulemaking updates the reference to the technical standards incorporated by reference in subsections (D)(1)(a) and (b). Subsection (D)(2)(a) requires that distribution pipes are capped on the end for proper operation. Subsection (D)(2)(b) has been revised to state that the spacing between trenches must be 5 feet or two times the distance between the bottom of the distribution pipe and the bottom of the trench, whichever is greater.

R18-9-E320. 4.20 General Permit: Disinfection Devices, Less Than 3000 Gallons Per Day Design Flow

In addition to editorial or conforming changes, this rulemaking includes several revisions to this general permit for disinfection devices. Subsection (A) adds a requirement to ensure that the qualify of effluent that will be conveyed to a disinfection device is equal to or better than the performance level specified under the R18-9-E315(B)(1). The Department envisions that the primary use of a disinfection device will be with the 4.21 General Permit for surface discharge, therefore the effluent being conveyed to the disinfection device must be of good enough quality to reliably treat to remove bacteria to a nominally free level.

This rulemaking reorganizes and revises the language in subsections (C) and (D). The language in (D)(2) regarding auxiliary control mechanism, now fail-safe wastewater control or operational process, has been moved to the performance specifications under a new subsection (C)(1). The performance criteria has been revised and moved from subsections (C)(1)(a), (b) and (c) to the new subsection (C)(2) for the amount of coliform bacteria in, the appearance of, and the dissolved oxygen content of the discharge. A new subsection (D) has been added for design requirements and includes the current introductory language in subsection (C)(2). A table has been added in subsection (D)(1)(a) to specify the required amounts of available chlorine that must be maintained in the wastewater during treatment. This is necessary to ensure adequate reduction of bacteria. Design requirements has been added in subsection (D)(2) for contact chambers and a general provision for devices that disinfect using other than chlorine.

This rulemaking requires inspection of the disinfection device at least once every three months by a qualified person. A qualified person is one that has working knowledge of the type of onsite wastewater treatment facility and is capable of maintaining and servicing the disinfection device as specified by the manufacturer to meet treatment performance requirements. The Department's requirement to provide evidence of a service contract under R18-9-A309(C)(2)(d) will help to ensure that the permittee uses a qualified person to do the inspections.

Subsection (E) has been deleted because it is addressed in R18-9-A312(B)(5) and subsection (F) has been deleted because it is addressed in R18-9-A312(G).

R18-9-E321. 4.21 General Permit: Surface Disposal, Less Than 3000 Gallons Per Day Design Flow

This rulemaking deletes the general permit for Sequencing Batch Reactors because the Department considers this technology to be a type of aerobic system that is now included under the 4.15 General Permit.

In response to stakeholder feedback to provide a separate general permit for surface disposal, this rulemaking places a new general permit in this Section. This general permit contains much of the language relating to surface disposal from the current R18-9-E316 general permit.

The performance criteria in subsection (B) are the same as the current R18-9-E316(B). This rulemaking includes restrictions in subsection (C) on the minimum temperature of the climate and the annual precipitation rate. These requirements are necessary for surface disposal because frozen or flooded conditions will interfere with disposal of the treated effluent.

Design requirements have been added in subsection (D) to ensure that the treated wastewater is dispersed properly to ensure maximum seepage into the ground and to prevent run-off.

A general statement on the installation requirements has been added in subsection (E) to serve as a reminder for the reader. Operation and maintenance requirements have been added in subsection (F) to protect public health.

R18-9-E322. 4.22 General Permit: Subsurface Drip Irrigation Disposal, Less Than 3000 Gallons Per Day Design Flow

In addition to editorial or conforming changes, this rulemaking makes several changes to this Section. For emphasis, a statement has been added in subsection (A) that a 4.22 General Permit includes a pressure distribution system under R18-9-E304. This requirement is specified in the current subsection (A)(1), but the Department believes it is useful to explicitly state it in the introductory language.

The performance criteria specified in subsections (B)(1)(a) and (b) have been revised as a result of new information about component capabilities with different wastewater treatment performance. This rulemaking consolidates the requirements relating to evapotranspiration with deletions in subsections (B)(2)(b), (C)(4) and (D)(10), and the addition of calculation requirements in (C)(3). This provides a clear foundation to demonstrate compliance with design requirements.

A requirement has been added in subsection (D)(1) that the design for pressure distribution systems in R18-9-E304 be followed except that quick disconnects are not required and the reserve volume may be provided in an oversized treatment tank or supplemental storage tank. Other design requirements has been added to subsection (D) that address ponding of wastewater, use of manufacturer's recommendations to protect the components of the drip irrigation system, prohibition of use for irrigating food crops, and others. Several of these added design requirements are explained in more detail in the following paragraphs.

Subsection (D)(5) incorporates two technical standards by ASTM for plastic pipe by reference. Several design requirements for driplines and emitters has been added in subsections (D)(8) and (9), respectively. One commenter suggested that subsection (D)(8)(a) should allow placement of driplines at greater than 24 inches apart on a difficult site as long as not more than 2 square feet of disposal area per lineal foot of dripline is used in disposal area calculation. This change was not incorporated because the approach can be used under the alternative features process in R18-9-A312(G).

A commenter identified confusion caused by the omission of some soil classifications in subsection (D)(11) while they are included in subsection (A)(3). The Department agrees and has added subsection (D)(11)(c).

A requirement has been added to follow manufacturer's recommendations to protect against freezing in subsection (D)(13), design requirements for shaded trench design in subsection (D)(14), and specifications for calculated the soil absorption area for a drip irrigation disposal works in subsection (D)(15). These three provisions were included in response to stakeholder feedback.

A commenter recommended that shaded trench construction be limited to only a 4-inch wide trench with a single dripline, using native soil backfill that is screened for rock greater than 1/2-inch. Because subsection (D)(14) is intended for a different configuration, this rulemaking adds a subsection (D)(8)(h) that ensures protection of the dripline and uniform wastewater distribution.

This rulemaking revises or adds installation requirements in subsection (E) and operation and maintenance requirements in subsection (F) in response to stakeholder feedback.

R18-9-E323. 4.23 General Permit: 3000 to Less Than 24,000 Gallons Per Day Design Flow

In addition to editorial or conforming changes to this Section, a sentence has been added to the introductory language in subsection (A) to emphasize that this general permit also applies to a property or adjacent properties under common ownership with more than one onsite wastewater treatment facility with an accumulative design flow from 3000 to 24,000 gallons per day. This language is necessary to eliminate "piecemealing" of a large-flow facility allowed under this general permit by an applicant into units less than 3000 gallons per day. This has been done by applicants to avoid requirements such as design by a registered professional engineer or submittal of a performance assurance plan, and will likely be done under this rulemaking to avoid controlling the discharge of total nitrogen.

As mentioned, this rulemaking adds a nitrogen control requirement (subsection (A)(4)) to limit the discharge of nitrogen from onsite wastewater treatment works in this flow category. Onsite wastewater treatment facilities with flows from 3000 to 24,000 gallons significantly increase the threat of groundwater contamination by nitrate due to their concentrated flows. This provision requires the facility to either meet a nitrogen loading limit in terms of pounds of total nitrogen per acre per day over the property served by the facility (the proposed limit is 0.088 pounds of total nitrogen per acre per day) or justify a greater nitrogen loading that is equally protective of aquifer water quality. Several technologies described in the 4.03 through 4.22 General Permits are capable of nitrogen removal and may be employed by the applicant to meet the nitrogen loading limit. The rule states that for the nitrogen loading calculation, the applicant may assume that 0.0333 pounds of total nitrogen per day per person is contributed to raw sewage. The nitrogen loading limit of 0.088 pounds per day per acre thus corresponds to sewage generation from about 2.6 persons per acre.

To remind the applicant of the other requirements, this rulemaking adds subsections (C), (D) and (E) that address design, installation and operation and maintenance requirements, respectively.

A new subsection (H) has been added to specify requirements for when a covered facility may expand. Similar to the requirements in the opening sentence in subsection (A), these provisions ensure that facilities are adequately designed and operated to accommodate increased flows due to the expansion. If the expansion raises the accumulative flow to 24,000 or more gallons per day, then this general permit no longer applies and the permittee must apply for an individual APP.

Table 1. Unit Design Flows

Table 1 has been changed to conform to changes made to other parts of the rule, including R18-9-101. The word "daily" has been deleted from the title of Table 1 because the third column specifies that the design flow is in "gallons per day" and therefore the word "daily" is not necessary. The first column title has been revised from "type of facility served" to "wastewater source." The factors for "apartment building" and "residence" have been moved to the "dwelling" category. A factor for a fire station has been added because no other design flow factor applies. This rulemaking includes a factor of 45 gallons per day per employee. This rulemaking adds the words "temporary use" after "park" to emphasize that these design flows are not for a long-term residential situation. The design flows under "dwelling" must be used when the use is not temporary. Under the dwelling category for determining design flow for sewage treatment facilities and sewage collections systems, this rulemaking reduces the design flow per person from 100 to 80 gallons per day.

Article 4. Nitrogen Management General Permits

The name of the Article has been revised to address nitrogen discharge issues.

R18-9-401. Definitions

This rulemaking applies the definitions of R18-9-101 to this Article, revises the definition of "application of nitrogen fertilizer," amends the terms and definitions of "crop or plant needs" and "crop or plant uptake" to clarify that the requirements apply to plants other than crops and adds definitions that are applicable only to this Article for: "impoundment," "'liner' or 'lining system,'" and "NRCS guidelines" because these terms are used in R18-9-403.

R18-9-402. Nitrogen Management General Permits: Nitrogen Fertilizers

In addition to editorial changes to this Section, this rulemaking revises the title of the Section to Nitrogen Management and replaces "crop plant" with "crop or plant." The Department believes that the changes provide broader protection for application of fertilizer on plants that are not "crops."

During the informal stakeholder process, a commenter suggested that the Department should initiate sampling studies, groundwater modeling, and credible and scientifically defensible methods of nitrogen tracking for these applications. In addition, a stakeholder suggested that developing specific fertilizer application rates rather than just the general best management practices. The management practices are guided by the "Best Management Practices Handbook for Regulated Agricultural Activities" (BMP Handbook). Chapter 3 of the BMP Handbook and the "Nitrogen Fertilizer Management in Arizona" published by the College of Agriculture at the University of Arizona in May 1991 provide specifics on application rates to prevent over application of nitrogen.

R18-9-403. Nitrogen Management General Permits: Concentrated Animal Feeding Operations

In addition to editorial changes to this Section, this rulemaking changes the title of the Section to Nitrogen Management General Permit.

This rulemaking emphasizes liner performance for new process wastewater and contact stormwater impoundments at Concentrated Animal Feeding Operations (CAFOs). New subsection (A)(3) adds a new management practice for lining an impoundment if certain conditions are met and revises the management practice for closing an impoundment as specified in subsection (A)(4).

A new subsection (B) has been added that addresses lining requirements for impoundments. Subsection (B)(1) describes lining system requirements for new impoundments. A new impoundment is any impoundment constructed after the effective date of the rule. New impoundments must meet NRCS guidelines and also "acceptable liner performance criteria" defined a coefficient of permeability of 1×10^{-7} centimeters per second or less. This rulemaking allows a reduction in the liner performance requirement as envisioned under the NRCS guidelines for impoundments that hold wastewater where manure is a significant component. The reduction is assumed due to the likelihood that the manure will "seal" the lining system. If there will be no manure in the impoundment, then the reduction in the liner performance requirement will not apply.

Subsection (B)(2) describes requirements for impoundments already in use – those that were constructed before the effective date of this rule. Currently, CAFO owners or operators must comply with the management practices that include the requirements in the BMP Handbook. Consistent with the BMP Handbook, subsection (B)(2) includes a process for the owner or operator to "reassess" whether the current lining system is adequate for the impoundment. The Department will evaluate various pieces of information such as whether the impoundment is located within a designated Nitrogen Management Area. If the Department determines that any of the factors listed in subsection (B)(2)(b) exist, the Department will require the owner or operator to reassess the lining system according to NRCS

guidelines and to submit a report to the Department to demonstrate consistency with the NRCS guidelines. This rulemaking requires the owner or operator to perform the reassessment or submit plans to upgrade the lining system of the impoundment within 90 days. After the permittee submits the report, the Department will make a preliminary decision on whether the impoundment liner must be upgraded to meet NRCS guidelines and the acceptable liner performance criteria specified in subsection (B)(1)(b). The process includes an opportunity for the owner or operator to comment on the preliminary decision before the Department makes a final determination.

A new subsection (B)(3) has been added to require that the owner or operator notify the Department when the impoundment is lined. To reduce reporting requirements, the permittee is required to submit the information in the annual AZPDES report for the CAFO GP.

R18-9-404. Revocation of Coverage Under a General Permit

This rulemaking adds this Section based on the requirements in R18-9-A307 to provide an explicit process for general permits under Article 4.

6. A reference to any study that the agency relied 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 of 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 of a political subdivision of this state:

Not applicable

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

The majority of changes covered by this rulemaking are editorial or conforming and therefore have limited impact. The preliminary economic impact of this rulemaking is determined based on four major areas:

1. Changes to individual permitting process requirements in Articles 1 and 2,
2. Changes that address nitrogen management in Articles 3 and 4,
3. Expansion of the Presale Inspection Program in R18-9-A316,
4. Changes to General Permits in Article 3:
   - Parts A and E for Onsite Wastewater Treatment Facilities (excluding R18-9-E301);
   - Sewage Collection Systems General Permits;
   - Parts B, C, and D (excluding R18-9-B301(J) and (K), and R18-9-C305)

Changes to individual permitting process in Articles 1 and 2

The Department estimates that the majority of changes to 18 A.A.C. 9, Articles 1 and 2 will not have an economic impact. The following changes overall will have a minor to moderate impact for a certain percentage of permittees:

R18-9-101(28). Prohibition for HOA's as permittees addressed in the definition of "person" at R18-9-101(28). The Department believes there could be a minor impact on developers who no longer will transfer the sewage treatment facility to the homeowner's associations. In contrast, homeowners should benefit due to reduced liability. The Department will benefit from having permittees that have demonstrated financial and technical capability of operating and maintaining the sewage treatment facility. The Department estimates that this change will impact a very small percentage of new permits. This change applies to APP applications for sewage treatment facilities submitted after the effective date of the rule.

R18-9-A202(A)(8)(b)(viii). Modeling to show that discharge will not cause migration of a contaminated plume was added to R18-9-A202(A)(8)(b)(viii). The Department believes this requirement will impact only a small number of facilities – primarily wastewater recharge operations in areas of contaminated groundwater plumes. Modeling may add an additional $10,000 to the cost of the application.

R18-9-A203(C)(1). Revisions to self-assurance demonstration under R18-9-A203(C)(1). A small percentage of applicants may choose not to use this mechanism for the financial demonstration for closure. Subsection (C)(1)(a)(iii) requires the applicant to submit a special report from an independent CPA. The report is to verify that the summary of financial conditions included in the letter from the company CFO matches the information in the company's annual financial report. The Department estimates that it will take less time to review these self-assurance demonstrations. The cost of a review for the majority of permittees that may select this option is offset by the reduction in review time.

R18-9-A203(F). A basic concept of the permitting program is that an applicant demonstrates and maintains the financial capability to construct, operate, maintain and then close a discharging facility consistent with BADCT and to ensure that AWQS are met. Most APP permits are issued for the life of the facility/operation. In many cases, the operational life may be 30-50 years. A financial demonstration becomes obsolete very quickly. At closure time, the

estimates for closure at the time of permit issuance will be extremely out of date and the permittee may no longer be financially capable of closing the facility. The Department includes permit language requiring the facility to submit an updated financial demonstration. This is rarely done. Because of these issues, the Department is proposing to require the permittee to submit an updated financial demonstration with any request for a significant amendment to the permit. The permittee may update its financial demonstration at anytime, but the Department proposes to require an update when a request for a significant amendment is submitted. The permittee will bear the cost of preparing a financial demonstration for all facilities already covered by the permit and covered by the amendment request in addition to Department review time. The Department believes that the additional costs will have a minor increase in the cost to prepare the significant amendment. The Department believes this additional cost is small when compared to the Department's potential liability if a facility's financial condition has negatively changed.

R18-9-A213(A)(6). Ability to suspend or revoke a permit for an unconstructed facility because BADCT needs to be updated. This provision is added at R18-9-A213(A)(6). The Department believes this will have a minor impact overall because it doesn't anticipate that many facilities will fall into this category where a permit will be suspended or revoked. This provision is worded so that it provides the Department an option to suspend or revoke. The Department will only use this for situations when a facility hasn't been constructed within 5 years and BADCT has changed. If BADCT is reassessed for a facility that hasn't been constructed, then the costs will be for amending the permit and redesigning the facility to meet new BADCT. Before arriving at the decision to suspend or revoke a permit, the Department will provide an opportunity for the permittee to explain why BADCT doesn't need to be updated.

R18-9-B203(E). This provision requires that the applicant submit a signed, sealed, and dated Engineer's Certificate of Completion to confirm that construction was completed according to Department-approved design report or plans and specifications. The additional cost for the ECOC on the final construction will be a negligible percentage of total costs of sewage treatment facility.

R18-9-B205(2). Increase in the cost ceiling of BADCT alternatives that must be considered at the time that an existing facility is modified. This rulemaking increases the cost ceiling factor from $0.05 times gallons of design flow to $1.00 times gallons of design flow. The Department realized that the $0.05 factor was extremely low, which, from a practical standpoint, will not result in any improvement in the quality of the wastewater discharge. In determining the appropriate value, the Department looked at the cost to construct a new facility. Estimates show that figure to be between $4 and $13 times the gallons of design flow. A $1.00 factor is less than 25 percent of the cost to construct a new facility based on $4/gallon of design flow. Most new construction will cost somewhere in the middle of the range. This is a ceiling and the permittee must review options that fall at or below the $1.00 factor. It is not a requirement to spend that much money. Instead, the applicant must implement the option that is most protective of water quality below that ceiling cost.

Based on the estimates provided above, the Department estimates the changes to Articles 1 and 2 may have a minor economic impact.

Changes to address nitrogen management in Articles 3 and 4

The rulemaking includes several provisions that allow the Department and local authorities to manage, reduce or eliminate nitrogen pollution impacts to groundwater. As mentioned earlier in this preamble, nitrate is the most widespread groundwater contaminant in Arizona, and nitrogen sources threaten to pollute groundwater with nitrate. The cost of addressing nitrate contamination in groundwater used as a drinking water source is extremely high for many reasons, including the cost to search for another source of drinking water or to drill a deeper well. For some municipalities, the cost to drill a viable deep well and connect it to the drinking water system may approach $1,000,000. The Department believes that prevention is the most economical solution for managing the discharge of nitrogen pollution. In addition, instead of imposing nitrogen reduction requirements on all potential sources throughout the state, this rulemaking provides a targeted approach to prevent impact or further degradation. The targeted approach significantly limits the economic impact of the rule.

This rulemaking contains new provisions as well as changes to existing provisions intended to reduce or eliminate sources of nitrogen pollution to groundwater including designating nitrogen management areas under R18-9-A317 and requirements that determine when new facilities must be designed to denitrify.

The Department is proposing to include a process for designating nitrogen management areas. The designation process will have an impact on Department staff who will be responsible for:

• Evaluating data to determine preliminary designations,

• Notifying local authorities of preliminary designations and responding to comments from local authorities, and

• Developing final nitrogen management areas and maintaining such information in Department records and on the Department website.

The designation process will also have an impact on local authorities who will be responsible for reviewing preliminary designations and providing comments to the Department. Local authorities may choose to facilitate a public participation process that may add additional costs for public forums and recordkeeping.

Once a final nitrogen management area is designated, then conditions of the Nitrogen Management Area designation will primarily impact proposed onsite wastewater treatment facilities and CAFOs.

The Department believes that the nitrogen management area designation process is a necessary and appropriate means to control sources of nitrate contamination and that any increase in cost is reasonable compared to costs for securing a new source of drinking water for a community or cleaning up contaminated groundwater.

To determine the potential impact on individual onsite wastewater treatment facilities, the Department evaluated the number of licenses that were issued between January 2001 and June 2004 across Arizona. A summary of the figures is in the following table.

Type 4 APP General Permit Licenses for Onsite Wastewater Treatment Facilities issued between January 2001 through June 2004 (ADEQ and all Counties)

Onsite General Permit Number	***2001***	***2002***	***2003***	***2004 (6 months)***	***Total***
Onsite Systems Less Than 3,000 gpd					
Conventional (4.02 only)	10353	11543	10571	6130	38597
Alternative (4.02 - 4.22 in combination)	643	675	440	219	1977
SUBTOTAL ONSITE SYSTEMS (<3,000 gpd)	***10996***	***12218***	***11011***	***6349***	***40574***
Onsite Systems 3,000 to less than 24,000 gpd					
Conventional (4.02 only)	N/A	N/A	13	4	17
Alternative (4.23 for 4.02 - 4.22 in combination)	18	12	6	2	38
TOTAL ONSITE SYSTEMS	***11014***	***12230***	***11030***	***6355***	***40629***
% of Total Systems that are Alternative Systems	***6.0%***	***5.62%***	***4.04%***	***3.48%***	***4.96%***

Summary of General Permit Technologies Used for Verified Alternative Onsite Systems

		2001	***2002***	***2003***	***2004 (6 months)***	***Total***
4.02	Septic Tank **USED WITH OTHER GPs**	N/A	N/A	400	114	514
4.03	Composting toilet	10	7	12	4	33
4.04	Pressure distribution system	26	31	118	65	240
4.05	Gravelless trench	57	0	6	0	63
4.06	Natural seal ET bed	5	2	4	0	11
4.07	Lined ET bed	14	9	12	2	37
4.08	Wisconsin mound	21	41	32	20	114
4.09	Engineered pad system	346	247	124	43	760
4.10	Intermittent sand filter	6	12	8	2	28
4.11	Peat filter	9	9	22	5	45
4.12	Textile filter	31	107	81	19	238
4.13	RUCK^{R} system	1	6	0	0	7
4.14	Sewage vault	7	13	8	7	35
4.15	Aerobic, subsurface disposal	55	107	93	34	289
4.16	Aerobic, surface disposal	3	2	3	3	11
4.17	Cap system	1	1	3	4	9
4.18	Constructed wetlands	11	13	16	10	50
4.19	Sand lined trench	0	6	3	6	15
4.20	Disinfection devices	13	26	115	40	194
4.21	Sequencing batch reactor	4	1	0	2	7
4.22	Subsurface drip irrigation	23	35	137	41	236

TOTAL TYPE 4 TECHNOLOGIES UTILIZED	***643***	***675***	***1197***	***421***	***2936***

N/A = not available.

Note: The total number of alternative onsite systems installed for 2001 and 2002 listed in the top part of this table is greater than the actual number of systems installed in those years because each general permit used in the design for an onsite wastewater treatment facility was counted as a separate system. If, for example, a facility design included three general permits, the number of onsite facilities reported to the Department was three instead of one. Starting in 2003, the method for tracking approvals was modified so that the total number of alternative systems was tracked, as was each specific component technology approved under a 4.02 through 4.22 General Permit.

Approximately 5 percent of the facilities approved since January 2001 include some type of alternative treatment or disposal feature to the onsite wastewater treatment facility. The nitrogen management components of this rulemaking have the potential to increase the number of onsite wastewater treatment facilities that will need denitrifying capabilities or require hook-up to a centralized sewage treatment facility.

In Arizona, onsite wastewater treatment facilities provide sewage treatment and disposal to an estimated 400,000 to 500,000 households, or almost 20 percent of the state's population. As shown in the above table, more than 11,000 new systems a year are being approved annually under the Department's current APP rules. An onsite wastewater treatment facility poses a threat to public health and water quality if not designed, constructed, and operated properly. Dense concentrations of onsite wastewater treatment systems have caused and threaten to cause nitrate contamination of groundwater at many localities throughout Arizona. For this reason, many changes to the onsite wastewater treatment facility provisions in this rulemaking ultimately enhance protection of public health and water quality. Several changes are specifically intended to prevent or mitigate the potential for nitrate contamination of groundwater. As a benefit, this rule adds a new general permit at R18-9-E316 for an onsite wastewater facility that is highly effective in removing nitrogen. This general permit will provide an overall reduction in potential costs to owners of property with site limitations requiring denitrification capabilities. Also, the rulemaking creates a new general permit for surface disposal that may be used with more than just aerobic treatment works.

For an owner or operator of a CAFO, the current rules require the owner or operator to comply with agricultural best management practices to minimize the discharge of nitrogen pollutants from harvesting, stockpiling, and disposing of animal manure and from controlling and disposing of contaminated water resulting from CAFO activities. This rulemaking through R18-9-A317(D)(2) and the changes to R18-9-403, emphasizes liner performance for manure and process wastewater impoundments and updates the rule by incorporating the latest Natural Resources Conservation Service (NRCS) guidelines.

Expansion of the Presale Inspection Program in R18-9-A316

The Department estimates that on average, a property will transfer once every 5 years. Based on the figure of 400,000 lots with conventional or alternative systems in the state and a transfer rate of once every five years, the Department estimates that close to 80,000 property transfers will occur annually in Arizona. R18-9-A316 requires, starting in January 1, 2006, the owners of properties with an onsite wastewater treatment facility constructed before January 1, 2001 to hire a qualified person to inspect the onsite wastewater treatment facility before the property is transferred. The Department estimates that the cost for an inspection may range between $100 and $300 that will be added into the transaction cost during the sale of the home. Therefore, the impact of a pre-sale inspection requirement will be between $800,000 and $24,000,000 applied across the 15 counties. The transfer inspection will benefit the buyer of the home because the inspection should identify systems with previously unseen deficiencies that might adversely impact public health and water quality. The transfer also enhances the disclosure process and therefore protects buyers from problems that normally go unseen.

The notification requirement will benefit the Department and delegated agencies because they are able to keep accurate records of the ownership of general permitted facilities and, based on the data received, able to better develop outreach and compliance assistance programs for property owners to ensure proper operation of the facility thus increasing the viable life of the facility.

In addition, this change provides a benefit to those who qualify as an inspector and to the entities that provide the certification program.

Changes to General Permits in Article 3

Parts A and E – Onsite Wastewater Treatment Facilities (excluding R18-9-E301)

R18-9-A309(A)(5). This will affect a small number of new onsite wastewater treatment facilities. The trigger levels in subsections (A)(5)(b)(i) and (ii) will likely impact facilities at other than a single-family residence such as RV parks that are not already covered by the conditions in subsection (A)(5)(a).

R18-9-A309, R18-9-A310, R18-9-A312, and R18-9-A314. These changes in combination benefit the applicant for an onsite wastewater treatment facility. Some provisions may add some cost, but others provide a benefit through

reduced design or operational costs because they either ensure facility performance over the operational life of the facility or reduce the sizing of the treatment and disposal works.

R18-9-E302. The changes to this Section will benefit most types of onsite wastewater treatment facility and more than offset any additional cost for some of the changes. The benefits include eliminating the distinction between deep and shallow trenches, increasing the allowance for sidewalls up to 48 inches, allowing up to 11 square feet of trench absorption area, increasing the factors for the equation for chambers. This is in addition to the changes to R18-9-A309 through R18-9-A314 that impact almost all onsite treatment and disposal works.

R18-9-E303. This rulemaking adds several conditions for the composting toilet general permit so that it is a stand-alone permit. Under the current rule version, the 4.03 General Permit covers only waste going into the toilet. The general permit did not cover other wastewater streams (kitchen wastewater, gray water, etc.) generated at the property. The proposed changes to R18-9-E303 explicitly describe how these flows are to be handled that includes a requirement for installation of an interceptor and dispersal works. The cost to qualify for this general permit will increase slightly due to these requirements for including all flows. The permitting fee will decrease because permitting of all components related to discharges at the site will be within this one general APP.

R18-9-E308. Subsections (B) and (D) add requirements for a Performance Category A. This variation allows a thicker mound that will provide better treatment performance. The thicker mound will cost more to construct. However, these changes make this technology applicable to more properties with site limitations. The benefit of overcoming severe site limitations offsets the increase in construction cost.

R18-9-E310. The wastewater loading rate to the infiltration surface was reduced to be consistent with similar technologies. The increased construction cost will be offset by extended operational life.

R18-9-E314. The additional design requirements for sewage vaults will increase the cost for such a system. These requirements are important to ensure long term environmental protection.

R18-9-E315. The rule has expanded the types of aerobic treatment products and performance levels that may be listed under this general permit, including those that are capable of demonstrating superior cost-effectiveness and operational simplicity. This change should be a benefit for homeowners and may decrease the cost of a facility that qualifies for coverage under this general permit while maintaining environmental protection.

R18-9-E316. The new general permit is a benefit to homeowners and other owners of onsite wastewater treatment facilities as it allows application of a new technology for nitrogen control. The treatment technology is suitable for new and retrofit installations in situations requiring control of nitrogen to prevent or mitigate contaminated groundwater.

R18-9-E320. The additional design requirement for disinfection may only slightly increase the cost of such a system, because these types of details were already necessary for ensuring that such a system will achieve the overall performance requirements currently in the rule.

R18-9-E323. The changes to this rule at subsection (A) and (H) will eliminate any perceived loop-hole for properties where the total wastewater design is greater than 24,000 gpd. The Department always has considered that a property with a total design flow of greater than 24,000 gpd be covered by an individual APP to ensure groundwater quality is adequately protected when wastewater flow volume is high. In several cases, applicants have submitted applications for general permit coverage in a piecemeal fashion, wherein each project was submitted with a design flow of less than 24,000 gpd, in an attempt to circumvent the requirement to apply for an individual APP. Because the intent of the current rule is to require an individual APP once total wastewater design flow exceeds 24,000 gpd for a property, these changes will have no impact. The new language at subsection (A)(4) to require evaluation of nitrogen loading will have an impact for facilities that can't achieve a nitrogen loading rate that will protect groundwater quality. In this type of situation, the applicant may elect to use a larger disposal area to disperse the nitrogen load or a treatment technology that reduces nitrogen levels in the wastewater. Either of these may increase the cost. However, the increase in cost is offset by the benefits of environmental protection.

Based on the reality that more than 95 percent of the applicants for onsite wastewater treatment facilities are for conventional septic tank and disposal field systems covered solely under R18-9-E302, overall, the changes described above to R18-9-E303, R18-9-E308, R18-9-E310, R18-9-E314, R18-9-E315, R18-9-E316, R18-9-E320, and R18-9-E323 apply only to a very small percentage of applicants who plan to install an onsite wastewater treatment facility.

Sewage Collection System General Permits

This rulemaking adds three new general permits for sewage collection systems at R18-9-B301(J), B301(K) and R18-9-C305 and modifies the general permit at R18-9-E301.

There is no permitting fee for coverage under a Type 1.10 or a 1.11 general permit.

The general permit under R18-9-C305 is a Type 2 general APP. Any discharge from a sewage collection system is subject to the APP requirements. Systems that have the potential for release to the groundwater, may want to take advantage of this optional general permit. The Department believes that many operators of sewage collection systems will apply for coverage under this general permit for the Capacity, Management, Operations and Maintenance

(CMOM) Plans for Sewage Collection Systems. Although the conditions require a great deal of analysis, planning and implementation, it is a voluntary approach with incentives for maintenance and response to spills, that should result in reduction of raw sewage discharges onto the land surface or into the subsurface through leaky sewer lines. This result should benefit the operators, the environment and citizens of the state.

The changes proposed to R18-9-E301 are intended to clarify the requirements and not to increase costs for a new or replaced sewage collection system. Some changes for lift stations will increase the cost, but are necessary to ensure long-term operational performance of the equipment.

Parts B, C, and D (excluding R18-9-B301(J) and (K) and R18-9-C305)

This rulemaking adds new general permits at R18-9-B301(L) and R18-9-C306 and increases the applicability for general permits under R18-9-D301 that benefit certain types of discharges that will need to be covered by an individual permit or other more expensive general permits. The cost of applying for coverage under a general permit is significantly lower than for an individual permit.

General Impacts

Overall impacts may be felt by the Department and delegated authorities due to the need to update forms and web sites and to provide outreach efforts on the new rules to staff and regulated community.

This rulemaking updates several technical standards that are incorporated by reference. The impact from these updates should primarily be the cost of purchasing the new standards that will vary from entity to entity. The overall cost is offset by the benefit of using up-to-date national standards.

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:	Shirley Conard
Address:	Department of Environmental Quality – Water Permits Section 1110 W. Washington Street, 5415B-3 Phoenix, AZ 85007
Telephone:	(602) 771-4632
Fax:	(602) 771-4674
E-mail:	conard.shirley@azdeq.gov

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:

The Department has scheduled the following oral proceeding:

Date:	Monday, February 7, 2005
Time:	1:30 p.m.
Location	Arizona Department of Environmental Quality 1110 West Washington, Room 250 Phoenix, Arizona 85007
Nature:	Oral Proceeding

Written comments on the proposed rules or preliminary economic, small business, and consumer impact statement must be received by 5:00 p.m., Monday, February 7, 2005.

Persons with a disability may request a reasonable accommodation, such as a sign language interpreter, by contacting the Department's coordinator, Katie Huebner, at (602) 771-4794 (voice) or 1-800-367-3839 (TDD Relay). Requests should be made as early as possible to allow time to arrange the accommodation.

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:

R18-9-A310(C)(1)(a)	Standard Practice for Surface Site Characterization for Onsite Septic Systems, D5879-95(2003)
R18-9-A310(D)(1)(a)(i)	Standard Practice for Subsurface Site Characterization of Test Pits for Onsite Septic Systems, D5921-96(2003)e1
R18-9-A310(D)(1)(a)(ii)	Standard Practice for Soil Investigation and Sampling by Auger Borings, D1452-80(2000)

R18-9-A314(B)(1)(b)	Building Code Requirements for Structural Concrete and Commentary, ACI 318-02/318R-02
R18-9-A314(B)(1)(b)	Code Requirements for Environmental Engineering Concrete Structures and Commentary, ACI 350/350R-01
R18-9-A314(B)(3)	Standard Specification for Precast Concrete Septic Tanks, C1227-03
R18-9-A314(B)(4)	Material and Property Standards for Prefabricated Septic Tanks, IAPMO PS 1-2004
R18-9-D301(C)(4)(b)(ii)	Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effect (12,400 ft-lbf/ft3), D698-00ae1
R18-9-E301(D)(1)(b)	Uniform Standard Specifications for Public Works Construction revisions through 2004 published by Maricopa Association of Governments
R18-9-E301(D)(1)(b)	Uniform Standard Details for Public Works Construction revisions through 2004 published by Maricopa Association of Governments
R18-9-E301(D)(1)(b)	Standard Specifications for Public Improvements, 2003 Edition, published jointly by Pima County Wastewater Management and the City of Tucson
R18-9-E301(D)(1)(b)	Standard Details for Public Improvements, 2003 Edition, published jointly by Pima County Wastewater Management and the City of Tucson
R18-9-E301(D)(2)(h)(i)	Trench Excavation, Backfilling, and Compaction (Section 601), revised 2004
R18-9-E301(D)(2)(h)(ii)	Rigid Pipe Bedding for Sanitary Sewers (WWM 104), revised July 2002
R18-9-E301(D)(2)(h)(ii)	Flexible Pipe Bedding for Sanitary Sewers (WWM 105), revised July 2002
R18-9-E301(D)(2)(j)(i)	Standard Test Method for Installation of Acceptance of Plastic Gravity Sewer Lines Using Low-Pressure Air, F1417-92(1998)
R18-9-E301(D)(2)(j)(ii)	Standard Practice for Testing Concrete Pipe Sewer Lines by Low-Pressure Air Test Method, C924-02
R18-9-E301(D)(2)(j)(iii)	Standard Test Method for Low-Pressure Air Test of Vitrified Clay Pipe Lines, C828-03
R18-9-E301(D)(2)(j)(iv)	Standard Test Method for Hydrostatic Infiltration Testing of Vitrified Clay Pipe Lines, C1091-03a
R18-9-E301(D)(2)(j)(v)	Standard Practice for Infiltration and Exfiltration Acceptance Testing of Installed Precast Concrete Pipe Sewer Lines, C969-02
R18-9-E301(D)(2)(j)(vi)	Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications, D2321-00
R18-9-E301(D)(3)(c)	Pre-cast Concrete Sewer Manhole, 420-1, revised January 2004 and 420.2, revised January 2001
R18-9-E301(D)(3)(c)	Offset Manhole for 8 - 30 Pipe, (#421), revised 1994 R18-9-E301(D)(3)(c) Sewer Manhole and Cover Frame Adjustment, (422), revised January 2003
R18-9-E301(D)(3)(c)	Manholes and Appurtenant Items (WWM 201 through WWM 211, except WWM 204, 205, and 206), revised July 2002
R18-9-E301(D)(3)(e)(ii)	Standard Test Method for Concrete Sewer Manholes by Negative Air Pressure (Vacuum) Test, C1244-02e1
R18-9-E301(D)(3)(e)(iii)	High-Voltage Electrical Inspection of Pipeline Coatings, RP0274-2004
R18-9-E304(D)(2)(e)	National Electrical Code, 2005 Edition
R18-9-E304(D)(3)(a)(i)	Standard Specification for Precast Concrete Water and Wastewater Structures, C913-02
R18-9-E306(E)(1)	Standard Test Method for Capillary-Moisture Relationships for Coarse- and Medium-Textured by Porous-Plate Apparatus, D2325-68(2003),
R18-9-E307(E)(1)	Standard Test Method for Capillary-Moisture Relationships for Coarse- and Medium-Textured by Porous-Plate Apparatus, D2325-68(2003)
R18-9-E308(C)(3)	Wisconsin Mound Soil Absorption System: Siting, Design, and Construction Manual, January 1990 Edition
R18-9-E308(D)(2)	Standard Specification for Concrete Aggregates, C33-03

R18-9-E309(D)(2)	Standard Specification for Concrete Aggregates, C33-03
R18-9-E310(D)(4)	Standard Specification for Concrete Aggregates, C33-03
R18-9-E319(D)(1)(a)	Standard Specification for Concrete Aggregates, C33-03
R18-9-E319(D)(1)(b)	Standard Test Method for Materials Finer than 75-µm (No. 200) Sieve in Mineral Aggregates by Washing, C117-04
R18-9-E322(D)(5)	Standard Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedule 40, 80, and 120, D1785-04a
R18-9-E322(D)(5)	Standard Specification for Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe, Schedule 40 and 80, F441/F441M-02
R18-9-401(A)(7)	United States Department of Agriculture, Natural Resources Conservation Service, National Engineering Handbook, Part 651 Agricultural Waste Management Field Handbook, Chapter 10, 651.1080 Appendix 10D – Geotechnical, Design, and Construction

13. The full text of the rules follows:

TITLE 18. ENVIRONMENTAL QUALITY

CHAPTER 9. DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER POLLUTION CONTROL

ARTICLE 1. AQUIFER PROTECTION PERMITS - GENERAL PROVISIONS

Section
R18-9-101. Definitions
R18-9-103. Class Exemptions
R18-9-104. Transition from Notices of Disposal and Groundwater Quality Protection Permitted Facilities
R18-9-105. Permit Continuance ~~and Transition of Permits~~
R18-9-106. Determination of Applicability
R18-9-107. Consolidation of Aquifer Protection Permits
R18-9-108. Public Notice
R18-9-109. Public Participation
R18-9-110. Inspections, Violations, and Enforcement

ARTICLE 2. AQUIFER PROTECTION PERMITS – INDIVIDUAL PERMITS

PART A. APPLICATION AND GENERAL PROVISIONS

Section
R18-9-A201. Individual Permit Application
R18-9-A202. Technical Requirements
R18-9-A203. Financial Requirements
R18-9-A204. Contingency Plan
R18-9-A205. Alert Levels, ~~and~~ Discharge Limitations and AQLs
R18-9-A206. Monitoring Requirements
R18-9-A207. Reporting Requirements
R18-9-A208. Compliance Schedule
R18-9-A209. Temporary Cessation, Closure, and Post-closure
R18-9-A210. Temporary Individual Permit
R18-9-A211. Permit Amendments
R18-9-A212. Permit Transfer
R18-9-A213. Permit Suspension, Revocation, ~~or~~ Denial, or Termination
R18-9-A214. Requested Coverage Under a General Permit

PART B. BADCT FOR SEWAGE TREATMENT FACILITIES

Section
R18-9-B201. General Considerations and Prohibitions
R18-9-B202. ~~Application Requirements~~ Design Report

ARTICLE 3. AQUIFER PROTECTION PERMITS – GENERAL PERMITS

PART A. GENERAL PROVISIONS

PART B. TYPE 1 GENERAL PERMITS

PART C. TYPE 2 GENERAL PERMITS

PART D. TYPE 3 GENERAL PERMITS

PART E. TYPE 4 GENERAL PERMITS

ARTICLE 4. ~~AGRICULTURAL~~ NITROGEN MANAGEMENT GENERAL PERMITS

ARTICLE 1. AQUIFER PROTECTION PERMITS - GENERAL PROVISIONS

R18-9-101. Definitions

In addition to the definitions established in A.R.S. § 49-201, the following terms apply to Articles 1, 2, ~~and~~ 3, and 4 of this Chapter:

1. "Aggregate" means a clean graded hard rock, volcanic rock, or gravel of uniform size, between 3/4 inch ~~to~~ and 2 1/2 inches in diameter, offering 30~~%~~ percent or more void space, washed or prepared to be free of fine materials that will impair absorption surface performance, and has a hardness value of three or greater on the Moh's Scale of Hardness (can scratch a copper penny).
2. "Alert level" means a ~~numeric~~ value~~,~~ or criterion ~~expressing a concentration of a pollutant or a physical or chemical property of a pollutant, that is~~ established in an individual permit ~~and~~ that serves as an early warning indicating a potential violation of ~~an Aquifer Water Quality Standard at the applicable point of compliance or~~ a permit condition including a concentration of a pollutant or a physical or chemical property of a pollutant. Exceeding an alert level may require adjustment of permit conditions or appropriate actions as required by a contingency plan.
3. "AQL" means an aquifer quality limit and is a permit limitation set for aquifer water quality measured at the point of compliance that either represents an Aquifer Water Quality Standard or, if an Aquifer Water Quality Standard for a pollutant is exceeded in an aquifer at the time of permit issuance, represents the ambient water quality for that pollutant.
~~3.~~4. "Aquifer Protection Permit" means an individual permit or a general permit issued under A.R.S. §§ 49-203, 49-241 through 49-252, and Articles 1, 2, and 3 of this Chapter.
~~4.~~5. "Aquifer Water Quality Standard" means a standard established under A.R.S. §§ 49-221 and 49-223.
6. "AZPDES" means the Arizona Pollutant Discharge Elimination System, which is the state program for issuing, modifying, revoking, reissuing, terminating, monitoring, and enforcing permits, and imposing and enforcing pretreatment and biosolids requirements under A.R.S. Title 49, Chapter 2, Article 3.1 and 18 A.A.C. 9, Articles 9 and 10.
~~5.~~7. "BADCT" means the best available demonstrated control technology, process, operating method, or other alternative to achieve the greatest degree of discharge reduction determined for a facility by the Director under A.R.S. § 49-243.
~~6. "Daily flow rate" means the average daily flow calculated for the month that has the highest total flow during a calen-~~

~~dar year.~~

8. "Bedroom" means, for the purpose of determining design flow for an onsite wastewater treatment facility for a dwelling, any room that has:
   a. A floor space of at least 70 square feet in area, excluding closets;
   b A ceiling height of at least 7 feet;
   c. Electrical service and ventilation;
   d. A closet or area where a closet could be constructed;
   e. At least one window capable of being opened and used for emergency egress; and
   f. A method of entry and exit to the room which allows it to be considered distinct from other rooms in the dwelling to afford a level of privacy customarily expected for such a room.
9. "Chamber technology" means a method for dispersing treated wastewater into soil from an onsite wastewater treatment facility by one or more manufactured leaching chambers with an open bottom and louvered, load-bearing sidewalls that substitute for an aggregate-filled trench described in R18-9-E302.
10. "CMOM Plan" means a Capacity, Management, Operations, and Maintenance Plan, which is a written plan that describes the activities and actions a permittee will take to ensure that the capacity of the sewage collection system, when unobstructed, is sufficient to convey the peak wet weather flow through each reach of sewer, and provides for the management, operation, and maintenance of the permittee's sewage collection system.

~~7.~~11. "Design capacity" means the volume of a containment feature at a discharging facility that accommodates all permitted flows and meets all Aquifer Protection Permit conditions, including allowances for appropriate peaking and safety factors to ensure sustained reliable operation.

~~8.~~12. "Design flow" means the daily flow rate a facility is designed to accommodate on a sustained basis while satisfying all ~~permit~~ Aquifer Protection Permit discharge limitations and treatment and operational requirements. The design flow ~~incorporates~~ either incorporates or is used with appropriate peaking and safety factors to ensure sustained, reliable operation.

~~9.~~13. "Direct reuse site" means an area where reclaimed water is applied or impounded.

~~10.~~14. "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, by surface or subsurface methods. Disposal works do not include activities regulated under 18 A.A.C. 9, Article 7.

~~11.~~15. *"Drywell" means a well which is a bored, drilled or driven shaft or hole whose depth is greater than its width and is designed and constructed specifically for the disposal of storm water. Drywells do not include class 1, class 2, class 3 or class 4 injection wells as defined by the Federal Underground Injection Control Program (P.L. 93-523, part C), as amended*. A.R.S. § 49-331(3)

16. "Dwelling" means real property upon which there has been constructed or will be constructed any building, structure, or improvement intended for residential use or related activity, including a house, an apartment unit, a condominium unit, a townhouse, or a mobile or manufactured home.

~~12.~~17. "Final permit determination" means a written notification to the applicant of the Director's final decision whether to issue or deny an Individual Aquifer Protection Permit.

~~13.~~18. "Groundwater Quality Protection Permit" means a permit issued by the Arizona Department of Health Services or the Department~~.~~ before September 27, 1989 that regulates the discharge of pollutants that may affect groundwater.

19. "Homeowner's association" means a nonprofit corporation or unincorporated association of owners created pursuant to a declaration to own and operate portions of a planned community and which has the power under the declaration to assess association members to pay the costs and expenses incurred in the performance of the association's obligations under the declaration.

~~14~~.20. "Injection well" means a well that receives a discharge through pressure injection or gravity flow.

~~15.~~21. "Intermediate stockpile" means an accumulation of in-process material not intended for long term storage and in transit from one process to another at ~~the~~ a mining site. Intermediate stockpile does not include metallic ore concentrate stockpiles or feedstocks not originating at the mining site.

22. "Land treatment facility" means an operation designed to improve the quality of waste, wastewater, or both, by placement wholly or in part on the land surface to perform part or all of the treatment. A land treatment facility includes biosolids drying, processing or composting, but not land application performed in compliance with 18 A.A.C. 9, Article 10.

~~16.~~23. "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 owned or operated by the same person and connected by a right-of-way controlled by that person to which the public is not allowed access.

24. "Nitrogen Management Area" means an area designated by the Director where measures are prescribed on an area-wide basis to control sources of nitrogen, including cumulative discharges from onsite wastewater treatment facilities, that threaten to cause or have caused an exceedance of the Aquifer Water Quality Standard for nitrate.

~~17.~~25. "Notice of Disposal" means a document submitted to the Arizona Department of Health Services or the Department before September 27, 1989, giving notification of ~~the~~ a pollutant discharge ~~of pollutants~~ that may affect groundwater.

~~18.~~26. "Onsite wastewater treatment facility" means a conventional septic tank system or alternative system installed at a site to treat and dispose of wastewater, predominantly of human origin, generated at that site. An onsite wastewater treatment facility does not include a pre-fabricated, manufactured treatment works that typically uses an activated sludge unit process and has a design flow of 3000 gallons per day or more.

~~19.~~27. "Operational life" means the designed or planned useful period during which a facility remains operational while ~~continuing to be~~ being subject to permit conditions, including closure requirements. Operational life does not include post closure activities.

28. *"Person" means an individual, employee, officer, managing body, trust, firm, joint stock company, consortium, public or private corporation, including a government corporation, partnership, association or state, a political subdivision of this state, a commission, the United States government or any federal facility, interstate body or other entity.* A.R.S. § 49-201(26). For the purposes of permitting a sewage treatment facility under Article 2 of this Chapter, person does not include a homeowner's association.

~~20.~~29. "Pilot project" means a short term, limited scale test designed to gain information regarding site conditions, project feasibility, or application of a new technology.

~~21.~~30. "Process solution" means a pregnant leach solution, barren solution, raffinate, ~~and~~ or other ~~solutions~~ solution uniquely associated with the mining or metals recovery process.

~~22.~~31. "Residential soil remediation level" means the applicable predetermined standard established in 18 A.A.C. 7, Article 2, Appendix A.

32. "Seasonal high water table" means the free surface representing the highest point of groundwater rise within an aquifer due to seasonal water table changes over the course of a year.

~~23.~~33. "Setback" means a minimum horizontal distance maintained between a feature of a discharging facility and a potential point of impact.

~~24.~~34. "Sewage" means untreated wastes from toilets, baths, sinks, lavatories, laundries, ~~and~~ other plumbing fixtures, and waste pumped from septic tanks in places of human habitation, employment, or recreation. Sewage does not include gray water as defined in R18-9-701(4), if the gray water is reused according to 18 A.A.C. 9, Article 7.

~~25.~~35. "Sewage collection system" means a system of pipelines, conduits, manholes, pumping stations, force mains, and all other structures, devices, and appurtenances that collect, contain, and ~~conduct~~ convey sewage from its sources to the entry of a sewage treatment facility or onsite wastewater treatment facility serving sources other than a ~~single residence~~ single family dwelling.

~~26.~~36. "Sewage treatment facility" means a plant or system for sewage treatment and disposal, except for an onsite wastewater treatment facility~~,~~ that consists of treatment works, disposal works~~,~~ and appurtenant pipelines, conduits, pumping stations, and related subsystems and devices. A sewage treatment facility does not include components of the sewage collection system or the reclaimed water distribution system.

~~27.~~37. "Surface impoundment" means a pit, pond, or lagoon with a surface dimension equal to or greater than its depth, and used for the storage, holding, settling, treatment, or discharge of liquid pollutants or pollutants containing free liquids.

~~28.~~38. "Tracer" means a substance, such as a dye or other chemical, used to change the characteristic of water or some other fluid to detect movement.

~~29.~~39. "Tracer study" means a test conducted using a tracer to measure the flow velocity, hydraulic conductivity, flow direction, hydrodynamic dispersion, partitioning coefficient, or other property of a hydrologic system.

40. "Treatment works" means a plant, device, unit process, or other works, regardless of ownership, used for treating, stabilizing, or holding municipal or domestic sewage in a sewage treatment facility or onsite wastewater treatment facility.

~~30.~~41. "Typical sewage" means sewage conveyed to an onsite wastewater treatment facility in which the total suspended solids (TSS) content does not exceed 430 mg/l, the five-day biochemical oxygen demand (BOD_5) does not exceed 380 mg/l, the total nitrogen does not exceed 53 mg/l, and the content of ~~fats, oils, and greases (FOG)~~ oil and grease does not exceed 75 mg/l.

~~31.~~42. *"Underground storage facility" means a constructed underground storage facility or a managed underground storage facility.* A.R.S. § 45-802.01(20)

~~32.~~43. "Waters of the United States" means:

a. All waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters that are subject to the ebb and flow of the tide;
b. All interstate waters, including interstate wetlands;
c. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any waters:
    i. That are or could be used by interstate or foreign travelers for recreational or other purposes;
    ii. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
    iii. That are used or could be used for industrial purposes by industries in interstate commerce;

d. All impoundments of waters defined as waters of the United States under this definition;
e. Tributaries of waters identified in subsections ~~(32)(a)~~ (43)(a) through (d);
f. The territorial sea; and
g. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in subsections ~~(32)(a)~~ (43)(a) through (f).

R18-9-103. Class Exemptions

Class exemptions. 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 Aquifer Protection Permit requirements ~~of~~ in Articles 1, 2, and 3 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 hazardous waste management rules adopted under A.R.S. § 49-922;
2. Underground storage tanks that contain a regulated substance 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 four or fewer households; and
4. Land application of biosolids in compliance with 18 A.A.C. 9, ~~Article~~ Articles 9 and 10.

R18-9-104. Transition from Notices of Disposal and Groundwater Quality Protection Permitted Facilities

~~**A.** A person who filed a Notice of Disposal or received a Groundwater Quality Protection Permit shall notify the Department before any cessation. The Director shall specify any measure to be taken by the person to prevent a violation of an Aquifer Water Quality Standard at the point of compliance, determined by the criteria established in A.R.S. § 49-244.~~

~~**B.**~~ A person who owns, operates, or operated a facility~~,~~ for which a Notice of Disposal was filed or a Groundwater Quality Protection Permit was issued~~, or who owns or operates a facility required to obtain an Aquifer Protection Permit~~ shall, within 90 days from the date on the Director's notification, submit an application for an Aquifer Protection Permit or a closure plan as specified under A.R.S. § 49-252. The person shall obtain a permit for continued operation or for closure of the facility, or a clean closure approval. Failure to submit an application or closure plan as required terminates continuance of the Notice of Disposal or Groundwater Quality Protection Permit.

R18-9-105. Permit Continuance ~~and Transition of Permits~~

A. Continuance.
1. Groundwater Quality Protection Permits.
   a. Subject to the other provisions of R18-9-104 and this Section, a Groundwater Quality Protection Permit issued before September 27, 1989 is valid according to the terms of the permit until replaced by an Aquifer Protection Permit issued by the Department.
   b. A person who owns or operates a facility to which a Groundwater Quality Protection Permit was issued is in compliance with Articles 1, 2, and 3 of this Chapter and A.R.S. Title 49, Chapter 2, Article 3, if the person:
      i. Meets the conditions of the Groundwater Quality Protection Permit; and
      ii. Is not causing or contributing to the violation of any Aquifer Water Quality Standard at a point of compliance, determined by the criteria in A.R.S. § 49-244.
2. Notice of Disposal. A person who owns or operates a facility for which a Notice of Disposal was filed before September 27, 1989 complies with Articles 1, 2, and 3 of this Chapter and A.R.S. Title 49, Chapter 2, Article 3 if the facility is not causing or contributing to the violation of an Aquifer Water Quality Standard at a point of compliance, determined by the criteria in A.R.S. § 49-244.
3. Aquifer Protection Permit application submittal. A person who did not file a Notice of Disposal and does not possess a Groundwater Quality Protection Permit or an Aquifer Protection Permit for an existing facility, but submitted the information required in applicable rules before December 27, 1989, is in compliance with Articles 1, 2, and 3 of this Chapter only if the person submitted an Aquifer Protection Permit application to the Department before January 1, 2001.

B. Applicability. Subsection (A) applies until the Director:
1. Issues an Aquifer Protection Permit for the facility,
2. Denies an Aquifer Protection Permit for the facility, ~~or~~
3. Issues a letter of clean closure approval for the facility under A.R.S. § 49-252~~.~~, or
4. Determines that the person failed to submit an application under R18-9-104.

~~**C.** Transition.~~
~~1. From individual permit to a general permit.~~
~~a. To qualify for a general permit established in Article 3, an owner or operator of a facility who applied for or was issued an individual permit before January 1, 2001, or who operates a facility described in subsection (A) shall submit the information required by Article 3 and adhere to all applicable general permit conditions.~~
~~b. The facility's individual permit is valid and enforceable until the date the Department receives Notification of Intent to Discharge, or until the date the Director issues a written Verification of General Permit Conformance, if~~

~~required.~~

~~c. If the Director does not provide the required verification, the facility's individual permit remains valid and enforceable until its stated date of expiration, if any.~~

~~2. Approvals to Construct.~~

~~a. Any Approval to Construct a sewerage system issued under 18 A.A.C. 9, Article 8 before January 1, 2001 is valid until its stated date of expiration.~~

~~b. The Department shall accept the Approval to Construct instead of the design report requirements specified in R18-9-B202(A) if the individual permit application is in process on January 1, 2001.~~

~~c. The Director shall provide a Verification of General Permit Conformance under R18-9-A301(D), for an onsite wastewater treatment facility with a flow of less than 20,000 gallons per day if the facility is constructed according to the specifications in the Approval to Construct.~~

~~**D.** Monitoring. The Director may amend an individual permit to incorporate monitoring requirements to ensure that reclaimed water quality standards developed under A.R.S. § 49-221(E) are met.~~

R18-9-106. Determination of Applicability

A. A person who engages or who intends to engage in an operation or an activity that may result in a discharge regulated under Articles 1, 2, and 3 of this Chapter may submit a 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, 2, and 3 of this Chapter to the operation or activity.

B. A person requesting a determination of applicability shall provide the following information and the applicable fee under 18 A.A.C. 14:

1. The name and location of the operation or activity;
2. ~~The location of the operation or activity;~~
3.2. The ~~names~~ name of ~~the persons~~ any person who ~~are~~ is engaging or who ~~propose~~ proposes to engage in the operation or activity~~:~~;
4.3. A description of the operation or activity;
5.4. A description of the volume, chemical composition, and characteristics of materials stored, handled, used, or disposed of in the operation or activity; and
6.5. 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 Director shall notify in writing the person making the request that the operation or activity:

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

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

E. If the Director determines that an operation or activity is subject to the requirements of A.R.S. §§ 49-241 through 49-252, the person who owns or operates the facility shall, within 90 days from the date of the Director's written notification, submit an application for an Aquifer Protection Permit or a closure plan.

R18-9-107. Consolidation of Aquifer Protection Permits

A. The Director may consolidate any number of individual permits or the coverage for any facility authorized to discharge under a general ~~permits~~ permit into a single individual permit, if:

1. The facilities are part of the same project or operation and are located in a contiguous geographic area, or
2. The facilities are part of an area under the jurisdiction of a single political subdivision.

B. All applicable individual permit requirements established in Articles 1 and 2 of this Chapter apply to the consolidation of Aquifer Protection Permits.

R18-9-108. Public Notice

A. Individual permits.

1. The Department shall provide the entities specified in subsection (A)(2), monthly written or electronic notification of the following:
   a. Individual permit applications,
   b. Temporary permit applications,
   c. Preliminary and final decisions by the Director whether to issue or deny an individual or temporary permit,

d. Closure plans received under R18-9-A209(B),
e. Significant permit amendments and "other" permit amendments,
f. Permit revocations, and
g. Clean closure approvals.

2. Entities.
a. Each county department of health, environmental services, or comparable department;
b. An affected federal, state, local agency, or council of government; and
c. A person who requested, in writing, notification of the activities described in subsection (A).

3. The Department may post the information referenced in subsections (A)(1) and ~~(A)(2)~~ (2) on the Department web site: ~~www.adeq.state.az.us~~ www.azdeq.gov.

B. General permits. Public notice requirements do not apply.

R18-9-109. Public Participation

A. Notice of Preliminary Decision.
1. The Department shall publish a Notice of Preliminary Decision regarding the issuance or denial of a significant permit amendment or a final permit determination in one or more newspapers of general circulation where the facility is located.
2. The Department shall accept written comments from the public before a significant permit amendment or a final permit determination is made.
3. The written public comment period begins on the publication date of the Notice of Preliminary Decision and extends for 30 calendar days.

B. Public hearing.
1. The Department shall provide notice and conduct a public hearing to address a Notice of Preliminary Decision regarding a significant permit amendment or final permit determination if:
a. Significant public interest in a public hearing exists, or
b. Significant issues or information have been brought to the attention of the Department that has not been considered previously in the permitting process.
2. If, after publication of the Notice of Preliminary Decision, the Department determines that a public hearing is necessary, the Department shall schedule a public hearing and publish the Notice of Preliminary Decision at least once, in one or more newspapers of general circulation where the facility is located.
3. The Department shall accept written public comment until the close of the hearing record as specified by the person presiding at the public hearing.

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

~~C.~~D. At the same time the Department notifies a permittee of a significant permit amendment or an applicant of the final permit determination, the Department shall send, through regular mail or electronically, a notice of the amendment or determination and the responsiveness summary to any person who submitted comments or attended a public hearing on the significant permit amendment or final permit determination.

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

E. General permits. Public participation requirements do not apply.

R18-9-110. Inspections, Violations, and Enforcement

A. The Department shall conduct ~~any~~ an inspection of a permitted facility as specified under A.R.S. § 41-1009.

B. Except as provided in R18-9-A308, a person who owns or operates a facility contrary to a provision of Articles 1, 2, and 3 of this Chapter, violates a condition of an Aquifer Protection Permit, or violates a Groundwater Quality Protection Permit continued by R18-9-105(A)(1) is subject to the enforcement actions established under A.R.S. Title 49, Chapter 2, Article 4.

ARTICLE 2. AQUIFER PROTECTION PERMITS – INDIVIDUAL PERMITS

PART A. APPLICATION AND GENERAL PROVISIONS

R18-9-A201. Individual Permit Application

A. ~~Individual permit application~~.
~~1.~~ ~~A person may submit an~~ An individual permit application ~~that~~ covers one or more of the following categories:
1. ~~a.~~ Drywell,
2. ~~b.~~ Industrial,
3. ~~c.~~ Mining,
4. ~~d.~~ Wastewater, ~~or~~
5. ~~e.~~ Solid waste disposal~~.~~, or
6. Land treatment facility.

B. ~~2.~~ ~~The~~ An applicant for an individual permit shall provide the Department with:

1. ~~a.~~ The following information on an application form:
   a. ~~i.~~ The name and mailing address of the applicant;
   ~~ii. The social security number of the applicant, if the applicant is an individual;~~
   b. ~~iii.~~ The name and mailing address of the owner of the facility;
   c. ~~iv.~~ The name and mailing address of the operator of the facility;
   d. ~~v.~~ The legal description, including latitude and longitude, of the location of the facility;
   e. ~~vi.~~ The expected operational life of the facility; and
   f. ~~vii. Any~~ The permit number for any other federal or state environmental permit issued to the applicant for that facility or site;
2. ~~b.~~ A copy of the certificate of disclosure required by A.R.S. § 49-109;
3. ~~c.~~ Evidence that the facility complies with applicable municipal or county zoning ordinances, codes, and regulations;
4. ~~d.~~ Two copies of the technical information required in R18-9-A202(A);
5. ~~e. The financial information required in R18-9-A203;~~ Cost estimates for facility construction, operation, maintenance, closure, and post closure.
   a. The applicant, engineer, controller, or accountant shall derive the cost estimates from competitive bids, construction plan take-offs, specifications, operating history for similar facilities, or other appropriate sources, as applicable.
   b. The following cost estimates represent regional fair market costs:
      i. The cost of closure estimate under R18-9-A209(B)(2), consistent with the closure plan or strategy submitted under R18-9-A202(A)(10);
      ii. The estimated cost of post-closure monitoring and maintenance under R18-9-A209(C), consistent with the post closure plan or strategy submitted under R18-9-A202(A)(10); and
      iii. For a sewage treatment facility or an utility subject to Title 40 of the Arizona Revised Statutes, the operation and maintenance costs of those elements of the facility used to comply with the demonstration under A.R.S. § 49-243(B);
   ~~f. The site-specific conditions specified in R18-9-A202;~~
6. ~~g.~~ For a sewage treatment facility~~, a design report signed and sealed by an Arizona-registered professional engineer, containing the~~:
   a. Documentation that the sewage treatment facility or expansion conforms with the Certified Areawide Water Quality Management Plan and the Facility Plan, and
   b. The additional information required in R18-9-B202 and R18-9-B203;
7. ~~h.~~ Certification in writing that the information submitted in the application is true and accurate to the best of the applicant's knowledge; and
8. ~~i.~~ The applicable fee established in 18 A.A.C. 14.

C. ~~3.~~ Special provision for underground storage facilities as defined in A.R.S. § 45-802.01(21). A person applying for an individual permit for an underground storage facility shall submit the information described in R18-9-A201 through R18-9-A203, except for the BADCT information specified in R18-9-A202(A)(5).
1. ~~a.~~ Upon receipt of the application, the Department shall process the application in coordination with the underground storage facility permit process administered by the Department of Water Resources.
2. ~~b.~~ The Department shall advise the Department of Water Resources of each permit application received.

~~B.~~**D.** Pre-application conference. Upon request of the applicant, the Department shall schedule and hold a pre-application conference with the applicant to discuss any requirements in Articles 1 and 2 of this Chapter.

~~C.~~**E.** Draft permit. The Department shall provide the applicant with a draft of the individual permit ~~on or immediately~~ before publication of the Notice of Preliminary Decision specified in R18-9-109.

~~D.~~**F.** Permit Duration. Except for a temporary permit, an individual permit is valid for the operational life of the facility and any period during which the facility is subject to a post-closure plan under R18-9-A209(C).

~~E.~~**G.** Permit issuance or denial.
1. The Director shall issue an individual permit ~~if the Director determines~~, based upon the information obtained by or made available to the Department, if the Director determines that the applicant will comply with A.R.S. §§ 49-241 through 49-252 and Articles 1 and 2 of this Chapter.
2. The Director shall provide the applicant with written notification of the final decision to issue or deny the permit ~~application~~ within the overall licensing time-frame requirements under 18 A.A.C. 1, Chapter 5~~.~~, Table 10 and the following:

~~3. If the Director denies an individual permit application the Director shall provide the applicant with a written notification that explains:~~
~~a. The reason for the denial with reference to the statute or rule on which the denial is based;~~
~~b.~~a. The applicant's right to appeal the ~~denial~~ final permit determination, 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; ~~and~~

b. If the permit is denied under R18-9-A213(B), the reason for the denial with reference to the statute or rule on which the denial is based; and

c. The applicant's right to request an informal settlement conference under A.R.S. §§ 41-1092.03(A) and 41-1092.06.

~~4.~~3. ~~Permit applications~~ The Director shall issue or deny a permit for an application received before August 16, 1999, ~~not subject to licensing time-frames, shall be issued or denied~~ within 30 days after close of public comment established in the public notice, or if a public hearing is held, within 45 days after the public hearing record is closed.

a. 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.

b. The Director shall provide the applicant with written notification of a decision to extend the final decision deadline within 15 days after the close of the public comment period or if a public hearing is held, within 15 days after the public hearing record is closed.

R18-9-A202. Technical Requirements

A. Except as specified in ~~R18-9-A201(A)(3)~~ R18-9-A201(C)(1), an applicant shall, as required under R18-9-A201(B)(4), submit the following technical information as attachments to the individual permit application:

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, all known water well locations found within 1/2 mile of the facility, and a description of well construction details and well uses, if available;
2. A facility site plan showing all known property lines, structures, water wells, injection wells, drywells and their uses, topography, and the location of points of discharge. The facility site plan shall include all known borings. If ~~unless~~ the Department determines that borings are numerous, ~~and~~ the applicant shall satisfy this requirement ~~may be satisfied by~~ with 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 plan 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~~ satisfies the requirements of this subsection by submitting the ~~design~~ documents required in R18-9-B202 and R18-9-B203;
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 rate, volume, and frequency of the discharge for each facility; and
   c. The location of the discharge and a map outlining the pollutant management area~~.~~;
5. A description of the BADCT ~~to be~~ employed in the facility, including:
   a. A statement of the technology, processes, operating methods, or other alternatives ~~that will be employed~~ proposed to meet the requirements of A.R.S. § 49-243(B), (G), or (P), as applicable. The statement shall describe:
      i. The alternative discharge control measures considered,
      ii. The technical and economic advantages and disadvantages of each alternative, and
      iii. The justification for selection or rejection of each alternative~~.~~;
   b. An evaluation of 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;
   c. For a new facility, an industry-wide evaluation of the economic impact of implementation of each alternative control technology;
   d. For an existing facility, a statement reflecting the consideration of factors listed in A.R.S. §§ 49-243(B)(1)(a) through ~~(B)(1)(h)~~ (h);
   e. ~~The above requirements do not apply if the Department verifies that a~~ A sewage treatment facility ~~meets~~ meeting the BADCT requirements under Article 2, Part B of this Chapter satisfies the requirements under subsections (A)(5)(a) through (d).
6. Proposed points of compliance for the facility based on A.R.S. § 49-244. An applicant shall demonstrate that:
   a. The facility will not cause or contribute to a violation of ~~the~~ an Aquifer Water Quality ~~Standards~~ Standard at the proposed point of compliance~~.~~; or
   b. If an Aquifer Water Quality Standard for a pollutant ~~has been~~ is exceeded in an aquifer at the time of permit issuance, no additional degradation of the aquifer relative to that pollutant and determined at the proposed point of compliance will occur as a result of the discharge from the proposed facility. The applicant shall submit an

Ambient Groundwater Monitoring Report that includes:

i. Data from 8 or more rounds of ambient groundwater samples collected to represent groundwater quality at the proposed points of compliance, and

ii. An AQL proposal for each pollutant that exceeds an Aquifer Water Quality Standard;

7. A contingency plan that meets the requirements of R18-9-A204;
8. A hydrogeologic study that defines the discharge impact area for the expected duration of the facility. The Department may allow the applicant to submit an abbreviated hydrogeologic study or, if warranted, no hydrogeologic study, based upon the quantity and characteristics of the pollutants discharged, the methods of disposal, and the site conditions. ~~Information~~ The applicant may include information from a previous study of the affected area ~~may be included~~ to meet a requirement of the hydrogeologic study, if the previous study accurately represents current hydrogeologic conditions.

a. The hydrogeologic study shall demonstrate:

~~a.~~ i. That the facility will not cause or contribute to a violation of an Aquifer Water Quality ~~Standards~~ Standard at the applicable point of compliance; or

~~b.~~ ii. If an Aquifer Water Quality Standard for a pollutant ~~has been~~ is 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;

~~c.~~b. Based on the quantity and characteristics of pollutants discharged, methods of disposal, and site conditions, the Department may require the applicant to provide:

i. A description of the surface and subsurface geology, including a description of all borings;
ii. The location of any perennial, intermittent, or ephemeral surface water bodies;
iii The characteristics of the aquifer and geologic units with limited permeability, including depth, hydraulic conductivity, and transmissivity;
iv. ~~Rate~~ The rate, volume, and direction 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. Documentation of the existing quality of the water in the aquifers underlying the site, including, where available, the method of analysis, quality assurance, and quality control procedures associated with the documentation;
vii. Documentation of the extent and degree of any known soil contamination at the site;
viii. An assessment of the potential of the discharge to cause the leaching of pollutants from surface soils or vadose materials or cause the migration of contaminated groundwater;
ix. Any anticipated changes in the water quality expected because of the discharge;
x. A description of any expected changes in the elevation or 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; or
xiii. The proposed location of each point of compliance~~.~~;

9. A detailed proposal indicating the alert levels, discharge limitations, monitoring requirements, compliance schedules, and temporary cessation~~, closure, and post-closure strategies or plans~~ that the applicant will use to satisfy the requirements of A.R.S. Title 49, Chapter 2, Article 3, and Articles 1 and 2 of this Chapter;
10. Closure and post closure strategies or plans; and
~~10.~~11. Any other relevant information required by the Department to determine whether to issue a permit.

B. An applicant shall demonstrate the ability to maintain the technical capability necessary to carry out the terms of the individual permit, including a demonstration that a certified operator will operate the facility ~~will be operated by a certified operator~~ if a certified operator is required under 18 A.A.C. 5. ~~An~~ The applicant shall make the demonstration by submitting the following information for each person principally responsible for designing, constructing, or operating the facility:

1. Pertinent licenses or certifications held by the person;
2. Professional training relevant to the design, construction, or operation of the facility; and
3. Work experience relevant to the design, construction, or operation of the facility.

R18-9-A203. Financial Requirements

~~**A.** Cost estimates. A person applying for an individual permit shall demonstrate financial capability to construct, operate, close, and assure proper post-closure care of the facility in compliance with A.R.S. Title 49, Chapter 2, Article 3, Articles 1 and 2 of this Chapter, and the conditions of the individual permit.~~

~~1. The applicant shall submit the following cost estimates:~~

~~a. Total cost of new facility construction;~~

b. The operation and maintenance costs of those elements of the facility used to comply with the demonstration under A.R.S. § 49-243(B);
c. The cost of closure, described in R18-9-A209(B), consistent with the closure plan or strategy submitted under R18-9-A202(A)(9); and
d. The cost of post-closure monitoring and maintenance, described in R18-9-A209(C), consistent with the post closure plan or strategy submitted under R18-9-A202(A)(9).

2. The cost estimates for facility construction, operation, and maintenance shall be derived from competitive bids, construction plan take-off's, or specifications, if available. The cost estimates may be prepared by an engineer, contractor, or accountant and shall be 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 the financial arrangements for meeting the estimated closure and post-closure costs, according to the plans or strategies submitted under R18-9-A202(A)(9).
2. An applicant other than a state or federal agency, county, city, town, or other local government entity, shall further support the demonstration of financial capability with at least one of the following:
   a. If a publicly traded corporation, the latest fiscal year-end copy of the applicant's 10K or 20F Form filed under section 13 or 15(d) of the federal Securities Exchange Act of 1934;
   b. If a non-publicly traded corporation, a report that contains all of the following:
      i. A brief description of the applicant's status as a corporation;
      ii. A brief description of the applicant's business;
      iii. Signed and dated copies of the applicant'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 exceeding $100,000 against the applicant during the last five years preceding the date of the application;
      v. A brief description of any bankruptcy proceeding instituted by the applicant during the five years preceding the date of the application; and
      vi. The names of the corporation's executive officers and their dates of birth or ages.
   c. If the applicant is a partnership or limited liability entity, the name of any principal who owns more than a 20% interest in the business entity;
   d. If the person is an individual, non-business applicant, a current financial statement and evidence of current personal income or assets.

C. The Department shall consider an applicant unable to demonstrate the financial capability necessary to fully carry out the terms of the permit, as described in subsection (B), and shall require the applicant to submit a financial assurance mechanism under subsection (D) if any one of the following conditions exists:

1. For a publicly traded corporation:
   a. The 10K Form or 20F 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 Service 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 Standard and Poor's or Moody's Investors Service; or
   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:
   a. Lack of a financial statement prepared by an independent certified public accountant, including all balance sheet notes and schedules;
   b. Lack of assets located in the United States equal to at least 90% of total assets or assets amounting to less than six times the costs of closure and post-closure care; or
   c. Lack of net working capital and tangible net worth of at least six times the costs of closure and post-closure care.

D. Financial demonstration option.

1. Instead of the financial demonstration required in subsection (B), an applicant may submit evidence of one or more of the following financial assurance mechanisms, listed in A.R.S. § 49-761(J), sufficient to cover the costs described in subsection (A). The applicant shall provide written documentation demonstrating compliance with the listed requirements for each financial assurance mechanism.
   a. Performance surety bond.
      i. The surety is listed in Department of Treasury, Circular 570, as qualified in the State where the bond is signed; and
      ii. The surety's underwriting limit is at least as great as the amount of the surety bond.
   b. Certificate of deposit.
      i. The Certificate of deposit is issued by a financial institution that is insured by the Federal Deposit Insurance

~~Corporation or Federal Savings and Loan Insurance corporation, and~~
~~ii. The Certificate of deposit is assigned to the Director.~~
~~c. Trust fund with pay-in period.~~
~~i. The trustee is an entity who has the authority to act as a trustee, and~~
~~ii. The trust operation is regulated and examined by a federal or state agency.~~
~~d. Irrevocable letter of credit.~~
~~i. The issuing financial institution has authority to issue letters of credit, and~~
~~ii. The issuing financial institution is regulated and examined by a federal or state agency.~~
~~e. Insurance policy.~~
~~i. The insurer is licensed to transact the business of insurance or as an excess or surplus lines insurer in one or more states, and~~
~~ii. The insurer is a non-captive insurer.~~
~~f. Deposit with the state treasurer.~~
~~g. Guarantee.~~
~~i. A guarantor is the direct or higher-tier parent corporation of the owner or operator, a firm whose parent corporation is also the parent corporation of the owner or operator, or a firm with a substantial business relationship with the owner or operator; and~~
~~ii. A guarantor meets the requirements of subsection (D) and complies with the terms of the guarantee.~~
~~h. One or more financial assurance mechanisms; or~~
~~i. An additional financial assurance mechanism approved by the Director.~~
~~2. A permittee may substitute one financial assurance mechanism for another with prior Director approval.~~
~~3. A permittee shall hold the financial assurance mechanism for the duration of the permit or until the permittee is able to demonstrate the financial capability under subsection (B) necessary to carry out the terms of the Aquifer Protection Permit.~~

~~**E.** If, after issuing an individual permit, the Director determines that a permittee is not able to maintain the financial capability required in subsection (B), the permittee shall provide evidence of a financial assurance mechanism within 90 days from the date on the Department's notification.~~

~~**F.** If the Director has reason to believe that a permittee will lose financial capability, the Director may request demonstration of financial capability no more than quarterly throughout the duration of an individual permit. The permittee shall provide the information within 90 days from the date on the request.~~

~~**G.** If a person demonstrates that a financial capability requirement under this Article is duplicative of a financial capability demonstration already made to the state and the Department has access to that information, the person is not required to resubmit that information.~~

A. Definitions.
1. "Face amount" means the total amount the insurer is obligated to pay under the policy.
2. "Net working capital" means current assets minus current liabilities.
3. "Substantial business relationship" means a pattern of recent or ongoing business transactions to the extent that a guaranty contract issued incident to that relationship is valid and enforceable.
4. "Tangible net worth" means an owner or operator's book net worth, plus subordinated debts, less goodwill, patent rights, royalties, and assets and receivables due from affiliates or shareholders.

B. Financial demonstration. Any person applying for an individual permit shall demonstrate financial capability to construct, operate, close, and assure proper post-closure care of the facility in compliance with A.R.S. Title 49, Chapter 2, Article 3; Articles 1 and 2 of this Chapter; and the conditions of the individual permit. The applicant shall:
1. Submit a letter signed by the chief financial officer stating that the applicant is financially capable of meeting the costs described in R18-9-A201(B)(5);
2. For a state or federal agency, county, city, town, or other local governmental entity, submit a statement specifying the details of the financial arrangements used to meet the estimated closure and post-closure costs submitted under R18-9-A201(B)(5), including any other details that demonstrate how the applicant is financially capable of meeting the costs described in R18-9-A201(B)(5);
3. For other than a state or federal agency, county, city, town, or other local governmental entity, submit the information required for at least one of the financial assurance mechanisms listed in subsection (C) that covers the closure and post-closure costs submitted under R18-9-A201(B)(5), including:
   a. The selected financial mechanism or mechanisms;
   b. The amount covered by each financial mechanism;
   c. The institution or company that is responsible for each financial mechanism used in the demonstration;
   d. Any other details that demonstrate how the applicant is financially capable of meeting the costs described in R18-9-A201(B)(5); and
4. For a facility subject to R18-9-A201(B)(5)(b)(iii) not owned by a state or federal agency, county, city, town, or other local governmental entity, submit financial arrangements to cover the operation and maintenance costs.

C. Financial assurance mechanisms.

1. Financial test for self assurance. The applicant may use a financial test for self assurance to cover the financial assurance obligation under R18-9-A201(B)(5) if:
   a. The applicant submits:
      i. A letter signed by the applicant's chief financial officer that provides the details of the demonstration specified in subsection (C)(1)(b) or (c) and certification of its accuracy,
      ii. A copy of a report by an independent certified public accountant on the examination of the applicant's financial statements for the latest completed fiscal year or more recent financial data. If the independent certified public accountant report contains an adverse opinion or a disclaimer of opinion, the applicant does not qualify for the financial test for self assurance; and
      iii. A special report from an independent certified public accountant stating that the demonstration submitted under subsection (C)(1)(a)(i) is accurate based on a review of the applicant's financial statement and the report submitted under subsection (C)(1)(a)(ii), and no adjustment to the financial statement is necessary; and
   b. The applicant demonstrates:
      i. One of the following:
         (1) A ratio of total liabilities to net worth less than 2.0 and a ratio of current assets to current liabilities greater than 1.5;
         (2) A ratio of total liabilities to net worth less than 2.0 and a ratio of the sum of net annual income plus depreciation, depletion, and amortization to total liabilities greater than 0.1; or
         (3) A ratio of the sum of net annual income plus depreciation, depletion, and amortization to total liabilities greater than 0.1 and a ratio of current assets to current liabilities greater than 1.5;
      ii. The net working capital and tangible net worth of the applicant each are at least 6 times the closure cost estimate;
      iii. The applicant has assets in the U.S. of at least 90 percent of total assets or 6 times the closure cost estimate; and
      iv. For purposes of calculating the financial ratios, the financial statement of the applicant is not consolidated with a higher tier parent or sibling company; or
   c. The applicant demonstrates:
      i. The applicant's senior unsecured debt has a current investment-grade rating as issued by Moody's Investor Service, Inc.; Standard and Poor's Corporation; or Fitch Ratings;
      ii. The tangible net worth of the applicant is at least 6 times the closure cost estimate;
      iii. The applicant has assets in the U.S. of at least 90 percent of total assets or 6 times the closure and post-closure cost estimate; and
      iv. For purposes of calculating the financial ratios, the financial statement of the applicant is not consolidated with a higher tier parent or sibling company.
2. Performance surety bond. The applicant may use a performance surety bond if the following conditions are met:
   a. The company providing performance bonds is listed as an acceptable surety on federal bonds in Circular 570 of the U.S. Department of the Treasury;
   b. The bond provides for performance of all the covered items listed in R18-9-A201(B)(5) by the surety, or by payment into a standby trust fund of an amount equal to the penal amount if the permittee fails to perform the required activities;
   c. The penal amount of the bond is at least equal to the amount of the cost estimate developed in R18-9-A201(B)(5) if the bond is the only method used to satisfy the requirements of this Section or a pro-rata amount if used with another financial assurance mechanism;
   d. The surety bond names the Arizona Department of Environmental Quality as beneficiary;
   e. The original surety bond is submitted to the Director;
   f. Under the terms of the bond, the surety is liable on the bond obligation when the permittee fails to perform as guaranteed by the bond; and
   g. The surety deposits payments under the terms of the bond are deposited directly into the Standby Trust Fund.
3. Certificate of deposit. The applicant may use a certificate of deposit if the following conditions are met:
   a. The applicant submits to the Director one or more certificates of deposit made payable to or assigned to the Department to cover the applicant's financial assurance obligation or a pro-rata amount if used with another financial assurance mechanism,
   b. The certificate of deposit is insured by the Federal Deposit Insurance Corporation and is automatically renewable,
   c. The bank assigns the certificate of deposit to the Arizona Department of Environmental Quality,
   d. Only the Department has access to the certificate of deposit, and
   e. Interest accrues to the permittee during the period the applicant gives the certificate as financial assurance, unless

required to satisfy the requirements in R18-9-A201(B)(5).

4. Trust fund. The applicant may use a trust fund if the following conditions are met:
   a. The trust fund names the Arizona Department of Environmental Quality as beneficiary, and
   b. The trust is initially funded in an amount at least equal to:
      i. The cost estimate in the approved closure plan or strategy submitted under R18-9-A201(B)(5),
      ii. The amount specified in a compliance schedule approved in the permit, or
      iii. A pro-rata amount if used with another financial assurance mechanism.
5. Letter of credit. The applicant may use a letter of credit if the following conditions are met:
   a. The financial institution is regulated and examined by a federal or state agency;
   b. The letter of credit is irrevocable and issued for at least one year in an amount equal to the cost estimate submitted under R18-9-A201(B)(5) or a pro-rata amount if used with another financial assurance mechanism. The letter of credit provides that the expiration date is automatically extended for a period of at least one year unless the issuing institution has canceled the letter of credit by sending notice of cancellation by certified mail to the permittee and to the Director 90 days in advance of cancellation or expiration. The permittee shall provide alternate financial assurance within 60 days of receiving the notice of expiration or cancellation;
   c. The financial institution names the Arizona Department of Environmental Quality as beneficiary for the letter of credit; and
   d. The letter is prepared by the financial institution and identifies the letter of credit issue date, expiration date, dollar sum of the credit, the name and address of the Department as the beneficiary, and the name and address of the applicant as the permittee.
6. Insurance policy. The applicant may use an insurance policy if the following conditions are met:
   a. The insurance is effective before signature of the permit or substitution of insurance for other extant financial assurance instruments posted with the Director;
   b. The insurer is authorized to transact the business of insurance in the state and has an AM BEST Rating of at least a B+ or the equivalent rating of other recognized rating companies;
   c. The permittee submits a copy of the insurance policy to the Department;
   d. The insurance policy guarantees that funds are available to pay costs as submitted under R18-9-A201(B)(5) without a deductible. The policy also guarantees that once cleanup steps begin that the insurer will pay out funds to the Director or other entity designated by the Director up to an amount equal to the face amount of the policy;
   e. The policy guarantees that while closure and post-closure activities are conducted the insurer will pay out funds to the Director or other entity designated by the Director up to an amount equal to the face amount of the policy;
   f. The insurance policy is issued for a face amount at least equal to the current cost estimate submitted to the Director for performance of all items listed in R18-9-A201(B)(5) or a pro-rata amount if used with another financial assurance mechanism. Actual payments by the insurer will not change the face amount, although the insurer's future liability is reduced by the amount of the payments, during the policy period;
   g. The insurance policy names the Arizona Department of Environmental Quality as additional insured;
   h. The policy contains a provision allowing assignment of the policy to a successor permittee. The transfer of the policy is conditional upon consent of the insurer and the Department; and
   i. The insurance policy provides that the insurer does not cancel, terminate, or fail to renew the policy except for failure to pay the premium. The automatic renewal of the policy, at a minimum, provides the insured with a renewal option at the face amount of the expiring policy. If the permittee fails to pay the premium, the insurer may cancel the policy by sending notice of cancellation by certified mail to the permittee and to the Director 90 days in advance of the cancellation. If the insurer cancels the policy, the permittee shall provide alternate financial assurance within 60 days of receiving the notice of cancellation.
7. Cash deposit. The applicant may use a cash deposit if the cash from the permittee is deposited with the Department to cover the financial assurance obligation under R18-9-A201(B)(5).
8. Guarantees.
   a. The applicant may use guarantees to cover the financial assurance obligation under R18-9-A201(B)(5) if the following conditions are met:
      i. The applicant submits to the Department an affidavit certifying that the guarantee arrangement is valid under all applicable federal and state laws. If the applicant is a corporation, the applicant shall include a certified copy of the corporate resolution authorizing the corporation to enter into an agreement to guarantee the permittee's financial assurance obligation;
      ii. The applicant submits to the Department documentation that explains the substantial business relationship between the guarantor and the permittee;
      iii. The applicant demonstrates that the guarantor meets conditions of the financial mechanism listed in subsections (C)(1), except for (C)(1)(b)(iv) or (c)(iv). For purposes of applying the criteria in subsection (C)(1) to a guarantor, substitute "guarantor" for the term "applicant" as used in that subsection;
      iv. The guarantee is governed by and constructed according to state law;

v. The guarantee continues in full force until released by the Director or replaced by another financial assurance mechanism listed under subsection (C);
vi. If the permittee fails to perform closure or post-closure care of a facility covered by the guarantee, the guarantor may perform or pay a third party to perform closure or post-closure care, as required by the permit, or establish a fully funded trust fund as specified under subsection (C)(4) in the name of the owner or operator; and
vii. The guarantor names the Arizona Department of Environmental Quality as beneficiary for the guarantee.

b. Guarantee reporting. The guarantor shall notify or submit a report to the Department within 30 days of:
i. An increase in financial responsibility during the fiscal year that affects the guarantor's ability to meet the financial demonstration;
ii. Receiving an adverse auditor's notice, opinion, or qualification; and
iii. Receiving a Department notification requesting an update of the guarantor's financial condition.

9. An applicant may use a financial assurance mechanism not listed in subsection (C)(1) through (8) if approved by the Director.

D. Loss of coverage. If the Director believes that a permittee will lose financial capability, the Director shall request the permittee to submit a demonstration that the permittee continues to meet the applicable financial tests. The permittee shall provide the information or an alternative financial assurance mechanism within 30 days from the date of the request.

E. Financial assurance mechanism substitution. A permittee may substitute one financial assurance mechanism for another if the substitution is approved by the Director.

F. Permit amendment. The permittee shall apply for an amendment to the individual permit if the permittee changes a financial assurance mechanism or if the permittee's revision of the closure strategy results in an increase in the cost under R18-9-A201(B)(5). If a permittee seeks to amend a permit under R18-9-A211(B), the permittee shall submit a financial capability demonstration for all facilities covered by the amended individual permit with the permit amendment request.

G. Previous financial demonstration. If an applicant shows that the financial assurance demonstration required under this Section is covered within a financial demonstration already made to a governmental agency and the Department has access to that information, the applicant is not required to resubmit the information. The applicant shall certify that the current financial condition is equal to or better than the condition reflected in the financial demonstration provided to the other governmental agency. This provision does not apply to a demonstration required under subsection (F).

H. Recordkeeping. A permittee shall maintain the financial capability for the duration of the permit and report as specified in the permit.

R18-9-A204. Contingency Plan

A. An individual permit shall specify a contingency plan that defines the actions to be taken if a discharge results in any of the following:
~~1. A violation of a permit condition,~~
~~2.~~1. A violation of an Aquifer Water Quality Standard or an AQL,
~~3. An alert level is exceeded,~~
~~4.~~2. A violation of a discharge limitation ~~is exceeded~~, ~~or~~
3. A violation of any other permit condition,
4. An alert level is exceeded, or
5. An imminent and substantial endangerment to the public health or the environment.

B. The contingency plan may include one or more of the following actions if a discharge 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, operation, or maintenance of discharge control features ~~of~~ at the facility;
5. Evaluation of the effectiveness of discharge control technology at the facility that may include technology upgrades;
~~5.~~6. ~~For~~ Evaluation of pretreatment for sewage treatment facilities~~, pretreatment evaluation~~;
~~6.~~7. Preparation of a hydrogeologic study to assess the extent of soil, surface water, or aquifer impact;
~~7.~~8. Corrective action that ~~may include~~ includes any of the following measures:
a. Control of the source of an unauthorized discharge,
b. Soil cleanup,
c. Cleanup of affected surface waters,
d. Cleanup of affected parts of the aquifer, or
e. Mitigation measures to limit the impact of pollutants on existing uses of the aquifer.

C. Each corrective action proposed under subsection ~~(B)(7)~~ (B)(8) is subject to approval by the Department.
1. Emergency response provisions and corrective actions specifically identified in the contingency plan submitted with a permit application are subject to approval by the Department during the application review process.

2. ~~Corrective actions~~ The permittee may propose to the Department a corrective action other than those already identified in the contingency plan ~~may be proposed to the Department by the permittee~~ if a discharge results in any of the conditions identified in subsection (A).
3. The Department shall approve ~~a~~ the proposed corrective action if the corrective action provides a plan and expedient time-frame to ~~returns~~ return the facility to compliance with the facility's permit conditions, A.R.S. Title 49, Chapter 2, and Articles 1 and 2 of this Chapter.
4. ~~Approved~~ The Director may incorporate corrective actions into an Aquifer Protection Permit ~~other than those already identified in the contingency plan may be incorporated by the Director into an Aquifer Protection Permit~~.

D. A contingency plan shall contain emergency response provisions to address an imminent and substantial endangerment to public health or the environment including:
1. Twenty-four hour emergency response measures;
2. The name of an emergency response coordinator responsible for implementing the contingency plan;
3. Immediate notification ~~of~~ to the Department regarding any emergency response measure taken;
4. A list of people to contact, including names, addresses, and telephone numbers ~~of persons to be contacted~~ if an imminent and substantial endangerment to public health or the environment arises; and
5. A general description of the procedures, personnel, and equipment ~~that will be used~~ proposed to mitigate unauthorized discharges.

E. A permittee may amend a contingency plan required by the Federal Water Pollution Control Act (P.L. 92-500; 86 Stat. 816; 33 U.S.C. 1251, et seq., as amended), or the Resource Conservation and Recovery Act of 1976 (P.L. 94-580; 90 Stat. 2796; 42 U.S.C. 6901 et seq., as amended), ~~may be amended~~ to meet the requirements of this Section and ~~submitted~~ submit it to the Department for approval instead of a separate aquifer protection contingency plan.

F. A permittee shall maintain at least one copy of the contingency plan required by the individual permit at the location where 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 the contingency plan.

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

R18-9-A205. Alert Levels, and Discharge Limitations and AQLs

A. Alert levels.
1. ~~The Department shall establish alert levels in an individual permit. The alert levels~~ If the Department prescribes an alert level in an individual permit, the Department shall ~~be based~~ base the alert level on the site-specific conditions described by the applicant in the application submitted under R18-9-A201(A)(2) or other information available to the Department.
2. The Department may specify an alert level based on a pollutant that indicates the potential appearance of another pollutant.
3. The Department may specify 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 the site-specific conditions.

B. Discharge Limitations. ~~The Department shall prescribe discharge limitations based~~ If the Department prescribes discharge limitations in an individual permit, the Department shall base the discharge limitations on the considerations described in A.R.S. § 49-243.

C. AQLs. The Department may prescribe an AQL in an individual permit to ensure that the facility continues to meet the criteria under A.R.S. 49-243(B)(2) or (3).
1. If a facility exceeds an AQL set at an Aquifer Water Quality Standard, the facility is exceeding the Aquifer Water Quality Standard.
2. If a facility exceeds an AQL set higher than an Aquifer Water Quality Standard, the facility is further degrading the aquifer.

R18-9-A206. Monitoring Requirements

A. Monitoring.
1. The Department shall determine whether monitoring is required to assure compliance with Aquifer Protection Permit conditions and with the applicable Aquifer Water Quality Standards established under A.R.S. §§ 49-221, 49-223, 49-241 through 49-244, and 49-250 through 49-252.
2. If monitoring is required, the Director shall specify to the permittee:
   a. The type and method of monitoring ~~to be conducted~~;
   b. The frequency of monitoring;
   c. Any requirements for the installation, use, or maintenance of monitoring equipment; and
   d. The intervals at which the permittee ~~shall report~~ reports the monitoring results to the Department.

B. Recordkeeping.
1. A permittee shall make a monitoring record for each sample taken, as required by the individual permit, consisting of

all of the following:
a. The date, time, and exact place of a sampling and the name of each individual who performed the sampling;
b. The procedures used to collect the sample;
c. The date sample analysis was completed;
d. The name of each individual or laboratory performing the analysis;
e. The analytical techniques or methods used to perform the sampling and analysis;
f. The chain of custody records; and
g. Any field notes relating to the information described in subsections (B)(1)(a) through ~~(B)(1)(f)~~ (f).

2. A permittee shall make a monitoring record for each measurement made, as required by the individual permit, consisting of all of the following:
a. The date, time, and exact place of the measurement and the name of each individual who performed the measurement;
b. The procedures used to make the measurement; and
c. Any field notes relating to the information described in subsections (B)(2)(a) and ~~(B)(2)(b)~~ (b).

3. A permittee shall maintain monitoring records for at least 10 years after the date of the sample or measurement, unless the Department specifies a shorter time period in the permit.

R18-9-A207. Reporting Requirements

A. A permittee shall notify the Department within five days after becoming aware of a violation of a permit condition or that an alert level ~~has been~~ was exceeded. The permittee shall inform the Department whether the contingency plan described in R18-9-A204 ~~has been~~ was implemented.

B. In addition to the requirements in subsection (A), a permittee shall submit a written report to the Department within 30 days after the permittee becomes aware of ~~the~~ a violation of a permit condition. The report shall contain:
1. A description of the violation and its cause;
2. The period of violation, including exact date and time, 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 a pollutant is expected to cause a violation of an Aquifer Water Quality Standard; and
5. Any malfunction or failure of a pollution control device or other equipment or process.

C. A permittee shall notify the Department within five days after the occurrence of any of the following:
1. The permittee's filing of bankruptcy, or
2. The entry of any order or judgment not issued by the Director against the permittee for the enforcement of any federal or state environmental protection statute or rule.

D. The Director shall specify the format for submitting results from monitoring conducted under R18-9-A206.

R18-9-A208. Compliance Schedule

A. A permittee shall follow the compliance schedule established in the individual permit.
1. If a compliance schedule provides that ~~actions are to be taken during a period that exceeds~~ an action is required after one year from the date of permit issuance, the schedule shall establish interim requirements and dates for their achievement.
2. If the time necessary for completion of an interim requirement 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.
3. ~~Within~~ Unless otherwise specified in the permit, within 30 days after the applicable date specified in a compliance schedule, a permittee shall submit to the Department a report ~~indicating whether~~ documenting that the required action was taken within the time specified.
4. After reviewing the compliance schedule activity the Director may amend the Aquifer Protection Permit, based on changed circumstances relating to the required action.

B. The Department shall consider all of the following factors when setting the compliance schedule requirements:
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, and
5. The age of the facility.

C. For a new facility, the Department shall not defer to a compliance schedule any requirement necessary to satisfy the criteria under A.R.S. § 49-243(B).

R18-9-A209. Temporary Cessation, Closure, and Post-closure

A. Temporary cessation.
1. A permittee shall notify the Department before a cessation of operations at the facility of at least 60 days duration.
2. The permittee shall implement any ~~measures~~ condition specified in the individual permit for the temporary cessation.
3. If the permit does not specify any temporary cessation ~~measures~~ condition, the ~~Department shall require the p~~permittee ~~to~~ shall, prior to implementation, submit ~~specifications for each measure~~ the proposed temporary cessation plan for Department approval ~~by the Department~~.

B. Closure.
1. A ~~permittee~~ person shall notify the Department of the ~~permittee's~~ person's intent to cease operations without resuming an activity for which the facility was designed or operated~~.~~ and submit a site investigation plan for Department approval.
   a. The site investigation plan shall include a summary of relevant site studies already conducted and a proposed scope of work for any additional site investigation necessary to identify:
      i. The lateral and vertical extent of contamination in soils and groundwater, if any;
      ii. The approximate quantity and chemical, biological, and physical characteristics of each waste or contaminated medium proposed for removal from the facility; and
      iii. The approximate quantity and chemical, biological, and physical characteristics of each waste or contaminated medium that will remain at the facility.
   b. The Director shall approve a site investigation plan that includes the information in subsection (B)(1)(a) or notify the person to submit of any additional information with the closure notification.
   c. Following completion of the site investigation plan approved under subsection (B)(1)(b), the person shall submit final notification under A.R.S. § 49-252(A) of the person's intent to cease operations without resuming an activity for which the facility was designed or operated.
2. ~~a.~~ ~~The permittee~~ Within 90 days following the notification in subsection (B)(1)(c), the person shall submit a closure plan for Director approval ~~within 90 days following the notification of intent to cease operations~~ with the applicable fee established in 18 A.A.C. 14. ~~The~~ A complete closure plan shall ~~describe~~ include:
   a. A summary describing the results of the site investigation approved under subsection (B)(1) and any other information used to identify:
      i. The lateral and vertical extent of soil and groundwater contamination, if any, and the analytical results to support the determination;
      ~~i.~~ii. The approximate quantity and chemical, biological, and physical characteristics of each material ~~to be removed from the facility~~ scheduled for removal;
      ~~ii.~~iii. The destination of the materials ~~to be removed from the facility~~ and documentation that the destination is approved to accept the materials;
      ~~iii.~~iv. The approximate quantity and chemical, biological, and physical characteristics of each material that remains at the facility; and
      ~~iv. The method to be used to treat any material remaining at the facility;~~
      ~~v. The method to be used to control the discharge of pollutants from the facility;~~
      ~~vi. Any limitations on future land or water uses created as a result of the facility's operations or closure activities;~~
      ~~vii. The methods to be used to secure the facility;~~
      ~~viii. An estimate of the cost of closure;~~
      ~~ix. A schedule for implementation of the closure plan and the submission of a post closure plan; and~~
      ~~x.~~v. Any other relevant information the Department determines ~~to be~~ necessary~~.~~;
   b. A closure design that identifies:
      i. The method used to treat any material remaining at the facility;
      ii. The method used to control the discharge of pollutants from the facility;
      iii. Any limitation on future land or water uses created as a result of the facility's operations or closure activities and a Declaration of Environmental Use Restriction according to A.R.S. § 49-152, if necessary; and
      iv. The methods used to secure the facility;
   c. An estimate of the cost of closure;
   d. A schedule for implementation of the closure plan and the submission of a post closure plan if clean closure is not achieved; and
   e. For an implemented closure plan, a summary report of the results of site investigations performed during closure activities, including confirmation and verification sampling.
   ~~b. Upon receipt of a complete closure plan, the Director shall:~~
      ~~i. Provide written notification of the closure as specified in R18-9-108 and~~
      ~~ii. If the proposed closure plan does not achieve clean closure, publish a Notice of Preliminary Decision for a permit amendment or issuance of an individual permit as specified in R18-9-109.~~
~~2.~~3. Within 60 days of receipt of a complete closure plan, the Department shall determine whether the closure plan

achieves clean closure.

a. If the complete closure plan achieves clean closure, the Director shall:
   i. If the facility is not covered by an Aquifer Protection Permit, send the person a letter of approval ~~to the permittee~~; or
   ii. If the facility is covered by an Aquifer Protection Permit, send the person a Permit Release Notice issued under subsection (C)(2)(c).
b. If the complete closure plan ~~does~~ did not achieve clean closure, the ~~permittee~~ person shall submit a post closure plan under subsection (C) and the following documents within 90 days from the date on the Department's notice or as specified under A.R.S. § 49-252(E):
   i. An application for an individual permit, or
   ii. A request to ~~modify~~ amend a current individual permit to address closure activities and post-closure monitoring and maintenance at the facility.

~~3. The Director shall require implementation of the closure plan as a permit condition.~~

C. Post-closure. A ~~permittee~~ person shall describe post-closure monitoring and maintenance activities in ~~a plan~~ an application for a permit or an amendment to an individual permit and submit it to the Department for approval.

1. The ~~plan~~ application shall include:
   a. The duration of post-closure care;
   b. The monitoring procedures ~~to be implemented~~ proposed by the permittee, including monitoring frequency, type, and location;
   c. A description of the operating and maintenance procedures ~~to be implemented~~ proposed for maintaining aquifer quality protection devices, such as liners, treatment systems, pump-back systems, surface water and stormwater management systems, and monitoring wells;
   d. A schedule and description of physical inspections ~~to be conducted~~ proposed at the facility following closure;
   e. An estimate of the cost of post-closure maintenance and monitoring; ~~and~~
   f. A description of limitations on future land or water uses, or both, at the facility site as a result of facility operations~~.~~; and
   g. The applicable fee established in 18 A.A.C. 14.
2. The Director shall include the post-closure plan submitted under subsection (C)(1) in the individual permit or permit amendment.
   ~~D.~~ a. The permittee shall provide the Department ~~with~~ written notice that a closure plan or a post-closure plan ~~has been~~ was fully implemented within 30 calendar days of ~~completion~~ implementation of the plan. The notice shall include a summary report confirming the closure design and describing the results of sampling performed during closure activities and post-closure activities, if any, to demonstrate the level of cleanup achieved.
   b. The Director may, upon receipt of the notice, inspect the facility to ensure that the closure plan has been fully implemented.
   c. The Director shall issue a Permit Release Notice if the permittee satisfies all closure and post-closure requirements.

R18-9-A210. Temporary Individual Permit

A. A person may apply for a temporary individual permit for either of the following:
1. A pilot project ~~necessary~~ to develop data for an Aquifer Protection Permit application for the full-scale project, or
2. A ~~temporary~~ facility with a discharge lasting no more than six months.

B. The applicant shall submit a preliminary application containing the information required in ~~R18-9-A201(A)(2)(a)~~ R18-9-A201(B)(1).

C. The Department shall, based on the preliminary application and in consultation with the applicant, determine and provide the applicant notice of what additional information in ~~R18-9-A201(A)(2)~~ R18-9-A201(B) is necessary to complete the application.

D. Public participation.
1. If the Director issues a temporary individual permit, the Director shall postpone the public participation requirements under R18-9-109.
2. The Director shall not postpone notification of the opportunity for public participation for more than 30 days from the date on the temporary individual permit.
3. The Director may ~~modify~~ amend or revoke the temporary individual permit after consideration of public comments.
4. The Director shall not issue a public notice or hold a public hearing if a temporary individual permit is renewed without change.
5. The Director shall follow the public participation requirements under R18-9-109 when making a significant amendment to a temporary individual permit.

~~C.~~**E.** A temporary individual permit expires after one year unless it is renewed. ~~A permittee~~ The Director may renew a temporary individual permit no more than one time.

R18-9-A211. Permit Amendments

A. The Director may amend an individual permit based upon a request or upon the Director's initiative.
1. A permittee shall submit a request for permit amendment in writing on a form provided by the Department with the applicable fee established in 18 A.A.C. 14, explaining the facts and reasons justifying the request.
2. The Department shall process amendment requests following the licensing time-frames established under 18 A.A.C. 1, Article 5, Table 10.
3. An amended permit supersedes the previous permit upon the effective date of the amendment.

B. Significant permit amendment. The Director shall make a significant amendment to an individual permit if:
1. Part or all of an existing facility becomes a new facility under A.R.S. § 49-201;
2. A physical change in a permitted facility or a change in its method of operation results in:
   a. An increase of 10~~%~~ percent or more in the permitted volume of pollutants discharged, except a sewage treatment facility;
   b. An increase in design flow of a sewage treatment facility as follows:

Permitted Design Flow	~~%~~ Increase in Design Flow
500,000 gallons per day or less	10%
Greater than 500,000 gallons per day but less than or equal to five million gallons per day	6%
Greater than five 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 permit. The Director may consider the addition of a pollutant with a chemical composition substantially similar to a pollutant the permit currently allows by making an "other" amendment to the individual permit as prescribed in subsection (D);
   d. For any pollutant not addressed in a facility's individual permit, any increase that brings the level of the pollutant to within 80~~%~~ percent or more of a numeric Aquifer Water Quality Standard at the point of compliance; or
   e. An increase in the concentration in the discharge of a pollutant listed under A.R.S. § 49-243(I)~~.~~;
3. Based upon available information, the facility can no longer demonstrate that its discharge will comply with A.R.S. § 49-243(B)(2) or (3);
4. The permittee requests and the Department ~~makes a~~ agrees to less stringent monitoring ~~change, not specified in the individual permit,~~ that ~~will reduce~~ reduces the frequency in monitoring or reporting or ~~that will reduce~~ reduces the number of pollutants monitored, and the permittee demonstrates that the changes ~~do~~ will not affect ~~it's~~ the permittee's ability to remain in compliance with Articles 1 and 2 of this Chapter;
5. It is necessary to change the designation of a point of compliance;
6. It is necessary to update BADCT for a facility that was issued an individual permit and was not constructed within five years of permit issuance;
~~6.~~7. The permittee requests and the Department ~~makes~~ agrees to less stringent discharge limitations when the permittee ~~and~~ demonstrates that the changes will not affect the permittee's ability to remain in compliance with Articles 1 and 2 of this Chapter;
~~7.~~8. It is necessary to make an addition to or a substantial change in closure requirements or to provide for post-closure maintenance and monitoring; or
~~8.~~9. Material and substantial alterations or additions to a permitted facility, including a change in disposal method, justify a change in permit conditions.

C. Minor permit amendment. The Director shall make a minor amendment to an individual permit to:
1. Correct a typographical error;
2. Change nontechnical administrative information, excluding a permit transfer;
3. Correct minor technical errors, such as errors in calculation, locational information, citations of law, and citations of construction specifications;
4. Increase the frequency of monitoring or reporting, or to revise a laboratory method;
5. Make a discharge limitation more stringent; ~~or~~
6. Make a change in a recordkeeping retention requirement; or

~~6.~~ 7. Insert calculated alert levels or other permit limits into a permit based on monitoring subsequent to permit issuance, if a requirement to establish the levels or limits and the method for calculation of the levels or limits was established in the original permit.

D. "Other" permit amendment.
1. The Director may make an "other" amendment to an individual permit if the amendment is not a significant or minor permit amendment prescribed in this Section, based on an evaluation of the information relevant to the amendment.
2. Examples of an "other" amendment to an individual permit include:
   a. A change in a construction requirement, treatment method, or operational practice, if the alteration complies with the requirements of Articles 1 and 2 of this Chapter and provides equal or better performance;
   b. A change in an interim or final compliance date in a compliance schedule, if the Director determines just cause exists for changing the date;
   c. A change in the permittee's financial assurance mechanism under ~~R18-9-A203(D)(2)~~ R18-9-A203(C);
   d. ~~Permit~~ A permit transfer under R18-9-A212;
   e. ~~Replacement~~ The replacement of monitoring equipment, including a well, if the replacement results in equal or greater monitoring effectiveness;
   f. Any increase in the volume of pollutants discharged that is less than that described in subsection (B)(2)(a) or ~~(B)(2)(b)~~ (b);
   g. An adjustment of the permit to conform to rule or statutory provisions;
   h. A calculation of an alert level, AQL, or other permit limit based on monitoring subsequent to permit issuance;
   i. An addition of a point of compliance monitor well;
   ~~h.~~ j. A combination of two or more permits at the same site as specified under R18-9-107; ~~or~~
   ~~i.~~ k. An adjustment or incorporation of monitoring requirements to ensure ~~reclaimed water quality standards~~ Reclaimed Water Quality Standards developed under ~~A.R.S. § 49-221(E)~~ 18 A.A.C. 11, Article 3 are met; or
   l. A change in a contingency plan resulting in equal or more efficient responsiveness.

E. The public notice and public participation requirements of R18-9-108 and R18-9-109 apply to a significant amendment. The public notice requirements apply to an "other" amendment. A minor amendment does not require a public notice or public participation.

F. The director shall not amend or reissue a permit to allow use of a discharge control technology that is less stringent than the BADCT established in the individual Aquifer Protection Permit previously issued for a facility, unless:
1. The industrial classification of the facility has changed so that a new assessment of BADCT is appropriate,
2. The pollutant load has decreased or the pollutant composition has changed significantly to warrant a new assessment of the BADCT,
3. The Director approves a corrective or contingency action that necessitates a change in the treatment technology, or
4. The approved discharge control technology is not operating properly due to circumstances beyond the control of the owner or operator.

R18-9-A212. Permit Transfer

A. The owner or operator of a facility subject to the continuance requirements under R18-9-105(A)(1), ~~(A)(2)~~ (2), or ~~(A)(3)~~ (3) shall notify the Department by certified mail within 15 days following a change of ownership. The notice shall include:
1. The name of the transferor owner or operator;
2. The name ~~and social security number~~ of the transferee owner or operator~~, if the transferee owner operator is an individual~~;
3. The name and location of the facility;
4. The written agreement between the ~~existing~~ transferee and new ~~permittee~~ owner or operator indicating a specific date for transfer of all permit responsibility, coverage, and liability;
5. A signed declaration by the new ~~permittee~~ owner that the ~~permittee~~ new owner or operator has reviewed the permit and agrees ~~to be bound by its~~ to the terms of the permit, including fee obligations under A.R.S. § 49-242; and
6. The applicable fee established in 18 A.A.C. 14.

B. A permittee may request that the Department transfer an individual permit to a new ~~permittee~~ owner or operator ~~if the Director amends the permit to identify the new permittee and holds the new permittee responsible for all conditions of the permit~~.
1. The new ~~permittee~~ owner or operator shall:
   ~~1.~~ i. Notify the Department by certified mail within 15 days after the change of ownership ~~of the transfer~~ and include a written agreement between the ~~existing~~ previous and new ~~permittee~~ owner indicating a specific date for transfer of all permit responsibility, coverage, and liability;
   ~~2.~~ ii. Submit the applicable fee established in 18 A.A.C. 14;
   ~~3.~~ iii. Demonstrate the technical and financial capability necessary to fully carry out the terms of the permit according to R18-9-A202 and R18-9-A203;

~~4.~~ iv. Submit a signed statement ~~by the new permittee~~ that the new ~~permittee~~ owner or operator has reviewed the permit and agrees ~~to be bound by its~~ to the terms of the permit; and

~~5.~~ v. Provide the Department with a copy of the Certificate of Disclosure required by A.R.S. § 49-109.

2. If the Director amends the individual permit for the transfer, the new permittee is responsible for all conditions of the permit.

C. A permittee shall comply with the permit conditions specified under A.R.S. §§ 49-241 through 49-252, and Articles 1 and 2 of this Chapter~~, regardless of whether the permittee has sold or disposed of the facility,~~ until the Director transfers the permit, regardless of whether the permittee has sold or disposed of the facility.

R18-9-A213. Permit Suspension, Revocation, ~~or~~ Denial, or Termination

A. The Director may, after notice and opportunity for hearing, suspend or revoke an individual permit or a continuance under R18-9-105(A)(1), ~~(A)(2)~~ (2), or ~~(A)(3)~~ (3) for any of the following:

1. A permittee failed to comply with any applicable provision of A.R.S. Title 49, Chapter 2, Article 3; Articles 1 and 2 of this Chapter; or any permit condition~~.~~;
2. A ~~permittee's misrepresentation or omission of any~~ permittee misrepresented or omitted a fact, information, or data related to an Aquifer Protection Permit application or permit ~~conditions~~ condition~~.~~;
3. The Director determines that a permitted activity is causing or will cause a violation of ~~any~~ an Aquifer Water Quality Standard at a point of compliance~~.~~;
4. A permitted discharge is causing or will cause imminent and substantial endangerment to public health or the environment~~.~~;
5. A permittee failed to maintain the financial capability under R18-9-A203(B); or
6. A permittee failed to construct a facility within five years of permit issuance; and
   a. It is necessary to update BADCT for the facility, and
   b. The Department has not issued an amended permit under R18-9-A211(B)(2)(6).

B. The Director may deny an individual permit if the Director determines upon completion of the application process that the applicant has:

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

C. The Director shall terminate an individual permit if each facility covered under the individual permit:

1. Has closed and the Director issued a Permit Release Notice under R18-9-A209(C)(2)(c) for the closed facility, or
2. Is covered under another Aquifer Protection Permit.

R18-9-A214. Requested Coverage Under a General Permit

A. If an owner or operator of a facility who applied for or was issued an individual permit qualifies to operate a facility under a general permit established in Article 3 of this Chapter, the owner or operator may request that the individual permit be terminated and replaced by the general permit with the applicable fee established in 18 A.A.C. 14.

B. The individual permit is valid and enforceable until the Director completes one of the following for each facility authorized to discharge under the individual permit:

1. Determines that the discharge from the facility is covered under a general permit, or
2. Issues a Permit Release Notice under R18-9-A209(C)(2)(c).

C. The owner or operator operating under a general permit shall comply with all applicable general permit requirements in Article 3 of this Chapter.

PART B. BADCT FOR SEWAGE TREATMENT FACILITIES

R18-9-B201. General Considerations and Prohibitions

A. Applicability. The requirements in this Article~~, including BADCT requirements~~, apply to all sewage treatment facilities, including expansions of existing sewage treatment facilities, that treat wastewater containing sewage, unless the discharge is ~~covered~~ authorized by a general permit under Article 3 of this Chapter.

B. The Director may specify alert levels, discharge limitations, design specifications, and operation and maintenance requirements in the permit that are based upon information provided by the applicant and that meet the requirements under A.R.S. § 49-243(B)(1).

C. The permittee shall ensure that a sewage treatment facility is operated by a person certified under 18 A.A.C. 5, Article 1 for the grade of the facility.

~~C.~~**D.** ~~The Director may specify adherence to an operation and maintenance plan as an Aquifer Protection Permit condition, based on consideration of the factors in A.R.S. § 49-243(B)(1).~~ Operation and maintenance.

1. The owner or operator shall maintain, at the sewage treatment facility, an operation and maintenance manual for the facility and shall update the manual as needed.
2. The owner or operator shall use the operation and maintenance manual to guide facility operations to ensure compliance with the terms of the Aquifer Protection Permit and to prevent any environmental nuisance condition.
3. The Director may specify adherence to any operation or maintenance requirement as an Aquifer Protection Permit condition to ensure that the terms of the Aquifer Protection Permit are met.
4. The owner or operator shall make the operation and maintenance manual available to the Department upon request.

~~D.~~**E.** A person shall not ~~install or~~ create or maintain a connection between any part of a sewage treatment facility and a potable water supply so that sewage or wastewater contaminates a potable or public water supply.

~~E.~~**F.** A person shall not bypass ~~untreated~~ or release sewage or partially treated sewage that has not completed the treatment process from a sewage treatment facility.

~~F.~~**G.** Reclaimed water dispensed to a direct reuse site from a sewage treatment facility is regulated under Reclaimed Water Quality Standards established under ~~A.R.S. § 49-221(E)~~ 18 A.A.C. 11, Article 3 ~~and reclaimed water permit requirements under A.R.S. § 49-203(A)(6)~~.

~~G.~~**H.** The preparation, transport, or land application of any biosolids generated by a sewage treatment facility is regulated under 18 A.A.C. ~~13~~ 9, Article ~~15~~ 10.

~~H. The Department shall not publish a Notice of Preliminary Decision to issue an individual permit or amendment under R18-9-A211(B)(2)(b) or an amendment under R18-9-A211(B)(6) for a sewage treatment facility that is not in conformance with the Certified Areawide Water Quality Management Plan and the Facility Plan.~~

I. The owner or operator of a sewage treatment facility that is a new facility or undergoing a major modification shall provide setbacks ~~from the nearest adjacent property line using the following information:~~ established in the following table. Setbacks are measured from the treatment and disposal components within the sewage treatment facility to the nearest property line of an adjacent dwelling, workplace, or private property. If an owner or operator cannot meet a setback for a facility undergoing a major modification that incorporates full noise, odor, and aesthetic controls, the owner or operator shall not further encroach into setback distances existing before the major modification except as allowed in subsection (I)(2).

Sewage Treatment Facility Design Flow (gallons per day)	No Noise, Odor, or Aesthetic Controls (feet)	Full Noise, Odor, and Aesthetic Controls (feet)
3000 to less than 24,000	250	25
24,000 to less than 100,000	350	50
100,000 to less than 500,000	500	100
500,000 to less than 1,000,000	750	250
1,000,000 or greater	1000	350

1. Full noise, odor, and aesthetic controls means that ~~all~~:
   a. Noise due to the sewage treatment facility does not exceed 50 decibels at the facility property boundary on the A network of a sound level meter or a level established in a local noise ordinance,
   b. All odor-producing components of the sewage treatment ~~components~~ facility are fully enclosed,
   c. ~~odor~~ Odor scrubbers or other odor control devices are installed on all vents, and
   d. ~~fencing~~ Fencing is aesthetically matched to that in the area surrounding the facility.
2. The owner or operator of a sewage treatment facility undergoing a major modification may decrease setbacks if:
   a. Allowed by local ordinance; or
   b. ~~setback~~ Setback waivers are obtained from affected property owners in which the property owner acknowledges awareness of the established setbacks, basic design of the sewage treatment facility, and the potential for noise and odor.

J. The owner or operator of a sewage treatment facility shall not operate the facility so that it emits an offensive odor on a persistent basis beyond the setback distances specified in subsection (I).

R18-9-B202. ~~Application Requirements~~ Design Report

A. An applicant shall submit a design report signed, dated, and sealed by an Arizona-registered professional engineer. The design report shall include the following 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. A description of the treatment unit processes and containment structures, including diagrams and calculations that demonstrate that the design meets BADCT requirements and will achieve treatment levels specified in R18-9-B204 through R18-9-B206, as applicable, for all flow conditions indicated in subsection (A)(9). If soil aquifer treatment or other aspects of site conditions are used to meet BADCT requirements, the applicant shall document performance of the site in the design report or the hydrogeologic report;
4. A description of planned normal operation;
5. ~~A description of operation and maintenance, an operation and maintenance plan,~~ A description of key maintenance activities and a description of contingency and emergency operation ~~of~~ for the ~~system~~ facility;
6. A description of construction management controls;
7. A description of the ~~system~~ facility startup plan, including pre-operational testing, expected treated wastewater characteristics and monitoring requirements during startup, expected time-frame for meeting performance requirements specified in ~~R18-9-B204(C)~~ R18-9-B204, and any other special startup condition that may merit consideration in the individual permit;
8. A site diagram depicting compliance with the setback requirements established in R18-9-B201(I) for the facility at design flow, and for each phase if the applicant proposes expansion of the facility in phases;
9. ~~For a sewage treatment facility with design flow under one million gallons per day, a design report and engineering plans and specifications. The Director may waive this requirement if the Director previously approved engineering plans and specifications submitted by the same owner or operator for a sewage treatment facility with design flow of more than one million gallons per day;~~ The following flow information in gallons per day for the proposed sewage treatment facility. If the application proposes expansion of the facility in phases, the following flow information for each phase:
   a. The design flow of the sewage treatment facility. The design flow is the average daily flow over a calendar year calculated as the sum of all influent flows to the facility based on Table 1, Unit Design Flows, unless a different basis for determining influent flows is approved by the Department;
   b. The maximum day. The maximum day is the greatest daily total flow that occurs over a 24-hour period within an annual cycle of flow variations;
   c. The maximum month. The maximum month is the average daily flow of the month with the greatest total flow within the annual cycle of flow variations;
   d. The peak hour. The peak hour is the greatest total flow during one hour, expressed in gallons per day, within an annual cycle of flow variations;
   e. The minimum day. The minimum day is the least daily total flow that occurs over a 24-hour period within an annual cycle of flow variations;
   f. The minimum month. The minimum month is the average daily flow of the month with the least total flow within the annual cycle of flow variations; and
   g. The minimum hour. The minimum hour is the least total flow during one hour, expressed in gallons per day, within an annual cycle of flow variations; and
10. ~~A certification by an Arizona-registered professional engineer that all other aspects of the design, including pipe coding, auxiliary power sources, and separation requirements, comply with applicable statutes, rules, and codes.~~ Specifications for pipe, standby power source, and water and sewer line separation.

~~**B.** In addition to the technical and financial capability requirements specified in R18-9-A202 and R18-9-A203, the following requirements apply if construction or expansion of a private sewage treatment facility has been approved for treatment of sewage from a subdivision under R18-5-402. These requirements do not apply to a subdivision where each lot has an on-site 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 will 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 is technically capable of carrying out the terms of the permit and all treatment performance requirements specified in R18-9-B204.~~

~~2. If responsibility for operation of the private sewage treatment facility will 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 is financially capable of carrying out the terms of the permit and all treatment performance requirements specified in R18-9-B204, including monitoring, recordkeeping, and assuring that the system is under continuous operational control by the correct classification of a certified operator, as specified in 18 A.A.C. 5, Article 1.~~

B. The Department may inspect an applicant's facility without notice to ensure that construction conforms to the design report.

R18-9-B203. ~~Application Review and Approval~~ Engineering Plans and Specifications

A. The applicant for a sewage treatment facility with a design flow under one million gallons per day shall submit engineering plans and specifications to the Department. The Director may waive this requirement if the Director previously approved engineering plans and specifications submitted by the same owner or operator for a sewage treatment facility with design flow of more than one million gallons per day.

~~A.~~B. ~~To ensure that BADCT requirements are met, the Department shall ask to review~~ The applicant shall submit engineering plans and specifications for a sewage treatment facility with a design flow of one million gallons per day or greater if, upon review of the design report required in R18-9-B202, the Department finds that:

1. The design report ~~required in R18-9-B202(A)~~ 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 facility cannot achieve ~~BADCT~~ treatment performance requirements;
4. The design report does not demonstrate:
   a. Protection from physical damage due to a 100-year flood,
   b. Ability to continuously operate 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 at least a similar size on less than three previous occasions,
   b. Designed a sewage treatment facility that has been the subject of a Director enforcement action due to the facility design, or
   c. Been found by the Board of Technical Registration to have violated a provision ~~of~~ in A.R.S. Title 32, Chapter 1~~.~~;
7. The permittee seeks to expand its sewage treatment facility and the Department believes that ~~BADCT~~ the facility will require upgrades to the design ~~that have~~ not ~~been~~ described and evaluated in the design report to meet the treatment performance requirements~~.~~; or
8. The construction does not conform to the design report if the sewage treatment facility has already been constructed.

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

~~C.~~D. The Department may inspect an applicant's facility without notice to ensure that construction generally conforms to the design report or engineering plans and specifications, as applicable.

E. Before discharging under the permit, the permittee shall submit a signed, dated, and sealed Engineer's Certificate of Completion in a format approved by the Department, that confirms that the facility is constructed according to the Department-approved design report or plans and specifications, as applicable.

R18-9-B204. Treatment Performance Requirements ~~For New Facilities~~ for a New Facility

A. Definition. "Week" means a seven-day period starting on Sunday and ending on the following Saturday.

~~A.~~B. An owner or operator of a new sewage treatment facility shall ensure that the facility meets the following performance requirements upon release of the treated wastewater at the outfall:

1. Secondary treatment levels.
   a. Five-day biochemical oxygen demand (BOD_5) less than 30 mg/l (30-day average) and 45 mg/l (seven-day average), or carbonaceous biochemical oxygen demand ($CBOD_5$) less than 25 mg/l (30-day average) or 40 mg/l (seven-day average);
   b. Total suspended solids (TSS) less than 30 mg/l (30-day average) and 45 mg/l (seven-day average);
   c. pH maintained between 6.0 and 9.0 standard units; and
   d. A removal efficiency of 85~~%~~ percent for BOD_5, $CBOD_5$, 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 ponds or this method of treatment~~.~~;
3. Total nitrogen in the treated wastewater is less than 10 mg/l (five-month rolling geometric mean). If an applicant demonstrates, using appropriate monitoring, that soil aquifer treatment will produce a total nitrogen concentration ~~of~~ less than 10 mg/l in wastewater that percolates to groundwater, the Department may approve soil aquifer treatment for removal of total nitrogen as an alternative to meeting the performance requirement of 10 mg/l at the outfall~~.~~;
4. Pathogen removal.
   a. ~~A~~ For a sewage treatment facility with a design flow of less than 250,000 gallons per day at a site where the depth to the seasonally high groundwater table is greater than 20 feet and there is no karstic or fractured bedrock at the surface~~.~~; ~~A fecal coliform limit of 200 colony forming units per 100 ml (seven-sample median) and 800~~

~~colony forming units per 100 ml (single sample maximum) applies 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.~~

i. The concentration of fecal coliform organisms in four of the wastewater samples collected during the week is less than 200/100 ml or the concentration of E. coli bacteria in four of the wastewater samples collected during the week is less than 126/100 ml, based on a sampling frequency of seven daily samples per week;

ii. The single sample maximum concentration of fecal coliform organisms in a wastewater sample is not greater than 800/100 ml or the single sample maximum concentration of E. coli bacteria in a wastewater sample is not greater than 504/100 ml; and

iii. An owner or operator of a facility may request a reduction in the monitoring frequency required in subsection (B)(4)(a)(i) if equipment is installed to continuously monitor an alternative indicator parameter and the owner or operator demonstrates that the continuous monitoring will ensure reliable production of wastewater that meets the numeric concentration levels in subsections (B)(4)(a)(i) and (ii) at the discharge point;

b. ~~Any~~ For any other sewage treatment facility~~.~~: ~~A fecal coliform limit, using the membrane filter technique, of 2.2 colony forming units per 100 ml (seven-sample median) and less than 23 colony forming units per 100 ml (single sample maximum), or equivalent numbers using the multiple tube fermentation method, applies.~~

i. No fecal coliform organisms or no E. coli bacteria are detected in four of the wastewater samples collected during the week, based on a sampling frequency of seven daily samples per week;

ii. The single sample maximum concentration of fecal coliform organisms in a wastewater sample is not greater than 23/100 ml or the single sample maximum concentration of E. coli is not greater than 15/100 ml;

iii. An owner or operator may request a reduction in the monitoring frequency required in subsection (B)(4)(b)(i) if equipment is installed to continuously monitor an alternative indicator parameter and the owner or operator demonstrates that the continuous monitoring will ensure reliable production of wastewater that meets the numeric concentration levels in subsections (B)(4)(b)(i) or (ii) at the discharge point;

c. ~~Unit~~ An owner or operator may use unit treatment processes, such as chlorination-dechlorination, ultraviolet, and ozone ~~may be used~~ to achieve ~~this standard~~ the pathogen removal performance requirements specified in subsections (B)(4)(a) and (b)~~.~~;

~~c.~~ d. The Department may approve soil aquifer treatment for the removal of fecal coliform or E. coli bacteria as an alternative to meeting the performance requirement in subsection ~~(B)(4)(b)~~ (B)(4)(a) or (b), if the soil aquifer treatment process will produce a fecal coliform or E. coli bacteria concentration less than that required under subsection ~~(B)(4)(b)~~ (B)(4)(a) or (b), in wastewater that percolates to groundwater~~.~~;

5. Unless governed by A.R.S. § 49-243(I), the performance requirement for each constituent regulated under R18-11-406(B) through (E) is the numeric Aquifer Water Quality Standard~~.~~;

6. The performance requirement for a constituent regulated under A.R.S. § 49-243(I) is removal to the greatest extent practical regardless of cost.

a. An operator shall minimize trihalomethane compounds generated as disinfection byproducts using chlorination, dechlorination, ultraviolet, or ozone as the disinfection system or using a technology demonstrated to have equivalent or better performance for removing or preventing triahalomethane compounds.

b. For other pollutants regulated by A.R.S. § 49-243(I), an operator shall use one of the following methods to achieve industrial pretreatment:

i. Regulate industrial sources of influent to the sewage treatment facility by setting limits on pollutant concentrations, monitoring for pollutants, and enforcing the limits to reduce, eliminate, or alter the nature of a pollutant before release into a sewage collection system; or

ii. Meet the pretreatment requirements of ~~Section 307 of the Federal Water Pollution Control~~ A.R.S. § 49-255.02; or

iii. For sewage treatment facilities without significant industrial input, conduct periodic monitoring to detect industrial discharge~~.~~; and

7. A maximum seepage rate less than 550 gallons per day per acre for all containment structures within the treatment works. A sewage treatment facility that consists solely of containment structures with no other form of discharge complies with this Part by operating below the maximum 550 gallon per day per acre seepage rate.

~~B.~~C. The Director shall incorporate treated wastewater discharge limitations and associated monitoring specified in this Section into the individual permit to ensure compliance with the BADCT requirements.

~~C.~~D. An applicant shall formally request and justify an alternative that allows less stringent performance than that established in this Section, based on the criteria specified in A.R.S. § 49-243(B)(1)~~, including in the justification a consideration of site-specific hydrologic and geologic characteristics and other environmental factors, facility size, method of wastewater disposal or direct reuse, proportion of sewage to total industrial wastewater volume, and the seasonality of the service area for the sewage treatment facility~~.

E. If the request specified in subsection (D) involves treatment or disposal works that are a demonstration, experimental, or pilot project, the Director may issue an individual permit that places greater reliance on monitoring to ensure operational

capability.

R18-9-B205. Treatment Performance Requirements for an Existing Facility

For ~~an existing~~ a sewage treatment facility that is an existing facility defined in A.R.S.§ 49-201(16), the BADCT shall conform with the following:

1. The designer shall identify one or more design improvements that brings the facility closer to or within the treatment performance requirements specified in R18-9-B204, considering the factors listed in A.R.S. § 49-243(B)(1)(a) and (B)(1)(c) through ~~(B)(1)(h)~~ (h)~~,~~;
2. The designer may eliminate from consideration alternatives identified in subsection (1) that are more expensive than the number of gallons of design flow times ~~$0.05~~ $1.00 per gallon~~,~~; and
3. The designer shall select ~~as the BADCT for the facility~~ a design that incorporates one or more of the considered alternatives by giving preference to measures that will provide the greatest improvement toward meeting the treatment performance requirements specified in R18-9-B204.

R18-9-B206. Treatment Performance Requirements for Expansion of a ~~Permitted~~ Facility

For an expansion of a sewage treatment facility ~~with a current individual permit~~, the BADCT shall conform with the following:

1. New facility BADCT requirements ~~of~~ in R18-9-B204 apply to the following expansions:
   a. ~~Continue to apply for the part of the facility that conformed to the BADCT requirements for a new facility at the last permit issuance;~~ An increase in design flow by an amount equal to or greater than the increases specified in R18-9-A211(B)(2)(b); or
   b. ~~Apply to the~~ An addition of a physically separate process or major piece of production equipment, building, or structure that ~~is physically separate from a facility and~~ causes a separate discharge to the extent that the treatment performance requirements for the pollutants addressed in R18-9-B204 can practicably be achieved by the addition.~~; and~~
   ~~c. Apply to the part of the facility that has not been required to conform to BADCT requirements for new facilities, if a facility or part of a facility has undergone or will undergo any change identified in R18-9-A211(B)(2).~~
2. BADCT requirements for existing facilities established in R18-9-B205 apply to ~~expansions~~ an expansion not covered ~~by subsections (1)(a), (1)(b), or (1)(c)~~ under subsection (1).

ARTICLE 3. AQUIFER PROTECTION PERMITS – GENERAL PERMITS

PART A. GENERAL PROVISIONS

R18-9-A301. Discharging Under a General Permit

A. Discharging Requirements.

1. Type 1 General Permit. A person may discharge under a Type 1 General Permit without submitting a Notice of Intent to Discharge if the discharge is authorized by and meets:
   a. The applicable requirements of Article 3, Part A of this Chapter; and
   b. The specific terms of the ~~applicable~~ Type 1 General Permit~~,~~ established in Article 3, Part B of this Chapter.
2. Type 2 General Permit. A person may discharge under a Type 2 General Permit if:
   a. The discharge is authorized by and meets the applicable requirements of Article 3, Part A of this Chapter and the specific terms of the ~~applicable~~ Type 2 General Permit established in Article 3, Part C of this Chapter;
   b. The person files a Notice of Intent to Discharge under subsection (B); and
   c. The person submits the applicable fee established in 18 A.A.C. 14.
3. Type 3 General Permit. A person may discharge under a Type 3 General Permit if:
   a. The discharge is authorized by and meets the applicable requirements of Article 3, Part A of this Chapter and the specific terms of the ~~applicable~~ Type 3 General Permit established in Article 3, Part D of this Chapter; ~~and~~
   b. The person files a Notice of Intent to Discharge under subsection (B);
   c. The person satisfies any deficiency requests from the Department regarding the administrative completeness review and substantive review and receives a written ~~Verification of General Permit Conformance~~ Discharge Authorization from the Director; and
   d. The person submits the applicable fee established in 18 A.A.C. 14.
4. Type 4 General Permit. A person may discharge under a Type 4 General Permit if:
   a. The discharge is authorized by and meets the applicable requirements of Article 3, Part A of this Chapter and the specific terms of the ~~applicable~~ Type 4 General Permit~~,~~ established in Article 3, Part E of this Chapter;
   b. The person files a Notice of Intent to Discharge under subsection (B);
   c. The person satisfies any deficiency requests from the Department regarding the administrative completeness review and substantive review, including ~~deficiencies~~ any deficiency relating to the construction of the facility~~,~~; ~~and~~
   d. The person receives a written ~~Verification of General Permit Conformance~~ Discharge Authorization from the

Director before facility discharge is initiated; and

~~d.~~e. The person submits the applicable fee established in 18 A.A.C. 14 or according to A.R.S. §§ 49-107 and 49-112.

B. Notice of Intent to Discharge.

1. A person seeking a Discharge Authorization under a general permit under subsections (A)(2), ~~(A)(3)~~ (3), or ~~(A)(4)~~ (4) shall submit, by certified mail, in person, or by another method approved by the Department, a Notice of Intent to Discharge on a form provided by the Department.
2. The Notice of Intent to Discharge shall include:
   a. The name, address, and telephone number of the applicant;
   ~~b. The social security number of the applicant, if the applicant is an individual;~~
   ~~c.~~b. The name, address, and telephone number of a contact person familiar with the operation of the facility;
   ~~d.~~c. The name, position, address, and telephone number of the owner or operator of the facility who has overall responsibility for compliance with the permit;
   ~~e.~~d. The legal description of the discharge areas, including the latitude and longitude coordinates;
   ~~f.~~e. A narrative description of the facility or project, including expected dates of operation, rate, and volume of discharge;
   ~~g.~~f. The supplemental information ~~required~~ specified for the general permit authorization;
   ~~h.~~g. A listing of any other federal or state environmental permits issued for or needed by the facility, including any individual permit, Groundwater Quality Protection Permit, or Notice of Disposal that may have previously authorized the discharge; and
   ~~i.~~h. A signature on the Notice of Intent to Discharge certifying that the ~~permittee~~ applicant agrees to comply with all applicable requirements of this Article, including specific terms of the ~~applicable~~ general permit.
3. Receipt of a completed Notice of Intent to Discharge by the Department begins the administrative completeness review for a Type 3 or Type 4 General Permit.

C. Type 3 General Permit authorization review.

1. Inspection. The Department may inspect the facility to determine that the applicable terms of the general permit have been met.
2. ~~Verification~~ Discharge Authorization issuance.
   a. If the Department determines, based on its review and an inspection, if conducted, that the facility conforms ~~with~~ to the requirements of the general permit and the applicable requirements of this Article, the Director shall issue a ~~Verification of General Permit Conformance~~ Discharge Authorization.
   b. The ~~Verification of General Permit Conformance~~ Discharge Authorization authorizes the person to discharge under terms of the general permit and applicable requirements of this Article.
3. ~~Verification~~ Discharge Authorization denial. If the Department determines, based on its review and an inspection, if conducted, that the ~~discharge~~ facility does not conform to the requirements of the general permit or other applicable requirements of this Article, the Director shall notify the person of ~~it's~~ the decision not to issue the ~~Verification of General Permit Conformance~~ Discharge Authorization and the person shall not discharge under the general permit. The notification shall inform the person of:
   a. The reason for the denial with reference to the statute or rule on which the denial is based;
   b. The person'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; and
   c. The person's right to request an informal settlement conference under A.R.S. §§ 41-1092.03(A) and 41-1092.06.

D. Type 4 General Permit review.

1. Pre-construction phase and facility construction. A person shall not begin facility construction until the Director issues a Construction Authorization.
   a. Inspection. The Department may inspect the facility site before construction to determine that the applicable terms of the general permit will be met.
   b. Review. If the Department determines, based on an inspection or its review of~~,~~ design plans, specifications, or other required documents~~, or an inspection,~~ that the facility does not conform ~~with~~ to the requirements of the general permit or other applicable requirements of this Article, the Department shall make a written request for additional information.
   c. ~~Notification of provisional verification~~ Construction Authorization. If the Department determines, based on the review described in subsection (D)(1)(b) and any additional information submitted in response to a written request, that the facility design conforms with the requirements of the general permit and other applicable requirements of this Article, the Director shall ~~provide a notification of Provisional Verification of General Permit Conformance~~ issue a Construction Authorization to the person seeking to discharge. A Construction Authorization for an onsite wastewater treatment facility shall contain:
      i. The design flow of the facility,
      ii. The characteristics of the wastewater sources contributing to the facility,

iii. The general permits that apply, and
iv. A list of the documents that are the basis for the authorization.

d. ~~Notification of failure to conform to general permit requirements~~ Construction Authorization denial. If the Department determines, based on the review described in subsection (D)(1)(b) and any additional information submitted in response to a written request, that the facility design does not conform to the ~~terms~~ requirements of the general permit ~~and~~ or other applicable requirements of this Article, the Director shall notify the person ~~seeking to discharge~~ of ~~it's~~ the decision not to issue a ~~Verification of General Permit Conformance~~ Construction Authorization. The notification shall ~~follow the requirements of subsection (D)(2)(d)~~ include the information listed in subsections (D)(2)(d)(ii) and (iii).

e. Construction.

~~i. The person seeking to discharge shall not begin facility construction until the Director provides notification of Provisional Verification of General Permit Conformance.~~

~~ii.~~i. The person ~~seeking verification to discharge may take up to two years to~~ shall complete construction within two years of receiving the Construction Authorization.

~~iii.~~ii. Construction shall conform with the plans and documents ~~verified by the Department under subsection (D)(1)(b)~~ approved by the Department in the Construction Authorization. A change in location, configuration, dimension, depth, material, or installation procedure does not require approval by the Department if the change continues to conform with the specific standard in this Article used as the basis for the original design.

~~iv.~~iii. ~~All~~ The person shall record all changes made during construction, including any changes approved under R18-9-A312(G)~~, shall be recorded~~ on the site plan as specified in R18-9-A309(C)(1) or on ~~applicable~~ documents as specified in R18-9-A309(C)(2) or R18-9-E301(E), as applicable.

f. Completion of construction.

i. After completing construction of the facility, the person seeking to discharge shall submit ~~to the Department the~~ any applicable ~~verification~~ documents specified in R18-9-A309(C) with the Request for Discharge Authorization form for an onsite wastewater treatment facility and the Engineer's Certificate of Completion specified in R18-9-E301(E) for a sewage collection system. Receipt of the documents by the Department initiates the post-construction review phase.

ii. If the Department ~~receives no verification documents~~ does not receive the documentation specified in subsection (D)(1)(f)(i) by the end of the two-year construction period, the Notice of Intent to Discharge expires, and the person shall not continue construction or discharge.

iii. If the Notice of Intent to Discharge expires, the person shall submit a new Notice of Intent to Discharge under subsection (B) and the applicable fee under subsection (A)(4)(f) to begin or continue construction.

2. Post-construction phase.

a. Inspection. The Department may inspect the facility before issuing a ~~Verification of General Permit Conformance~~ Discharge Authorization to determine that:

i. The construction conforms with the design ~~verified~~ authorized by the Department under subsection ~~(D)(2)(c)~~ (D)(1)(c) and any changes recorded on the site plan as specified ~~by~~ in R18-9-A309(C)(1) or other documents as specified ~~by~~ in R18-9-A309(C)(2) or R18-9-E301(E), as applicable;

ii. Terms of the general permit and applicable terms of this Article ~~will be~~ are met.

b. Deficiencies. If the Department identifies deficiencies based on an inspection of ~~in~~ the constructed facility or ~~in~~ during the review of documents submitted in fulfillment of the ~~Verification of General Permit Conformance~~ Discharge Authorization, the Director shall provide a written explanation of the deficiencies to the person.

c. ~~Verification of General Permit Conformance~~ Discharge Authorization issuance.

i. Upon satisfactory completion of construction and documents required under R18-9-A309(C)(1), ~~or~~ R18-9-A309(C)(2), or R18-9-E301(E), as applicable, the Director shall issue a ~~Verification of General Permit Conformance~~ Discharge Authorization.

ii. The ~~Verification of General Permit Conformance authorizes the~~ Discharge Authorization allows a person to discharge under terms of the general permit and applicable requirements of this Article and the stated terms of the Construction Authorization.

d. ~~Verification~~ Discharge Authorization denial. If, after receiving evidence of correction submitted by the person seeking to discharge, the Department determines that the deficiencies are not satisfactorily corrected, the Director shall notify the person seeking to discharge of the Director's decision not to issue the ~~Verification of General Permit Conformance~~ Discharge Authorization and the person shall not discharge under the general permit. The notification shall inform the person of:

i. The reason for the denial with reference to the statute or rule on which the denial is based;

ii. The person'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; and

iii. The person's right to request an informal settlement conference under A.R.S. §§ 41-1092.03(A) and 41-1092.06.

R18-9-A303. ~~Permit~~ Renewal of a Discharge Authorization

A. Unless a Discharge Authorization under a general permit is transferred, revoked, or expired, a ~~facility is authorized to~~ person may discharge under the general permit for the ~~operational life of the facility~~ authorization period as specified by the permit type, including any closure activities required by a specific general permit.

B. A permittee authorized under a Type 2 or Type 3 General Permit shall submit ~~the~~ an application for renewal on a form provided by the Department with the applicable fee established in 18 A.A.C. 14 at least ~~90~~ 30 days before the end of the renewal period.

1. The following are the renewal periods for Type 2 ~~General Permits~~ and Type 3 General ~~Permits~~ Permit Discharge Authorizations:
   a. 2.01 General Permit, five years;
   b. 2.02 General Permit, seven years;
   c. 2.03 General Permit, two years;
   d. 2.04 General Permit, five years;
   e. 2.05 General Permit, five years;
   f. 2.06 General Permit, five years; and
   ~~d.~~ g. Type 3 General Permits, five years.
2. The renewal period for coverage under a Type 2 General Permit begins on the date ~~of~~ the ~~Department's receipt of~~ Department receives the Notice of Intent to Discharge.
3. The renewal period for coverage under a Type 3 General Permit begins on the date ~~that~~ the Director issues the written ~~Verification of General Permit Conformance~~ Discharge Authorization.

C. If the ~~general permit~~ Discharge Authorization is not renewed within the renewal period specified in subsection (B)(1), the ~~general permit~~ Discharge Authorization expires.

R18-9-A304. Notice of Transfer

A. Transfer of Type 1 General Permit coverage.
1. A permittee transferring ownership of a facility covered by a Type 1.01 through 1.08, or 1.10 through 1.12 General Permit is not required to notify the Department of the transfer.
2. A permittee transferring ownership of an onsite wastewater treatment facility operating under a Type 1.09 General Permit shall follow the requirements under R18-9-A316.
3. A permittee transferring ownership of a sewage treatment facility operating under a Type 1.09 General Permit shall submit a Notice of Transfer to the Department by certified mail within 15 days after the date that ownership changes.

B. Transfer of authorization under a Type 2, 3, or 4.01 General Permit.
1. If a change of ownership occurs for a facility covered by a Type 2, ~~Type~~ 3, or ~~Type 4~~ 4.01 General Permit facility, the permittee shall provide a Notice of Transfer to the Department or to the health or environmental agency delegated by the Director to administer Type 4.01 General Permits, by certified mail within 15 days after the date that ownership changes. The Notice of Transfer, on a form approved by the Department, shall include:
   ~~1.~~ a. Any information that has changed from the original Notice of Intent to Discharge,
   ~~2.~~ b. Any other transfer requirements specified for the general permit, and
   ~~3.~~ c. The applicable fee established in 18 A.A.C. 14.

~~B.~~ 2. The Department may require a permittee covered by a Type 2, ~~Type~~ 3, or ~~Type 4~~ 4.01 General Permit ~~permittee~~ to submit a new Notice of Intent to Discharge and to obtain a new ~~verifications~~ authorization under ~~R18-9-A301(A)(3)~~ R18-9-A301(A)(2), (3) and ~~(A)(4)~~ (4), as applicable, if the volume or characteristics of the discharge have changed from the original application.

C. Transfer of a Type 4.02 through 4.23 General Permit. A permittee transferring ownership of an onsite wastewater treatment facility operating under one or more Type 4.02 through 4.23 General Permits shall follow the requirements under R18-9-A316.

R18-9-A305. Facility Expansion

A. A permittee may expand a facility covered by a Type 2 General Permit ~~facility may be expanded~~ if, before the expansion, the permittee provides the Department with the following information by certified mail:
1. An updated Notice of Intent to Discharge,
2. A certification signed by the facility owner stating that the expansion continues to meet all the conditions of the applicable general permit, and
3. The applicable fee established under18 A.A.C. 14.

B. A permittee may expand a facility covered by a Type 3 or Type 4 General Permit ~~facility may be expanded~~ contingent on review of a new Notice of Intent to Discharge and ~~verification~~ authorization by the Department ~~of a new Notice of Intent to Discharge~~.

1. The person submitting the Notice of Intent to Discharge for the expansion may reference the previous Notice of Intent to Discharge if the previous information is identical, but shall provide full and detailed information for any changed items.
2. The Notice of Intent to Discharge shall include:
   a. Any applicable fee established ~~by~~ under 18 A.A.C. 14, and
   b. A certification signed by the facility owner stating that the expansion continues to meet all of the requirements relating to the applicable general permit.
3. Upon receiving the Notice of Intent to Discharge, the Department shall follow the applicable review and ~~verification~~ authorization procedures described in R18-9-A301(A)(3) or ~~(A)(4)~~ (4).

R18-9-A306. Closure

~~**A.** In addition to the closure requirements specified in a general permit, a permittee shall submit the closure plan specified under A.R.S. § 49-252.~~

~~**B.** The closure plan submitted under A.R.S. § 49-252 meets the clean closure requirement if the permittee:~~

~~1. Removes material that may contribute to a continued discharge; and~~

~~2. Eliminates, to the greatest degree practical, any reasonable probability of further discharge from the facility and of exceeding Aquifer Water Quality Standards at the applicable point of compliance.~~

~~**C.** For an on-site wastewater treatment facility or a 1.09 General Permit facility, a permittee shall comply with the requirements of R18-9-A309(D) to meet the requirements of this Section.~~

A. To satisfy the requirements under A.R.S. § 49-252, a permittee shall close a facility authorized to discharge under a general permit as follows:

1. If the discharge is authorized under a Type 1.01 through 1.08, 1.10, 1.11, 2.05, 2.06, or 4.01 General Permit, closure notification is unnecessary and clean closure is met when:
   a. The permittee removes material that may contribute to a continued discharge; and
   b. The permittee eliminates, to the greatest degree practical, any reasonable probability of further discharge from the facility and of exceeding any Aquifer Water Quality Standard at the applicable point of compliance;
2. If the discharge is authorized under a Type 2.02, 3.02, 3.05 through 3.07, or 4.23 General Permit, the permittee shall submit notice and a closure plan to the Department for evaluation according to A.R.S. § 49-252. The Department shall accept that the facility meets clean closure requirements if the plan indicates that:
   a. Any material that may contribute to a continued discharge is removed;
   b. The permittee has eliminated to the greatest degree practicable any reasonable probability of further discharge from the facility and of exceeding any Aquifer Water Quality Standard at the applicable point of compliance; and
   c. Closure requirements, if any, established in the general permit are met;
3. If the discharge is authorized under a Type 1.12, 2.01, 2.03, 2.04, 3.01, 3.03, or 3.04 General Permit, the permittee shall comply with the closure requirements in the general permit;
4. If the discharge is from an onsite wastewater treatment facility authorized under a Type 1.09 or 4.02 through 4.22 General Permit, the permittee shall comply with the closure requirements in R18-9-A309(D); and
5. If the discharge is from a sewage treatment facility authorized under a Type 1.09 General Permit, the permittee shall comply with the closure requirements under subsection (A)(1).

~~**D**~~**B.** For a facility operating under a general permit and located at a site where an individual area-wide permit has been issued, a permittee may defer some or all closure activities required by this subsection if the Director approves the deferral in writing. The permittee shall perform closure activities ~~shall be performed~~ no later than the closure activities identified in the individual area-wide permit.

R18-9-A307. ~~Permit~~ Revocation of Coverage Under a General Permit

A. The Director ~~shall~~ may revoke coverage under a general permit and require the permittee to obtain an individual permit for any of the following:
1. The permittee fails to comply with the terms of the general permit as described in this Article, or
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 Director ~~shall~~ may revoke coverage under a general permit for any or all facilities within a specific geographic area, if, due to geologic or hydrologic conditions, the cumulative discharge of the facilities has violated or will violate an Aquifer Water Quality Standard established under A.R.S. §§ 49-221 and 49-223. Unless the public health or safety is jeopardized, the Director may allow continuation of a discharge ~~for the revoked general permit~~ until the Department:
1. ~~Processes the application for~~ Issues a single individual permit, ~~or~~
2. Authorizes a discharge under another general permit, or
~~2.~~3. Consolidates the discharges authorized under the general permits following R18-9-107 ~~and issues single individual permit to a political subdivision that has jurisdiction over the specific geographic area~~.

C. If an individual permit is issued to replace general permit coverage, the coverage under the general permit allowing the discharge is automatically revoked upon issuance of the individual permit and notification under subsection (E) is not required.

~~**C.**~~**D.** ~~Unless allowed under subsection (B), if~~ If the Director revokes coverage under a general permit, the facility shall not discharge unless allowed under subsection (B) or under an individual permit.

~~**D.**~~**E.** ~~The~~ If coverage under the general permit is revoked under subsections (A) or (B), the Director shall notify ~~a~~ the permittee by certified mail of ~~it's~~ the decision ~~to revoke a general permit~~. The notification shall include:

1. A brief statement of the reason for the decision;
2. The effective revocation date of the general permit coverage;
3. A statement of whether the discharge shall cease or whether the discharge may continue under the terms of revocation in subsection (B);
4. Whether the Director requires a person to obtain an individual permit, and if so:

a. An individual permit application form; and
b. A deadline between 90 and 180 days after receipt of the notification for filing the application;

5. The applicant's right to appeal the revocation, the number of days the applicant has to file an appeal, and the name and telephone number of the Department contact person who can answer questions regarding the appeals process; and
6. The applicant's right to request an informal settlement conference under A.R.S. §§ 41-1092.03(A) and 41-1092.06.

R18-9-A309. General Provisions ~~For Type 4 General Permits Concerning~~ for Onsite Wastewater Treatment ~~Systems~~ Facilities

A. General requirements and prohibitions.

1. ~~Sewage~~ No person shall discharge sewage or wastewater that contains sewage ~~shall not be discharged~~ from an onsite wastewater treatment facility except under an Aquifer Protection Permit issued by the Director.
2. A person shall not install, allow to be installed, or maintain a connection between any part of an onsite wastewater treatment facility and a drinking water system or supply so that sewage or wastewater contaminates the drinking water.
3. A person shall not bypass or release ~~untreated~~ sewage or partially treated sewage that has not completed the treatment process from an onsite wastewater treatment facility.
4. A person shall not use a cesspool for sewage disposal.
5. ~~The Department shall require connection to a sewage collection system if the connection is practical. A connection is practical if the distance to connect to the sewer is 400 feet or less and the total cost of the connection is less than $6000 if capacity is available and performance of the sewage collection system and receiving sewage treatment facility are not impaired.~~ A person constructing a new onsite wastewater treatment facility or replacing the treatment works or disposal works of an existing onsite wastewater treatment facility shall connect to a sewage collection system if:
   a. One of the following apply:
      i. A provision of a Nitrogen Management Area designation under R18-9-A317(C) requires connection;
      ii. A county, municipal, or sanitary district ordinance requires connection;
      iii. The onsite wastewater treatment facility is located within an area identified for connection to a sewage collection system by a Certified Area-wide Water Quality Management Plan adopted under 18 A.A.C. 5 or a master plan adopted by a majority of the elected officials of a board or council for a county, municipality, or sanitary district, or
   b. A sewer service line extension is available at the property boundary and both of the following apply:
      i. The service connection fee is not more than $6000 for a dwelling or $10 times the daily design flow in gallons for a source other than a dwelling, and
      ii. The cost of constructing the building sewer from the wastewater source to the service connection is not more than $3000 for a dwelling or $5 times the daily design flow in gallons for a source other than a dwelling.
6. The Department shall prohibit installation of an onsite wastewater treatment facility if the installation will create an unsanitary condition or environmental nuisance or cause or contribute to a violation of an Aquifer Water Quality Standard.
7. ~~A permittee shall service or repair an operating on-site wastewater treatment facility, or install a replacement facility if the facility has created or if its use creates an unsanitary condition or environmental nuisance or has caused or causes a violation of an Aquifer Water Quality Standard.~~
8. ~~7.~~ A ~~permittee~~ person shall operate the permitted onsite wastewater treatment facility so that:
   a. Flows to the facility consist of typical sewage and do not include any motor oil, gasoline, paint, varnish, solvent, pesticide, fertilizer, or other material not generally associated with toilet flushing, food preparation, laundry, and personal hygiene;
   b. Flows to the facility from commercial operations do not contain hazardous substances or hazardous wastes, as defined under A.R.S. § 49-921(5);

c. ~~A typical sewage flow with a component~~ If the sewage contains a component of nonresidential flow ~~from nonresidential~~ such as food preparation, ~~or~~ laundry service, or other source, the sewage is adequately pretreated by an interceptor that complies with R18-9-A315 or another device authorized by a general permit or approved by the Department under R18-9-A312(G);
d. Except as provided in subsection ~~(A)(8)(c)~~ (A)(7)(c), a sewage flow that does not meet the numerical levels for typical sewage is adequately pretreated to meet the numerical levels before 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~~ Discharge Authorization;
f. The facility does not create an unsanitary condition or environmental nuisance, or cause or contribute to a violation of a water quality standard; and
~~f~~g. Activities at the site do not adversely affect the operation of the facility.

8. A person shall control the discharge of total nitrogen from an onsite wastewater treatment facility as follows:
   a. For an onsite wastewater treatment facility operating under the 1.09 General Permit or proposed for construction in a Notice of Intent to Discharge under a Type 4 General Permit and the facility is located within a Nitrogen Management Area, the provisions of R18-9-A317(D) apply;
   b. For an onsite wastewater treatment facility proposed for construction in a Notice of Intent to Discharge under R18-9-E323, the provisions of R18-9-E323(A)(4) apply;
   c. For a subdivision proposed under 18 A.A.C. 5, Article 4, for which onsite wastewater treatment facilities are used for sewage disposal, demonstrate in the geological report required in R18-5-408(E)(1) that total nitrogen loading from the onsite wastewater treatment facilities to groundwater is controlled by providing one of the following:
      i. For a subdivision platted for a single family dwelling on each lot, calculations that demonstrate that the number of lots within the subdivision does not exceed the number of acres contained within the boundaries of the subdivision;
      ii. For a subdivision platted for dwellings that do not meet the criteria specified in subsection (A)(8)(c)(i), calculations that demonstrate that the nitrogen loading over the total area of the subdivision is not more than 0.088 pounds (39.9 grams) of total nitrogen per day per acre calculated at a horizontal plane immediately beneath the active treatment of the disposal fields, based on a total nitrogen contribution to raw sewage of 0.0333 pounds (15.0 grams) of total nitrogen per day per person; or
      iii. An analysis by another means of demonstration showing that the nitrogen loading to the aquifer due to onsite wastewater treatment facilities within the subdivision does not cause or contribute to a violation of the Aquifer Water Quality Standard for nitrate at the applicable point of compliance.

9. Repairs.
   a. A Notice of Intent to Discharge is not required for routine work that maintains a facility.
   b. The following work is not considered maintenance and a Notice of Intent to Discharge is required:
      i. Converting a facility from operation only under gravity to one requiring a pump or other powered equipment for treatment or disposal;
      ii. Modifying or replacing a facility operating under the 1.09 General Permit with a different type of treatment or disposal technology;
      iii. Changing the treatment works or disposal works of a facility authorized under one or more Type 4 General Permits to a technology covered by any other Type 4 General Permit;
      iv. Extending the disposal works more than 10 feet beyond the footprint of the original disposal works;
      v. Reconstructing any part of the disposal works in soil that is inadequate for the treated wastewater flow or strength;
      vi. Expanding the footprint of the facility into or within setback buffers established in R18-9-A312(C);
      vii. Reconstructing the disposal works so that it does not meet the vertical separation requirements specified in R18-9-A312(E);
      viii. Modifying a treatment works or disposal works to accommodate a daily design flow or waste load greater than that which is applicable to the original facility; or
      ix. Replacing the treatment works.
   c. Components used in a repair shall meet the design, installation, and operational requirements of this Article.
   d. Local ordinances may provide independent permitting requirements for repair work.
   e. A person shall not modify the facility so as to create an unsanitary condition or environmental nuisance or cause or contribute to an exceedance of a water quality standard.

10. Cumulative flows. When there is more than one onsite wastewater treatment facility on a property or on a site under common ownership or subject to a larger plan of sale or development, the Director shall determine whether an individual permit is required or whether the applicant qualifies for coverage to discharge under a general permit based on the sum of the design flows from the proposed installation and existing onsite wastewater treatment facilities on the

property or site.

a. If the sum of the design flows is less than 3000 gallons per day, the Department will process the application under R18-9-E302 through R18-9-E322, as applicable.

b. If the sum of the design flows is equal to or more than 3000 gallons per day but less than 24,000 gallons per day, the Department will process the application under R18-9-E323.

c. If the sum of the design flows is equal to or more than 24,000 gallons per day, the project does not qualify for coverage under a Type 4 General Permit and the applicant shall submit an application for an individual permit under Article 2 of this Chapter.

B. Notice of Intent to Discharge under a Type 4 General Permit. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B), an applicant shall submit the following information in a format approved by the Department:

1. A site investigation report that summarizes the results of the site investigation conducted under ~~R18-9-A310(C)~~ R18-9-A310(B), including:
   a. Results from any soil evaluation, percolation test, or seepage pit performance test; ~~and~~
   b. Any surface limiting ~~site conditions~~ condition identified ~~by the site investigation.~~ in R18-9-A310(C)(2); and
   c. Any subsurface limiting condition identified in R18-9-A310(D)(2);
2. A site plan that includes:
   a. The parcel and lot number, if applicable, the property address or other appropriate legal description, the property size in acres, and the boundaries of the property ~~on which the on-site wastewater treatment facility will be installed~~;
   b. A plan of the site drawn to scale, dimensioned, and with a north arrow that shows:
      i. Proposed and 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 down slopes, cut banks, retaining walls, and any other constructed feature that affects proper location, design, construction, or operation of the facility;
      ii. Any feature less than 200 feet ~~outside the property boundary~~ from the onsite wastewater treatment facility excavation and reserve area that constrains the location of the onsite wastewater treatment facility because of setback limitations specified in R18-9-A312(C);
      iii. Topography, delineated with an appropriate contour interval, showing original and post-installation grades;
      iv. Location and identification of the treatment and disposal works and ~~connecting~~ wastewater pipelines, the reserve disposal area, and location and identification of all sites of percolation testing and soil evaluation performed under R18-9-A310; and
      v. Location of any public sewer if 400 feet or less from the property line~~.~~;
   ~~c. For improvements in areas in which occupancy of property may depend on installation of a drinking water well and an on-site wastewater treatment facility, the location of features within the boundaries of each adjoining undeveloped property if setback requirements may mutually constrain well, cut bank, and on-site wastewater treatment facility locations.~~
3. ~~Design flow, sources of flow, and characteristics of the sewage. The applicant shall calculate the design flow from a list included with the site plan showing the applicable unit sewage flows into the on-site wastewater treatment facility. The applicant shall prepare this list based on Table 1, Unit Daily Design Flows and include the number of bedrooms and plumbing fixtures if the facility serves a residence.~~ The design flow of the onsite wastewater treatment facility expressed in gallons per day based on Table 1, Unit Design Flows and the expected strength of the wastewater if the strength exceeds the levels for typical sewage:
   a. For a single family dwelling, a list of the number of bedrooms and plumbing fixtures and corresponding unit flows used to calculate the design flow of the facility;
   b. For a dwelling other than for a single family, a list of each wastewater source and corresponding unit flows used to calculate the design flow of the facility;
4. For a facility that includes treatment or disposal works permitted under R18-9-E303 through R18-9-E323:
   a. Construction quality drawings that show the following:
      ~~a.~~ i. Systems, subsystems, and key components, including manufacturer's name, model number, and associated construction notes and inspection milestones, as applicable;
      ~~b.~~ ii. A title block, including facility owner, revision date, space for addition of the Department's application number, and page numbers;
      ~~c.~~ iii. A plan and profile with the elevations of wastewater pipelines, treatment and disposal components, including calculations justifying the absorption area, to allow Department verification of hydraulic and performance characteristics;
      ~~d.~~ iv. Cross sections showing wastewater pipelines, 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 a disposal ~~field~~ works or 60 feet below the bottom of a seepage pit, and a soil elevation evaluation to allow ~~the~~ Department ~~to verify~~ verification of installation design and performance; and

~~e.~~ v. Drainage pattern, drainage controls, and erosion protection, as applicable, for the facility; ~~and~~

~~f. Construction quality drawings are not required if the entire facility at the site, including treatment and disposal works, is permitted under R18-9-E302.~~

b. A draft operation and maintenance manual for the onsite wastewater treatment facility consisting of the tasks and schedules for operating and maintaining performance over a 20-year operational life;

5. A list of materials, components, and equipment for constructing the onsite wastewater treatment facility~~.~~; and ~~A list is not required if the entire facility at the site, including treatment and disposal works, is permitted under R18-9-E302.~~

~~6. An operation and maintenance plan required by R18-9-A313 for the on-site wastewater treatment facility. An operation and maintenance plan is not required if the entire facility at the site, including treatment and disposal works, is permitted under R18-9-E302.~~

~~7.~~6. Drawings, reports, and other information that are clear, reproducible, and in a size and format specified by the Department. ~~An applicant may submit the drawings in an electronic format approved by the Department.~~

C. Additional ~~verification of general permit conformance~~ requirements for a Discharge Authorization under a Type 4 General Permit.

1. If the entire onsite wastewater treatment facility ~~at the site~~, including treatment works and disposal works, ~~is~~ will be permitted under ~~the 4.02 General Permit~~ R18-9-E302, the Director shall issue the ~~Verification of General Permit Conformance only~~ Discharge Authorization if:
   a. ~~the~~ The site plan accurately reflects the final location and configuration of the components of the treatment and disposal works, and
   b. The applicant certifies on the Request for Discharge Authorization form that the septic tank passed the watertightness test required by R18-9-A314(E)(4).
2. If the onsite wastewater treatment facility is ~~permitted~~ proposed under ~~any 4.03 through 4.23 General Permit~~ R18-9-E303 through R18-9-E323, either separately or in ~~some~~ any combination ~~of~~ with ~~these permits~~ each other or ~~the 4.02 General Permit~~ with R18-9-E302, the Director shall issue the ~~Verification of General Permit Conformance only~~ Discharge Authorization if the following ~~record~~ documents ~~have been submitted~~ are submitted to the Department:
   a. As-built plans showing changes from construction quality drawings submitted under subsection (B)(4)(a);
   b. A final list of equipment and materials~~, if different from the list specified in~~ showing changes from the list submitted under subsection ~~(B)(5)~~ (B)(4)(b);
   c. A final operation and maintenance ~~plan~~ manual for the onsite wastewater treatment facility consisting of the tasks and schedules for operating and maintaining performance over a 20-year operational life;
   d. A certification that a service contract for ensuring that the facility is operated and maintained to meet the performance and other requirements of the applicable general permits exists for at least one year following the beginning of the operation of the onsite wastewater treatment facility, including the name of the service provider, if the onsite wastewater treatment facility is permitted under:
      i. R18-9-E304,
      ii. R18-9-E308 through R18-9-E315;
      iii. R18-9-E316, if the facility includes a pump; or
      iv. R18-9-E318 through R18-9-E322;
   ~~d.~~e. Other documents, if required by the separate general permits in 18 A.A.C. 9, Article 3, Part E; ~~and~~
   ~~e.~~f. A Certificate of Completion signed by the person responsible for assuring that installation of the facility conforms ~~with~~ to the design approved under the ~~Provisional Verification of General Permit Conformance.~~ Construction Authorization under R18-9-A301(D)(1)(c); and
   g. The name of the installation contractor and the Registrar of Contractor's license number issued to the installation contractor.
3. The Director shall specify in the ~~Verification of General Permit Conformance~~ Discharge Authorization:
   a. The permitted design flow of the facility,
   b. The characteristics of the wastewater sources contributing to the facility, and
   c. A list of the ~~record~~ documents ~~accepted~~ submitted to and reviewed by the Department satisfying subsection (C)(2).

D. Closure requirements. A ~~permittee~~ person who permanently discontinues use of~~, wishes to close~~ an onsite wastewater treatment facility or a cesspool, or is ordered by the Director to close an abandoned facility shall:

1. Remove all sewage from the facility and dispose of the sewage in a lawful manner;
2. Disconnect and remove electrical and mechanical components;
3. Remove or collapse the top of any tank or containment structure~~;~~,
   a. Punch a hole in the bottom of the tank or containment structure if the bottom is below the seasonal high groundwater table;
   ~~a.~~b. Fill the tank or containment structure or any cavity resulting from its removal with earth, sand, gravel, concrete, or other approved material; and
   ~~b.~~c. Regrade the surface to provide ~~positive~~ drainage away from the closed area~~.~~;

4. Cut and plug both ends of the abandoned sewer drain pipe between the building and the onsite wastewater treatment facility not more than ~~five~~ 5 feet outside the building foundation if practical, or cut and plug as close to each end as possible; and
5. Notify the ~~applicable county health or environmental department~~ Department within 30 days of closure.

E. 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 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 if the products significantly contribute to the treatment performance of the system or provide the means to overcome site limitations. The Department ~~shall~~ will not list septic tanks, effluent filters or components that do not significantly affect treatment performance or provide the means to overcome site limitations.
3. A person may request that the Department add a product to the list of proprietary and other reviewed products. The request may include a proposed reference design for review. The performance values in the list shall reflect the treatment performance for defined wastewater characteristics. The Department ~~may~~ shall assess fees under R18-14-102 for product review.
4. ~~The Director may contract for services in administering this subsection.~~

F. Recordkeeping. A permittee authorized to discharge under one or more Type 4 General Permits shall maintain the Discharge Authorization and associated documents for the life of the facility.

R18-9-A310. Site Investigation ~~For~~ for Type 4 Onsite Wastewater Treatment Facilities

A. Definition. For purposes of this Section, "clean water" means water free of colloidal material or additives that could affect chemical or physical properties if the water is used for percolation ~~testing~~ or ~~testing of~~ seepage pit performance testing.

B. ~~The investigator shall perform~~ Site investigation. An applicant shall ensure that an investigator qualified under subsection (H) conducts a site investigation ~~if an on-site wastewater treatment facility is proposed for installation~~ consisting of a surface characterization under subsection (C) and a subsurface characterization under subsection (D). The applicant shall submit the ~~following information~~ results in a format prescribed by the Department. ~~and~~ The site investigation shall provide sufficient data to:

~~1. Determine if any of the following limiting conditions exist:~~
~~a. The soil absorption rate determined by the requirements of this Article is more than 1.20 gallons per square foot per day;~~
~~b. The soil absorption rate determined the requirements of this Article is less than 0.13 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 is less than the minimum vertical separation specified by R18-9-A312(E), or seasonal saturation at the surface occurs;~~
~~d. The surface slope is greater than 15% at the intended location of the on-site wastewater treatment facility;~~
~~e. Minimum setback distances are not within acceptable limits as specified in R18-9-A312(C);~~
~~f. The vertical separation distance from the bottom of the lowest point of the disposal system to a subsurface condition that will cause surfacing of wastewater at the design flow rate or provide a direct conduit to the aquifer is less than the minimum vertical separation specified by R18-9-A312(E);~~
~~g. Surface drainage characteristics at the intended location of the on-site wastewater treatment facility will adversely affect the ability of the facility to function properly; or~~
~~h. The vertical separation distance from the bottom of the lowest point of the disposal system to a subsurface condition that will convey wastewater to a water of the state to cause or contribute to a violation of an Aquifer Water Quality Standard established under A.R.S. Title 49, Chapter 2, Article 2 is less than the minimum vertical separation specified under R18-9-A312(E).~~

~~2.~~1. ~~Allow selection of an appropriate on-site~~ Select appropriate primary and reserve disposal areas for an onsite wastewater treatment facility ~~for the site~~ considering all surface and subsurface limiting conditions ~~that exist~~ in subsections (C)(2) and (D)(2); and

~~3.~~2. Effectively ~~locate,~~ design~~,~~ and install ~~a properly operating on-site wastewater treatment~~ the selected facility to serve the anticipated development at the site, whether or not limiting conditions exist.

C. ~~The site investigation shall include the determination of soil characteristics using one or more of the following methods:~~ Surface characterization.

1. Surface characterization method. The investigator shall characterize the surface of the site where an onsite wastewater treatment facility is proposed for installation using one of the following methods:
   ~~1.~~ a. The "Standard Practice for Surface Site Characterization for Onsite Septic Systems, D5879-95(2003)," published by the American Society for Testing and Materials~~, (D 5879-95E1), approved December 10, 1995~~;. This

material is incorporated by reference and does not include any later amendments or editions of the incorporated material. Copies of the incorporated material are available for inspection at the Arizona Department of Environmental Quality, 1110 W. Washington, Phoenix, AZ 85007 or may be obtained from the American Society for Testing and Materials International, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959; or

b. Another method of surface characterization that can, with accuracy and reliability, identify and delineate the surface limiting conditions specified in subsection (C)(2).

~~2. "Standard Practice for Subsurface Site Characterization of Test Pits for On-site Septic Systems," published by the American Society for Testing and Materials, (D 5921-96E1), approved February 10, 1996;~~

~~3. "Standard Practice for Soil Investigation and Sampling by Auger Borings," published by the American Society for Testing and Materials, (D 1452-80), reapproved 1995, if the depth to groundwater may be within the required minimum vertical separation from the bottom of the disposal field.~~

~~a. The information listed in subsections (C)(1), (C)(2) and (C)(3) is incorporated by reference and does not include any later amendments or editions of the incorporated matter.~~

~~b. Copies of the incorporated material are available for inspection at the Department of Environmental Quality and the Office of the Secretary of State, or may be obtained from the American Society for Testing and Materials, 100 Barr Harbor Drive, Conshohocken, PA 19428-2959.~~

~~4. Percolation testing as specified in subsection (E);~~

~~5. Seepage pit performance testing as specified in subsection (F);~~

~~6. Other methods of soil evaluation, as approved by the Department, that ensure compliance with Aquifer Water Quality Standards through proper system location, selection, design, installation, and operation.~~

2. Surface limiting conditions. The investigator shall determine where any of the following surface limiting conditions exist:

a. The surface slope is greater than 15 percent at the intended location of the onsite wastewater treatment facility;

b. Minimum setback distances are not within the limits specified in R18-9-A312(C);

c. Surface drainage characteristics at the intended location of the onsite wastewater treatment facility will adversely affect the ability of the facility to function properly;

d. A 100-year flood hazard zone, as indicated on the applicable flood insurance rate map, is located within the property on which the onsite wastewater treatment facility will be installed;

e. An outcropping of rock that cannot be excavated exists in the intended location of the onsite wastewater treatment facility or will impair the function of soil receiving the discharge; and

f. Fill material deposits exist in the intended location of the onsite wastewater treatment facility.

~~**D.** Applicability of soil characterization methods.~~

~~1. For a seepage pit constructed under the 4.02 General Permit, the investigator shall test seepage pit performance using the procedure specified in subsection (F).~~

~~2. Soil characterization using one or more of the American Society for Testing and Materials methods specified in subsections (C)(1), (C)(2), and (C)(3) shall be used if one or more of the following site conditions exists:~~

~~a. The natural surface slope at the intended location of the on-site wastewater treatment facility, including the disposal field reserve area, is greater than 15%;~~

~~b. Bedrock or similar consolidated rock formation that cannot be excavated with a shovel outcrops from the lot or is known to exist less than 10 feet below the land surface;~~

~~c. The native soil at the surface or encountered in a boring, trench, or hole consists of more than 35% rock fragments greater than three inches across;~~

~~d. 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, nearby springs, seeps, or surface water bodies, or well records that indicate high water table conditions beneath the intended location; or~~

~~e. A percolation test yields results outside the limits specified in subsection (B)(1)(a) and (B)(1)(b).~~

~~3. Percolation testing as specified in subsection (C)(4) or another method of soil evaluation approved by the Department under subsection (C)(6) may be used to augment soil characterization specified in subsection (D)(2) if useful to locate or design an on-site wastewater treatment facility.~~

~~4. Percolation testing as specified in subsection (C)(4) or another method of soil evaluation approved by the Department under subsection (C)(6) shall be used as the sole method of soil characterization if a soil characterization method specified in subsection (D)(2) is not required.~~

~~5. Unless testing under subsection (C)(5) is required, the Department shall accept a soil characterization method specified in subsection (D)(2) as the sole soil characterization method.~~

D. Subsurface characterization.

1. Subsurface characterization method. The investigator shall characterize the subsurface of the site where an onsite wastewater treatment facility is proposed for installation using one or more of the following methods:

a. The following ASTM standard practices are incorporated by reference and do not include any later amendments

or editions of the incorporated material. Copies of the incorporated material are available for inspection at the Arizona Department of Environmental Quality, 1110 W. Washington, Phoenix, AZ 85007 or may be obtained from the American Society for Testing and Materials International, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959:

i. "Standard Practice for Subsurface Site Characterization of Test Pits for Onsite Septic Systems, D5921-96(2003)e1," published by the American Society for Testing and Materials; and

ii. If the depth to groundwater is less than 10 feet below the bottom of the planned disposal works, "Standard Practice for Soil Investigation and Sampling by Auger Borings, D1452-80(2000)," published by the American Society for Testing and Materials;

b. Percolation testing as specified in subsection (F);

c. Seepage pit performance testing as specified in subsection (G); or

d. Another method of subsurface characterization, approved by the Department, that ensures compliance with water quality standards through proper system location, selection, design, installation, and operation.

2. Subsurface limiting conditions. The investigator shall determine if any of the following limiting conditions exist in the primary and reserve areas of the onsite wastewater treatment facility within a minimum of 12 feet of the land surface or to an impervious soil or rock layer if encountered at a shallower depth:

a. The soil absorption rate determined under R18-9-A312(D)(2) is:

i. More than 1.20 gallons per square foot per day,

ii. Less than 0.20 gallons per square foot per day;

b. The vertical separation distance from the bottom of the lowest point of the disposal works to the seasonal high water table is less than the minimum vertical separation specified in R18-9-A312(E)(1);

c. Seasonal saturation occurs within surface soils that could affect the performance of the onsite wastewater treatment facility;

d. One of the following subsurface conditions that may cause or contribute to the surfacing of wastewater:

i. An impervious soil or rock layer,

ii. A zone of saturation that substantially limits downward percolation from the disposal works,

iii. Soil with more than 50 percent rock fragments;

e. One of the following subsurface conditions that promotes accelerated downward movement of insufficiently treated wastewater:

i. Fractures or joints in rock that are open, continuous, or interconnected;

ii. Karst voids or channels; or

iii. Highly permeable materials such as deposits of cobbles or boulders; or

f. A subsurface condition that may convey wastewater to a water of the state and cause or contribute to an exceedance of a water quality standard established in 18 A.A.C. 11, Articles 1 and 4.

3. Applicability of subsurface characterization methods. The investigator shall:

a. For a seepage pit constructed under R18-9-E302, test seepage pit performance using the procedure specified in subsection (G);

b. For an onsite wastewater treatment facility other than a seepage pit, characterize soil by using one or more of the ASTM methods specified in subsection (D)(1)(a) if any of the following site conditions exists:

i. The natural surface slope at the intended location of the onsite wastewater treatment facility is greater than 15 percent;

ii. Bedrock or similar consolidated rock formation that cannot be excavated with a shovel outcrops on the property or occurs less than 12 feet below the land surface;

iii. The native soil at the surface or encountered in a boring, trench, or hole consists of more than 35 percent rock fragments;

iv. The seasonal high water table occurs within 12 feet of the natural land surface as encountered in trenches or borings, or evidenced by well records or hydrologic reports;

v. Seasonal saturation at the natural land surface occurs as indicated by soil mottling, vegetation adapted to near-surface saturated soils, or springs, seeps, or surface water near enough to the intended location of the onsite wastewater treatment facility to have a connection with potential seasonal saturation at the land surface; or

vi. A percolation test yields results outside the limits specified in subsections (D)(2)(a) and (b).

c. Percolation testing. The investigator may perform percolation testing as specified in subsection (F):

i. To augment another method of subsurface characterization if useful to locate or design an onsite wastewater treatment facility, or

ii. As the sole method of subsurface characterization if a subsurface characterization by an ASTM method is not required under subsection (D)(3)(b).

E. If an ASTM method is used for subsurface characterization, the investigator shall conduct subsurface characterization tests at the site to provide adequate, credible, and representative information to ensure proper location, selection, design,

and installation of the onsite wastewater treatment facility. The investigator shall:

1. Select at least two test locations in the primary area and one test location in the reserve area to conduct the tests;
2. Perform the characterization at each test location at appropriate depths to:
   a. Establish the wastewater absorption capacity of the soil under R18-9-A312(D), and
   b. Aid in determining that a sufficient zone of unsaturated flow is provided below the disposal works to achieve necessary wastewater treatment; and
3. Submit with the site investigation report:
   a. 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 groundwater below the land surface by test trenches or borings, published groundwater data, subdivision reports, or relevant well data; and
   c. A determination of the water absorption characteristics of the soil, under R18-9-A312(D)(2)(b), sufficient to allow location and design of the onsite wastewater treatment facility.

~~E.~~ F. Percolation testing method for subsurface characterization.

1. Planning and Preparation. The investigator shall:
   a. Select ~~a sufficient number of sites~~ at least two locations in the primary area and at least one location in the reserve area for percolation testing, 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. At least two sites shall be selected, one in the primary disposal area and one in the reserve disposal area~~;
   b. Perform percolation testing at each site at ~~appropriate depths within~~ intervals in the soil profile sufficient to:
      i. ~~establish~~ Establish the wastewater absorption capability of the soil ~~in the primary and reserve disposal areas~~ under R18-9-A312(D), and
      ii. ~~to help determine the vertical separation necessary to achieve effective wastewater treatment in the zone of unsaturated flow below the drainfield system~~ Aid in determining that a sufficient zone of unsaturated flow is provided below the disposal works to achieve necessary wastewater treatment. The investigator shall perform percolation tests at multiple depths if there is an indication of an obvious change in soil characteristics that ~~appreciably~~ affect the location, selection, design, installation, or disposal performance of the onsite wastewater treatment facility~~. The bottom of the percolation test hole is the reference elevation and depth for recordkeeping~~;
   c. Excavate percolation test holes in undisturbed soil at least 12 inches deep with ~~a cross section~~ dimensions of 12 inches ~~square~~ by 12 inches, if square, or a diameter of 15 inches, if round. The investigator shall not alter the structure of the soil during the excavation;
   d. Place percolation test holes away from site or soil features that yield unrepresentative or misleading data pertaining to the location, selection, design, installation, or performance of the onsite wastewater treatment facility;
   e. Scarify smeared soil surfaces within the percolation test holes and remove any loosened materials from the bottom of the hole; and
   f. Use buckets with holes in the sides to support the sidewalls of the percolation test hole, if necessary. ~~Any~~ The investigator shall fill 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. Presoaking procedure. The investigator shall:
   a. Fill the percolation test hole with clean water to a depth of 12 inches above the bottom of the hole ~~with clean water~~;
   b. Observe the decline of the water level in the hole and record time in minutes for the water to completely drain away;
   c. Repeat the steps specified in subsection ~~(E)(2)(a) and (E)(2)(b)~~ (F)(2)(a) and (b) if the water drains away in less than 60 minutes.
      i. If the water drains away the second time in less than 60 minutes, the ~~inspector~~ investigator shall repeat the steps specified in subsections ~~(E)(2)(a) and (E)(2)(b) again~~ (F)(2)(a) and (b).
      ii. If the water drains away again in less than 60 minutes, the investigator shall perform the percolation test ~~shall be performed~~ following subsection ~~(E)(3)~~ (F)(3); and
   d. Add clean water to the hole after 60 minutes and maintain the water at a minimum depth of ~~nine~~ 9 inches for at least four more hours if it takes 60 minutes or longer for the water ~~drains away in 60 minutes or greater~~ to drain away. The ~~inspector~~ investigator shall protect the hole from precipitation and runoff, and perform the percolation test specified in subsection ~~(E)(3)~~ (F)(3) ~~shall be performed~~ between 16 and 24 hours after presoaking.
3. Conducting the test. The investigator shall:
   a. Conduct the percolation test before soil hydraulic conditions established by the presoaking procedure substantially change. ~~Any~~ The investigator shall remove 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. Fill the test hole to a depth of ~~six~~ 6 inches above the bottom with clean water;
c. Observe the decline of the water level in the ~~percolation~~ test hole ~~and determine~~ and record the time in minutes for the water level to fall exactly ~~one~~ 1 inch from a fixed reference point. The investigator shall:
   i. ~~immediately~~ Immediately refill the hole with clean water to a depth of ~~six~~ 6 inches above the bottom~~,~~ and ~~shall~~ determine and record the time in minutes for the water level to fall exactly ~~one~~ 1 inch~~.~~,
   ii. ~~The~~ Refill the hole again ~~shall be immediately refilled~~ with clean water to a depth of ~~six~~ 6 inches above the bottom and determine and record the time in minutes for the water to fall exactly ~~one~~ 1 inch ~~shall be determined and recorded.~~, and
   iii. ~~The investigator shall ensure~~ Ensure that the method for measuring water level depth is accurate and does not significantly affect the percolation rate of the test hole;
d. ~~Use the stabilized percolation rate as the basis for design if, when three consecutive measurements vary by no more than 10%.~~ If the percolation rate stabilizes for three consecutive measurements by varying no more than 10 percent, use the highest percolation rate value of the three measurements. If three consecutive measurements indicate that the percolation rate results are not stabilizing or the percolation rate is between 60 and 120 minutes per inch, the investigator shall use an alternate method based on a graphical solution of the test data ~~shall be used~~ to approximate the stabilized percolation rate; ~~and~~
e. Record the percolation rate results in minutes per inch~~. The submittal of percolation test results to the Department shall include~~; and
f. Submit the following information with the site investigation report:
   i. ~~a~~ A log of the soil formations encountered for all percolation tests including information on texture, structure, consistence, percentage of rock fragments, and mottles, if present; ~~the percent of rock fragments; the texture, structure, consistence, mottles, and depth to groundwater;~~
   ii. ~~whether~~ Whether and which test hole was reinforced with a bucket; ~~and~~
   iii. The locations, ~~and~~ depths, ~~or~~ and bottom elevations of the percolation test holes on the site investigation map~~.~~;
   iv. A determination of depth to groundwater below the land surface by test trenches or borings, published groundwater data, subdivision reports, or relevant well data; and
   v. A determination of the water absorption characteristics of the soil, under R18-9-A312(D)(2)(a), sufficient to allow location and design of the onsite wastewater treatment facility.

~~F.~~**G.** Seepage pit performance testing method for subsurface characterization. ~~An~~ The investigator shall test seepage pits described in R18-9-E302 as follows:

1. Planning and Preparation. The investigator shall:
   a. Identify ~~primary and reserve~~ the disposal ~~areas~~ areas at the site~~. A~~ and drill a test hole at least 18 inches in diameter ~~shall be drilled in the primary disposal area~~ to the depth of the bottom of the proposed seepage pit, at least 30 feet deep~~;~~, and
   b. Scarify soil surfaces within the test hole and remove loosened materials from the bottom of the hole.
2. Presoaking procedure. The investigator shall:
   a. Fill the bottom ~~six~~ 6 inches of the test hole with gravel, if necessary, to prevent scouring;
   b. Fill the test hole with clean water up to ~~three~~ 3 feet below the land surface;
   c. Observe the decline of the water level in the hole and determine the time in hours and minutes for the water to completely drain away;
   d. Repeat the procedure if the water drains away in less than four hours; If the water drains away the second time in less than four hours, ~~then~~ the investigator shall conduct the seepage pit performance test ~~shall be conducted~~ following subsection ~~(F)(3)~~ (G)(3);
   e. Add water to the hole and maintain the water at a depth that leaves at least the top ~~three~~ 3 feet of hole exposed to air for at least four more hours if the water drains away in four or more hours; and
   f. Not remove the water from the hole before the seepage pit performance test if there is standing water in the hole after at least 16 hours of presoaking.
3. Conducting the test. The investigator shall:
   a. Fill the test hole with clean water up to ~~three~~ 3 feet below land surface;
   b. Observe the decline of the water level in the hole and determine and record the vertical distance to the water level from a fixed reference point every 10 minutes~~;~~. The investigator shall ensure that the method for measuring water level depth is accurate and does not significantly affect the rate of fall of the water level in the test hole;
   c. Measure the decline of the water level continually until three 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 numerical limit specified in R18-9-A312(E), the investigator shall use an alternate method based on a graphical solution of the test data ~~shall be used~~ to approximate the final stabilized infiltration rate;
   d. Percolation test rate. Calculate the stabilized infiltration rate for a seepage pit determined by the test hole proce-

dure specified in subsection (G)(1)(a) using the formula P = (15 / DS) x IS to determine an equivalent percolation test rate. Once "P" is determined, the investigator shall use R18-9-A312(D)(2)(a) to establish the design SAR for wastewater treated under R18-9-E302 and to calculate the required minimum sidewall area for the seepage pit using the equation specified in R18-9-E302(C)(5)(k).

i. "P" is the percolation test rate (minutes per inch) tabulated in the first column of the table in R18-9-A312(D)(2)(a),
ii. "DS" is the diameter of the seepage pit test hole in inches, and
iii. "IS" is the seepage pit stabilized infiltration rate (minutes per inch) determined by the procedure specified in R18-9-A310(F)(3)(c);

d.e. Submit the ~~seepage pit performance test results to the Department, including~~ following information with the site investigation report:

i. ~~Data~~ The results of the seepage pit performance testing including data, calculations, and findings on a form provided by the Department;
ii. The log of the test hole indicating lithologic characteristics and points of change; ~~and~~
iii. The location of the test hole on the site investigation map~~.~~; and
iv. A determination of depth to groundwater below the land surface by borings, published groundwater data, subdivision reports, or relevant well data.

e.f. Fill the test hole so that groundwater quality and public safety are not compromised if the seepage pit is drilled elsewhere or if a seepage pit cannot be sited at the location because of unfavorable test results.

~~G. Soil evaluation procedures. If one or more of the soil evaluation procedures specified by subsection (C)(1), (C)(2), or (C)(3) are used, the following rules apply and the investigator shall:~~

~~1. Ensure that the number of test locations selected for soil evaluation are sufficient to provide adequate and credible information to ensure proper location, selection, design, and installation of a properly working on-site wastewater treatment facility and reserve drainfield. The investigator shall select at least two test locations, one in the primary disposal area and one in the reserve disposal area;~~
~~2. Perform a soil evaluation at each test location at appropriate depths within the soil profile to establish the capability of the soil in the primary and reserve disposal areas to absorb wastewater, and determine the vertical separation necessary to achieve effective wastewater treatment in the zone of unsaturated flow below the drainfield system;~~
~~3. Not conduct soil evaluations near site or soil features that yield unrepresentative or misleading data relating to the location, selection, design, installation, or performance of the on-site wastewater treatment facility;~~
~~4. Include the following in a soil evaluation:~~
~~a. 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 the land surface by test holes, published groundwater data, subdivision reports, or relevant well data; and~~
~~c. A determination of the water absorption characteristics of the soil, under R18-9-A312(D)(2)(b), sufficient to allow location and design of the on-site wastewater treatment facility.~~

H. Qualifications. An investigator shall not perform a site investigation under this Section unless the investigator has knowledge and competence in the subject area and is licensed in good standing or otherwise qualified in one of the following categories:

1. Arizona-registered professional engineer,
2. Arizona-registered geologist,
3. Arizona-registered sanitarian,
4. A certificate of training from a course recognized by the Department as sufficiently covering the information specified in this Section, or
5. Qualifies under another category designated in writing by the Department.

R18-9-A311. Facility Selection ~~For~~ for Type 4 Onsite Wastewater Treatment Facilities

A. A person shall select, design, and install an onsite wastewater treatment facility that is appropriate for the site's geographic location, setback limitations, slope, topography, drainage and soil characteristics, wastewater infiltration capability, depth to the seasonal high water table, and any surface or subsurface limiting condition.

1. A person may use onsite treatment and disposal technologies covered by a Type 4 General Permit alone or in combination with another Type 4 General Permit to overcome site limitations.
2. An applicant may submit a single Notice of Intent to Discharge for an onsite wastewater treatment facility consisting of components or technologies covered by multiple general permits if the information submittal requirements of all the general permits are met.
3. The Director shall issue a single Construction Authorization under R18-9-A301(D)(2) for an onsite wastewater treatment facility that consists of components or technologies covered by multiple general permits.

~~A.~~**B.** A person may ~~seeking to~~ install ~~an on-site wastewater treatment facility~~ a septic tank and disposal works system described

in R18-9-E302 as the sole method of wastewater treatment and disposal at a site ~~may install the facility~~ if the site investigation conducted under R18-9-A310 indicates that ~~none of the~~ no limiting condition identified under R18-9-A310(C) or R18-9-A310(D) exists ~~site conditions described in R18-9-A310(B) exist~~ at the site~~, except as provided in subsection (C)~~.

1. A person may install 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-A312(E).
2. The person shall specify in the Notice of Intent to Discharge ~~shall specify~~ that ~~none of the~~ no limiting ~~site~~ conditions described in ~~R18-9-A310(B)~~ R18-9-A310(C) and (D) were identified at the site.

~~**B.** The on-site wastewater treatment facility for the site shall be selected, designed, and installed to overcome the identified site limitations.~~

~~1. On-site treatment and disposal systems and technologies covered by Type 4 General Permits may be used alone or in combination to overcome the site limitations.~~
~~2. An applicant may submit a single Notice of Intent to Discharge for a system consisting of components or technologies covered by multiple general permits if the information submittal requirements of all the general permits are met.~~
~~3. The Director shall, except in unusual circumstances, issue a single Provisional Verification of General Permit Conformance established under R18-9-A301(D)(2) for the on-site wastewater treatment facility.~~

~~**C.** A person seeking to install an on-site wastewater treatment facility shall select a facility that is appropriate for 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 on-site wastewater treatment facility described in R18-9-E302 shall not be used by itself at a site where limiting site conditions are identified, except the Department shall review and may approve a facility based on the procedures and conditions under R18-9-A312(G) if no more than one of the limiting site conditions specified by R18-9-A310(B)(1)(a), (B)(1)(b) or (B)(1)(d) exists.~~

C. If any surface or subsurface limiting condition is identified in the site investigation report, an applicant may propose installation of a septic tank and disposal works system described in R18-9-E302 only if:

1. The applicant submits a separate report under R18-9-A312(G) describing:
   a. How the design of the septic tank and disposal works system specified in R18-9-E302 was modified to overcome limiting conditions;
   b. How the modified design meets the criteria of R18-9-A312(G)(3); and
   c. A site-specific SAR under R18-9-A312(D)(2)(a) or (b), as applicable; and
2. None of the following surface or subsurface limiting conditions are identified at the site:
   a. An outcropping of rock that cannot be excavated or will impair the function of soil receiving the discharge exists in the intended location of the onsite wastewater treatment facility, as described in R18-9-A310(C)(2)(e);
   b. The vertical separation distance from the bottom of the lowest point of the disposal works to the seasonal high water table is less than the minimum vertical separation distance, as described in R18-9-A310(D)(2)(c); or
   c. A subsurface condition that promotes accelerated downward movement of insufficiently treated wastewater as described in R18-9-A310(D)(2)(e).

~~**D.** If an on-site wastewater treatment facility, described in R18-9-E302, 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-E302, unless the applicant supplies a statement with the Notice of Intent to Discharge justifying the use of a system not authorized under R18-9-E302.~~

D. If a site can accommodate a septic tank and disposal works system described in R18-9-E302, the applicant shall not install a treatment works or disposal works described in R18-9-E303 through R18-9-E322 unless the applicant submits a statement to the Department with the Notice of Intent to Discharge acknowledging the following:

1. The applicant is aware that although a septic tank and disposal works system described in R18-9-E302 is appropriate for the site, the applicant desires to install a treatment works or disposal works authorized under R18-9-E303 through R18-9-E322; and
2. The applicant is aware that a treatment works or disposal works authorized under R18-9-E303 through R18-9-E322 may result in higher capital, operation, and maintenance costs than for a septic tank and disposal works system described in R18-9-E302.

R18-9-A312. Facility Design ~~For~~ for Type 4 Onsite Wastewater Treatment Facilities

A. General design requirements. A person designing the onsite wastewater treatment facility shall:

1. Sign design documents submitted as part of the Notice of Intent to Discharge ~~or subsequently~~ to obtain a ~~Provisional Verification of General Permit Conformance~~ Construction Authorization, including plans, specifications, drawings, reports, and calculations; and
2. Locate and design the onsite wastewater treatment facility project using good design ~~judgement~~ judgment and rely on appropriate design methods and calculations.

B. Design considerations and flow determination. A person designing the onsite wastewater treatment facility shall:

1. Design the facility to satisfy a 20-year operational life;
2. Design the facility based on ~~design flow~~ the provisions of:

~~a.~~ ~~General Permits 4.02 through 4.22 apply only to~~ one or more of the general permits in R18-9-E302 through R18-9-E322 for facilities with a design flow of less than 3000 gallons per day~~.~~, and

~~b.~~ ~~General Permit 4.23 applies only to~~ R18-9-E323 for facilities with a design flow of 3000 gallons per day to less than 24,000 gallons per day;

3. ~~Use Table 1, Unit Daily Design Flows, to determine design flow;~~ Design the facility based on its design flow and wastewater characteristics as specified in R18-9-A309(B)(3);
4. ~~Apply the following design requirements to~~ For onsite wastewater treatment facilities permitted under R18-9-E303 through R18-9-E323, apply the following design requirements, as applicable:
   a. Include the power source and power components in construction drawings if electricity or another type of power is necessary for facility operation;
   b. ~~Perform a linear loading rate analysis for subsurface wastewater flow if the site investigation indicates that an impermeable layer or seasonal high water table exists less than 10 feet below the bottom of the disposal works~~ If a hydraulic analysis is required under R18-9-A312(E), perform the analysis based on the location and dimensions of the bottom and sidewall surfaces of the disposal works that are identified in the design documentation;
   c. Design components, piping, ports, seals, and appurtenances to withstand installation loads, internal and external operational loads, and buoyant forces. ~~Ports shall be designed~~ Design ports for ~~firmness of position~~ resistance against movement, and cap or cover openings ~~shall be capped or covered~~ for protection from damage and entry by rodents, mosquitoes, flies, or other organisms capable of transporting a disease causing organism;
   d. Design tanks, liners, ports, seals, piping to and within the facility, and appurtenances for watertightness under all operational conditions;
   e. Provide adequate storage capacity above high operating level to:
      i. Accommodate a 24-hour power or pump outage, and
      ii. Contain wastewater that is incompletely treated or cannot be released by the disposal works to the native soil~~.~~;
   f. If a fixed media process is used, ~~include~~ provide in the construction drawings the media material, installation specification, ~~bed~~ media configuration, and wastewater loading rate of the media at the daily design flow ~~in construction drawings~~; ~~and~~
   g. Provide a fail-safe wastewater control ~~mechanism~~ or operational process, if required by the general permit~~, for total containment of incompletely treated wastewater.~~ to prevent discharge of inadequately treated wastewater; and
   h. Reference Design. If using a reference design on file with the Department, indicate the reference design within the information submitted with the Notice of Intent to Discharge.

C. Setbacks. The following setbacks apply unless the Department:
1. Specified alternative setbacks under Article 3, Part E of this Chapter;
2. ~~has authorized~~ Approves a different setback under the procedure specified in subsection (G)~~.~~; or ~~has established~~
3. Establishes a more stringent setback on a site- or area-specific basis to ensure compliance with water quality standards.

~~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~~
~~Perennial or intermittent 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 or a well tapping streamside saturated alluvium)~~	~~200~~	~~200~~
~~Drainage easement or wash with drainage area more than five acres (5)~~	~~50~~	~~50~~
~~Water main or branch water line~~	~~10~~	~~10~~
~~Domestic service water line (6)~~	~~5~~	~~5~~
~~Downslope cut banks and culvert or 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. A setback may be reduced to a minimum of five feet from the property line 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 at least 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. A setback may be reduced to 25 feet if natural or constructed erosion protection is approved by the appropriate flood plain administrator.~~

~~(6) The 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 one 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 one to three feet from a sewer line but does not cross the sewer line shall be one foot above the sewer line and may be on a bench in the same trench or in a separate trench.~~

~~d. A water line that is less than one 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 four 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) A setback may be increased due to soil loading and stability concerns.~~

Features Requiring Setbacks	Setback For An Onsite Wastewater Treatment Facility, Including Reserve Area (In Feet)	Special Provisions
1. Building	10	Includes porches, decks, and steps (covered or uncovered), breezeways, roofed patios, carports, covered walks, and similar structures and appurtenances.
2. Property line shared with any adjoining lot or parcel not served by a common drinking water system* or an existing drinking water well	50	A person may reduce the setback to a minimum of 5 feet from the property line if: a. The owners of any affected undeveloped adjacent properties agree by an appropriately recorded document to limit the location of any new well on their property to at least 100 feet from the proposed treatment works and primary and reserve disposal works; and b. The arrangements and documentation are approved by the Department.
3. All other property lines	5	None
4. Public or private water supply well.	100	None
5. Perennial or intermittent stream	100	Measured horizontally from the high water line of the peak streamflow from a 10-year, 24-hour rainfall event.
6. Lake, reservoir, or canal	100	Measured horizontally from the high water line from a 10-year, 24-hour rainfall event at the lake or reservoir.
7. Drinking water intake from a surface water source (includes an open water body, downslope spring or a well tapping streamside saturated alluvium)	200	Measured horizontally from the onsite wastewater treatment facility to the structure or mechanism for withdrawing raw water such as a pipe inlet, grate, pump, intake or diversion box, spring box, well, or similar structure.
8. Wash with drainage area of more than 20 acres or a drainage easement	50	Measured horizontally from the nearest edge of the defined natural channel bank or drainage easement boundary. A person may reduce the setback to 25 feet if natural or constructed erosion protection is approved by the appropriate flood plain administrator.
9. Water main or branch water line	10	None
10. Domestic service water line	5	Measured horizontally between the water line and the wastewater pipe, except that the following are allowed: a. A water line may cross above a wastewater pipe if the crossing angle is between 45 and 90 degrees and the vertical separation distance is 1 foot or more. b. A water line may parallel a wastewater pipe with a horizontal separation distance of 1 foot to 5 feet if the bottom of the water line is 1 foot or more above the top of the wastewater pipe and is in a separate trench or on a bench in the same trench.

11. Downslopes or cut banks greater than 15 percent, culverts, and ditches. a. Treatment works components	10	Measured horizontally from the bottom of the treatment works component to the closest point of daylighting on the surface.
b. Trench, bed, chamber technology, or gravelless trench with: i. No limiting subsurface condition specified in R18-9-A310(D)(2),	20	Measured horizontally from the bottom of the lowest point of the disposal pipe or drip lines, as applicable, to the closest point of daylighting on the surface.
ii. A limiting subsurface condition.	3	Measured horizontally from the bottom of the lowest point of the disposal pipe or drip lines, as applicable, to the closest point of daylighting on the surface.
c. Subsurface drip lines.	50	
12. Driveway	5	Measured horizontally to the nearest edge of an onsite wastewater treatment facility excavation. A person may place a properly reinforced and protected wastewater treatment facility, except for disposal works, at any location relative to a driveway if access openings, risers, and covers carry the design load and are protected from inflow.
13. Swimming pool excavation	5	Except if soil loading or stability concerns indicate the need for a greater separation distance.
14. Easement (except drainage easement)	5	None
1 5. Earth fissures	100	None

* A "common drinking water system" means 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.

D. Soil absorption rate (SAR) and disposal ~~field~~ works sizing.

1. A person designing the subsurface disposal works shall determine the soil absorption area by dividing the design flow by the applicable soil absorption rate. If soil characterization and percolation test methods yield different SAR values or if multiple applications of the same approach yield different values, the designer of the disposal ~~field~~ works shall use the ~~most conservative value unless a less conservative value~~ lowest SAR value unless a higher SAR value is proposed and justified to the Department's satisfaction in the Notice of Intent to Discharge.
2. The ~~maximum~~ SAR used to calculate disposal ~~field~~ works size for systems described in R18-9-E302 is as follows:
   a. The SAR by percolation testing as described in ~~R18-9-A310(E)(3)~~ R18-9-A310(F) ~~for shallow and deep disposal fields~~ is determined ~~from the results of percolation tests~~ as follows:

Percolation Rate from Percolation Test (minutes per inch)	SAR, ~~Shallow~~ Trench, ~~Disposal Field~~ Chamber, and Pit (gal/day/ft^2)	SAR, ~~Deep~~ Bed ~~Disposal Field~~ (gal/day/ft^2)
Less than 1.00	~~See Note~~ A site-specific SAR is required	~~See Note~~ A site-specific SAR is required
1.00 to less than 3.00	1.20	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
Greater than 120	~~See Note~~ A site-specific SAR is required	~~See Note~~ A site-specific SAR is required

~~Note: A disposal field described in R18-9-E302 is not allowed unless approved by the Department under R18-9-A311(C).~~

b. The ~~maximum~~ SAR ~~for shallow and deep disposal fields~~ using the soil evaluation method described in ~~R18-9-A310(G)~~ R18-9-A310(E) is determined by answering the questions in the following table. The questions are read in sequence starting with "A." The first "yes" answer determines the ~~maximum~~ SAR ~~used to calculate disposal field size for systems described in R18-9-E302~~.

Sequence of Soil Characteristics Questions	SAR, Trench, Chamber, and Pit ~~Shallow Disposal Field System (gallons per day per square foot)~~ gal/day/ft2	SAR, Bed ~~Deep Disposal Field System (gallons per day per square foot)~~ gal/day/ft2
A. Is the horizon gravelly coarse sand or coarser?	~~See Note~~ A site-specific SAR is required	~~See Note~~ A site-specific SAR is required
B. Is the structure of the horizon moderate or strongly platy?	~~See Note~~ A site-specific SAR is required	~~See Note~~ A site-specific SAR is required

C. Is the texture of the horizon sandy clay loam, clay loam, silty clay loam, or finer and the soil structure weak platy?	~~See Note~~ A site-specific SAR is required	~~See Note~~ A site-specific SAR is required
D. Is the moist consistency stronger than firm or any cemented class?	~~See Note~~ A site-specific SAR is required	~~See Note~~ A site-specific SAR is required
E. Is the texture sandy clay, clay, or silty clay of high clay content and the structure massive or weak?	~~See Note~~ A site-specific SAR is required	~~See Note~~ A site-specific SAR is required
F. Is the texture sandy clay loam, clay loam, silty clay loam, or silty loam and the structure massive?	~~See Note~~ A site-specific SAR is required	~~See Note~~ A site-specific SAR is required
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, loam, or 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	~~See Note~~ A site-specific SAR is required

~~Note: A disposal field described in R18-9-E302 is not allowed, unless approved by the Department under R18-9-A311(C) and an applicable SAR is provided.~~

~~e. For subsections (D)(2)(a) and (D)(2)(b), a shallow disposal field has a maximum depth below finished grade of five feet or less and a deep disposal field has a depth below finished grade of more than five feet.~~

3. For an onsite wastewater treatment ~~facilities~~ facility described in a general permit other than R18-9-E302, the SAR is dependent on the ability of the facility to reduce the level of TSS and BOD_5 and is calculated using the following formula:

~~$$SAR_a = \left[\left(\frac{6.15}{\sqrt[3]{TSS + BOD_5}} - 1.01\right) SAR^{1.28} + 1\right] SAR$$~~

$$SAR_a = \left[\left(\frac{11.39}{\sqrt[3]{TSS + BOD_5}} - 1.87\right) SAR^{1.13} + 1\right] SAR$$

a. "SAR_a" is the adjusted soil absorption rate for disposal ~~field~~ works design in gallons per day per square foot,
b. "TSS" is the total suspended solids in wastewater delivered to the disposal ~~field~~ works in milligrams per liter,

c. "BOD_5" is the five-day biochemical oxygen demand of wastewater delivered to the disposal ~~field~~ works in milligrams per liter, and
d. "SAR" is the soil absorption rate for septic tank ~~wastewater~~ effluent determined by the ~~percolation test or soil evaluation procedure~~ subsurface characterization method described in R18-9-A310.

4. ~~A person designing the facility shall ensure that the on-site wastewater treatment facility has 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) to allow installation of a reserve field if the original disposal field cannot absorb all of the wastewater. A person shall not impair the usefulness of the reserve area by division of the property, construction of structures, or improvements on the property.~~ A person designing the facility shall ensure that the area of the intended installation is large enough to allow for construction of the facility and for future replacement or repair and is at least as large as the following:
   a. For a dwelling, a primary area for the disposal works sized according to subsection (D)(1) and a reserve area of 100 percent of the primary area, excluding the footprint of the treatment works. A reserve area is not required for a lot in a subdivision approved before 1974 provided the lot conforms to its original approved configuration;
   b. For other than a dwelling, a primary area for the disposal works sized according to subsection (D)(1) and a reserve area of 100 percent of the primary area, excluding the footprint of the treatment works.
5. A person designing the subsurface disposal works shall ensure that the disposal works achieves the design flow established in R18-9-A309(B)(3), through proper hydraulic function, including conditions of seasonally cold and wet weather.

E. ~~Minimum vertical separation~~ Vertical separation distances.

1. ~~The minimum~~ Minimum vertical separation ~~from the bottom of the lowest point of the disposal system to the top of the nearest limiting subsurface condition described in R18-9-A310 (B)(1)(c), (B)(1)(f), and (B)(1)(h) for on-site wastewater treatment facilities~~ to the seasonal high water table for a disposal works described in R18-9-E302~~,~~ receiving septic tank effluent. For a disposal works described in R18-9-E302 receiving septic tank effluent, the minimum vertical separation distance between the lowest point in the disposal works and the seasonal high water table is dependent on the soil absorption rate and is determined as follows:

~~MAXIMUM SOIL ABSORPTION RATE~~ Soil Absorption Rate (gallons per day per square foot)			**~~Minimum Vertical Separation~~ Minimum Vertical Separation Between The Bottom Of The Disposal Works And The Seasonal High Water Table (feet)**	
~~Shallow Disposal Field~~ Trench and Chamber	**~~Deep Disposal Field~~ Bed**	**Seepage Pit**	**~~Shallow or Deep Disposal Field~~ Trench, Chamber, and Bed**	**Seepage Pit**
1.20+	0.93+	1.20+	Not allowed for septic tank effluent	Not Allowed
0.63+ to 1.20	0.42 to 0.93	0.63+ to 1.20	10	60
0.20 to 0.63	0.13 to 0.42	0.36 to 0.63	5	~~25~~60
Less than 0.20	Less than 0.13	Less than 0.36	Not allowed for septic tank effluent	Not Allowed

2. Minimum vertical separation to the seasonal high water table for treatment and disposal works described in R18-9-E303 through R18-9-E322. ~~The allowable~~ If the minimum vertical separation ~~from the bottom of the constructed disposal field to the top of the nearest indicated limiting subsurface condition is dependent on the ability of the facility to reduce the level~~ distance to the seasonal high water table for a disposal works receiving septic tank effluent specified in subsection (E)(1) is not met, the applicant shall employ one or more technologies described in R18-9-E303 through R18-9-E322 to achieve a reduced concentration of harmful microorganisms, expressed as total coliform in colony forming units per 100 milliliters (cfu/100 ml) delivered to native soil ~~below~~ at the bottom of the disposal works. ~~at least 95% of the time. A treatment works, disposal works, or a combination of these works that achieves a treatment level specified in the following table may be used to determine the corresponding minimum vertical separation:~~ The applicant shall use the following table to select works that achieve a reduced total coliform concentration corresponding to the available vertical separation distance between the lowest point in the disposal works and the seasonal high water table:

~~Total Coliform Concentration, 95th Percentile, Delivered to Natural Soil by the Disposal System (Log_{10} of coliform concentration in cfu per 100 milliliters)~~	~~Minimum Vertical Separation (feet)~~	
	~~For SAR*, 0.20 to 0.63~~	~~For SAR*, 0.63+ to 1.20~~
~~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~~

Available Vertical Separation Distance Between the Bottom of The Disposal Works and the Seasonal High Water Table (feet)		Maximum Allowable Total Coliform Concentration, 95th Percentile, Delivered to Natural Soil by the Disposal Works (Log_{10} of coliform concentration in cfu per 100 milliliters)
For SAR*, 0.20 to 0.63	For SAR*, 0.20 to 0.63	
5	10	8**
4	8	7
3.5	7	6
3	6	5
2.5	5	4
2	4	3
1.5	3	2
1	2	1
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 (10^8 colony forming units per 100 ml).
*** Nominally free of coliform bacteria.

3. ~~To determine the minimum vertical separation, the nearest limiting subsurface condition means a property of the soil or a zone in the subsurface that critically restricts or critically and adversely accelerates downward percolation of wastewater. Limiting subsurface conditions may include, but are 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.~~ Vertical separation from a subsurface limiting condition described in R18-9-A310(D)(2)(d) that may cause or contribute to surfacing of wastewater. If a subsurface limiting condition described in R18-9-A310(D)(2)(d) exists at the location of the disposal works, the applicant shall ensure that the design for the onsite wastewater treatment facility meets one of the following:

a. A zone of acceptable native soil with the following characteristics exists between the bottom of the disposal works and the top of the subsurface limiting condition:
   i. The zone of soil is at least 4 feet thick,
   ii. The zone of soil is sufficiently permeable to conduct wastewater released from the disposal works vertically downward and laterally without causing surfacing of the wastewater as documented by a hydraulic analysis submitted with the Notice of Intent to Discharge that is based on the dimensions of the absorption surfaces specified in R18-9-A312(B)(4)(b);

b. The subsurface limiting condition is thin enough to allow placement of a disposal works into acceptable native soil beneath the subsurface limiting condition provided the following criteria are met:
   i. The bottom of the subsurface limiting condition is not deeper than 10 feet below the land surface, and
   ii. The vertical separation distance from the bottom of the disposal works to the seasonal high water table complies with subsection (E)(1) or (2), as applicable; or

c. If the disposal works is placed above the subsurface limiting condition and the depth to the subsurface limiting condition is less than 4 feet below the bottom of the disposal works, the design for the onsite wastewater treatment facility shall comply with all of the following:
   i. Employ one or more technologies described in R18-9-E303 through R18-9-E322 to achieve a reduced concentration of harmful microorganisms, expressed as total coliform in colony forming units per 100 milliliters (cfu/100 ml), delivered to acceptable native soil at the bottom of the disposal works, as follows:

Available Vertical Separation Distance from the Bottom of the Disposal Works to the Subsurface Limiting Condition (feet)	**Maximum Allowable Total Coliform Concentration, 95th Percentile, Delivered to Acceptable Native Soil by the Disposal Works (Log_{10} of coliform concentration in cfu per 100 milliliters)**
3.5	7
3	6
2.5	5
2	4
1.5	0*
1	0*
0.5	0*
0	0*

* Nominally free of coliform bacteria.

   ii. If the SAR of the native soil into which the disposal works is placed is not more than 0.63 gallons per day per square foot, include a hydraulic analysis with the Notice of Intent to Discharge, based on the dimensions of the absorption surfaces specified in R18-9-A312(B)(4)(b), showing that the soil is sufficiently permeable to conduct wastewater vertically downward and laterally without surfacing for the site conditions at the disposal works; and
   iii. If a disinfection device under R18-9-E320 is proposed but is not used with surface disposal of wastewater under R18-9-E321 or "Category A" drip irrigation disposal under R18-9-E322, provide a justification with the Notice of Intent to Discharge stating why the selected type of disposal works is favored over disposal under R18-9-E320 or R18-9-E321.

4. Vertical separation from a subsurface limiting condition described in R18-9-A310(D)(2)(e) that promotes accelerated downward movement of insufficiently treated wastewater. If a subsurface limiting condition described in R18-9-A310(D)(2)(e) exists at the location of the proposed disposal works, the applicant shall ensure that the design for the onsite wastewater treatment facility meets one of the following:
   a. A zone of naturally occurring soil with the following characteristics exists between the bottom of the disposal works and the top of the subsurface limiting condition:
      i. The zone of soil is at least 2 feet thick, and

ii. The SAR of the soil is not less than 0.20 gallons per day per square foot nor more than 1.20 gallons per day per square foot; or

b. The onsite wastewater treatment facility employs one or more technologies described in R18-9-E303 through R18-9-E322 that produces treated wastewater that meets a total coliform concentration of 1,000,000 ($Log_{10}6$) colony forming units per 100 milliliters, 95th percentile.

F. Materials and manufactured system components.

1. Materials. ~~If no materials specifications are required under this Article, aggregate may be used in disposal trenches or for other uses in an on-site wastewater treatment facility.~~ The person shall use aggregate if no specification for disposal works material is provided in this Article.
2. Manufactured components. If manufactured components are used, a person shall design, install, and operate the onsite wastewater treatment facility following the manufacturer's specifications. The person shall ensure that:
   ~~a. If manufactured components are used, the on-site wastewater treatment facility shall be designed, installed and operated following the manufacturer's specifications. The process described in subsection (G) shall be used to propose any deviation that is less stringent than the manufacturer's specifications.~~
   ~~b.~~a. 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.~~b. Treatment and containment components, pipe, fittings, pumps, and related components and controls ~~shall be~~ are durable, watertight, structurally sound, and capable of withstanding stress from installation and operational service~~.~~; and
   ~~d.~~c. Distribution lines for disposal ~~fields shall be~~ works are constructed of clay tile laid with open joints, perforated clay pipe, perforated high density polyethylene pipe, perforated ABS pipe, or perforated PVC pipe if 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~~ Electronic components. When electronic components are used, the person shall ensure that:
   a. Instructions and a wiring diagram ~~shall be~~ are mounted on the inside of a control panel cover~~.~~;
   b. The control panel ~~shall be~~ is equipped with a multimode operation switch, red alarm light, buzzer, and reset button~~.~~;
   c. The multimode operation switch ~~shall operate~~ operates in the automatic position for normal system operation~~.~~; and
   d. An anomalous condition ~~shall be~~ is 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.
4. If a conflict exists between this Article and the manufacturer's specifications, the requirements of this Article apply. Except for the requirements in subsection (D) and (E), which always apply, if the conflict voids a manufacturer's warranty, the applicant may submit a request under subsection (G) justifying use of the manufacturer's specifications.

G. Alternative design, setback, installation, or operational features. When a person submits a Notice of Intent to Discharge, the person may request that the Department review and approve a feature of improved or alternative technology, design, setback, installation, or operation that differs from a general permit requirement in this Article.

1. The person shall make the request for an alternative feature of technology, design, setback, installation, or operation on a form provided by the Department and include:
   a. A description of the requested change;
   b. A citation to the applicable design, setback, installation, or operational requirement for which the change is being requested; and
   c. Justification for the requested change, including any necessary supporting documentation.
2. The person shall submit the appropriate fee specified under 18 A.A.C. 14 for each requested change. For 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. The person shall provide sufficient information for the Department to determine that the change achieves equal or better performance compared with the general permit requirement, or addresses site or system conditions more satisfactorily than the requirements of this Article.
4. The Department shall review and may approve the request for change.
5. The Department shall deny the request for the change if the change adversely affects other permittees or causes or contributes to a violation of an Aquifer Water Quality Standard.
6. The Department shall deny the request for the change if the change:
   a. Fails to achieve equal or better performance compared to the general permit requirement~~.~~;
   b. Fails to address site or system conditions more satisfactorily than the general permit requirement~~.~~;
   c. Is insufficiently justified based on the information provided in the submittal~~.~~;
   d. Requires excessive review time, research, or specialized expertise by the Department to act on the request~~.~~; or
   e. For any other justifiable cause.

7. The Department may approve a smaller setback for a facility authorized to discharge under one or more of the general permits in R18-9-E303 through R18-9-E322, either separately or in combination with a septic tank system authorized under R18-9-E302, provided the applicant demonstrates that:
   a. The treatment performance is significantly better than that provided under R18-9-E302(B),
   b. The wastewater loading rate is reduced, or
   c. Surface or subsurface characteristics ensure that reduced setbacks are protective of human health or water quality.

R18-9-A313. Facility Installation, ~~and~~ Operation, and Maintenance ~~Plan For~~ for Onsite Wastewater Treatment Facilities

A. Facility installation. In addition to installation requirements in the general permit, the applicant shall ensure that the following tasks are performed, as applicable~~.~~:
1. The facility is installed as described in design documents submitted with the Notice of Intent to Discharge;
2. Components are installed on a firm foundation that supports the components and operating loads;
3. The site is prepared to protect native soil beneath the soil absorption area and in adjacent areas from compaction, prevent smeared absorption surfaces, minimize disturbances from grubbing, and otherwise preclude damage to the disposal area that would impair performance;
4. Components are protected from damage at the construction site and installed in conformance with the manufacturer's instructions if consistent with this Article;
5. Treatment media is placed to achieve uniform density, prevent differential settling, produce a level inlet surface unless otherwise specified, and avoid introduction of construction contaminants;
6. Backfill is placed to prevent damage to geotextile, ~~liner materials~~ liners, tanks, and other components;
7. Soil cover is shaped to shed rainfall away from the backfill areas and prevent ponding of runoff; and
8. Anti-buoyancy measures are implemented during construction if temporary saturated backfill conditions are anticipated during construction.

B. Operation and maintenance. In addition to operation and maintenance requirements in the general permit or specified in the ~~Operation and Maintenance Plan~~ operation and maintenance manual, the permittee shall ensure that ~~perform~~ the following tasks are performed, as applicable~~.~~:
1. ~~Inspect~~ Pump accumulated residues, inspect and clean ~~pretreatment and~~ wastewater treatment and distribution components, and manage residues to protect human health and the environment;
2. Clean, ~~or~~ backwash, or replace ~~any~~ effluent filters, ~~and return cleaning water to the pretreatment headworks~~ according to the manufacturer's instructions, and manage residues to protect human health and the environment;
3. Inspect and clean the effluent baffle screen and pump tank, and properly dispose of cleaning residue;
4. Clean the dosing tank effluent screen, pump switches, and floats, and properly dispose of cleaning residue;
5. Flush lateral lines and return flush water to the pretreatment headworks;
6. Inspect, remove and replace, if necessary, and properly dispose of filter media;
7. Rod pressurized wastewater delivery lines and secondary distribution lines (for dosing systems), and return cleaning water to the pretreatment headworks;
8. Inspect and clean pump inlets and controls and return cleaning water to the pretreatment headworks;
9. Implement corrective measures if anomalous ponding, dryness, noise, odor, or differential settling is observed; ~~and~~
10. Inspect and monitor inspection and access ports, as applicable, to verify that operation and maintenance is within expected limits for:
    a. Influent wastewater quality;
    b. ~~Pressurized~~ The pressurized dosing system ~~operation~~;
    c. ~~Aggregate~~ The aggregate infiltration bed and mound system ~~operation and performance~~;
    d. Wastewater delivery and the engineered pad ~~operation and performance~~;
    e. ~~Pressurized~~ The pressurized delivery system, filter, underdrain, and native soil absorption system ~~operation and performance~~;
    f. Saturation condition status~~, operation and performance~~ in peat and other media; and
    g. Treatment system components~~.~~;
11. Inspect tanks, liners, ports, seals, piping, and appurtenances for watertightness under all operational conditions;
12. Manage vegetation on areas that contain components subject to physical impairment or damage due to root invasion or animals;
13. Maintain drainage, berms, protective barriers, cover materials, and other features; and
14. Maintain the usefulness of the reserve area to allow for repair or replacement of the onsite wastewater treatment facility.

R18-9-A314. Septic Tank Design, Manufacturing, and Installation ~~For~~ for Onsite Wastewater Treatment Facilities

A. A septic tanks manufacturer shall assure that septic tanks approved for installation under this Article are:

1. Designed to produce a clarified effluent and provide adequate space for sludge and scum accumulations;
2. Watertight and constructed of solid durable materials not subject to excessive corrosion or decay;
3. Manufactured with at least two compartments unless two separate structures are placed in series. The manufacturer shall ensure that:
   a. The inlet compartment of any septic tank not placed in series is nominally 67~~%~~ percent to 75~~%~~ percent of the total required capacity of the tank,
   b. Septic tanks placed in series are considered a unit and meet the same criteria as a single tank,
   c. The liquid depth of the septic tank is at least 42 inches, and
   d. A septic tank of 1000 gallon capacity is at least ~~eight~~ 8 feet long and the tank length of septic tanks of greater capacity is at least ~~two~~ 2 times but not more than ~~three~~ 3 times the width~~.~~;
4. ~~Provided~~ Manufactured with at least two access openings to the tank interior, each at least 20 inches in diameter. The manufacturer shall ensure that:
   a. One access opening is located over the inlet end of the tank and one access opening is located over the outlet end;
   b. Whenever a first compartment exceeds 12 feet in length, another access opening is provided over the baffle wall; and
   c. Access openings and risers are constructed to ensure accessibility within ~~six~~ 6 inches below finished grade~~.~~;
5. Manufactured so that the sewage inlet and wastewater outlet openings are not less in size than the connecting sewer pipe. The manufacturer shall ensure that:
   a. The vertical leg of round inlet and outlet fittings is at least ~~four~~ 4 inches but not less in size than the connecting sewer pipe,
   b. A baffle fitting has the equivalent cross-sectional area of the connecting sewer pipe and not less than a ~~four~~ 4-inch horizontal dimension if measured at the inlet and outlet pipe inverts~~.~~;
6. Manufactured so that the inlet and outlet pipe or baffle extends ~~four~~ 4 inches above and at least 12 inches below the water surface when the tank is installed according to the manufacturer's instructions consistent with this Chapter. The invert of the inlet pipe ~~shall be~~ is at least ~~two~~ 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~~ works or seepage pit through the septic tank, house sewer, and stack to the outer air;
8. Manufactured so that the ~~side walls extend~~ open space extends at least ~~12~~ 9 inches above the liquid ~~depth~~ level and the cover of the septic tank is at least ~~two~~ 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 (wooden baffles are prohibited) and extend at least ~~four~~ 4 inches above the liquid level. The manufacturer shall ensure that the open area of the baffle is between one and ~~two~~ 2 times the open area of the inlet pipe or horizontal slot and located at the mid-point of the liquid level of the baffle. If a horizontal slot is used, the manufacturer shall ensure that the slot ~~shall be~~ is no more than ~~six~~ 6 inches in height;
10. Structurally designed to withstand all anticipated earth or other loads. The manufacturer shall ensure that:
    a. All septic tank covers are capable of supporting an earth load of 300 pounds per square foot;
    b. If the top of the tank is greater than ~~two~~ 2 feet below finish grade, the septic tank and cover are 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; and
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 manufacturer shall protect the markings from corrosion so that they remain permanent and readable for the ~~usable~~ operational life of the tank.

B. Materials used to construct or manufacture septic tanks.

1. A person constructing a concrete septic tank cast-in-place at the site of use shall protect the tank from corrosion by coating the tank with a bituminous coating, constructing the tank using a concrete mix that incorporates 15~~%~~ percent to 18~~%~~ percent fly ash, or other Department-approved means. The manufacturer shall ensure that:
   a. The coating extends at least ~~four~~ 4 inches below the wastewater line and covers all of the internal area above that point~~.~~; and
   b. A septic tank cast-in-place complies with the "Building Code Requirements for Structural Concrete ~~(ACI 318-99)~~ and Commentary ~~(ACI 318R-99)~~ ACI 318-02/318R-02," ~~published by the American Concrete Institute, June 1999;~~ and the "Code Requirements for Environmental Engineering Concrete Structures and Commentary, ~~(ACI 350R-89)~~ ACI 350/350R-01," published by the American Concrete Institute~~, January 2000~~. This material is incorporated by reference and does not include any later amendments or editions of the incorporated ~~matter~~ material. Copies of the incorporated material are available for inspection at the Arizona Department of Environmental Quality, 1110 W. Washington, Phoenix, AZ 85007 ~~and the Office of the Secretary of State,~~ or may be

obtained from American Concrete Institute, P.O. Box 9094, Farmington Hills, MI 48333-9094.

2. A septic tank manufacturer shall ensure that a steel septic tank has a minimum wall thickness of No. 12 U.S. gauge steel and is protected from corrosion, internally and externally, by a bituminous coating or other Department-approved means.
3. A septic tank manufacturer shall ensure that a prefabricated concrete septic tank complies with the "Standard Specification for Precast Concrete Septic Tanks, C1227-03," published by the American Society for Testing and Materials~~, (C 1227-00), approved January 10, 2000~~. This information is incorporated by reference and does not include any later amendments or editions of the incorporated ~~matter~~ material. Copies of the incorporated material are available for inspection at the Arizona Department of Environmental Quality, 1110 W. Washington, Phoenix, AZ 85007 ~~and the Office of the Secretary of State~~, or may be obtained from the American Society for Testing and Materials International, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.
4. A septic tank manufacturer shall ensure that materials for fiberglass or polyethylene septic tanks comply with the "Material and Property Standards for Prefabricated Septic Tanks, IAPMO PS 1-2004," published by the International Association of Plumbing and Mechanical Officials~~, (IAPMO PS 1-99, revised January 1999~~. This information is incorporated by reference, does not include any later amendments or editions of the incorporated ~~matter~~ material, and ~~is on file with the Office of the Secretary of State. The material~~ may be viewed at the Arizona Department of Environmental Quality, 1110 W. Washington, Phoenix, AZ 85007~~, Water Quality Division,~~ or obtained from International Association of Plumbing & Mechanical Officials, 20001 E. Walnut Drive, South~~,~~ Walnut, CA 91789-2825.

C. Conformance with design, materials, and manufacturing requirements.

1. If any conflict exists between this Article and the information incorporated by reference in ~~subsections (B)(3) and (B)(4)~~ subsection (B), the requirements of this Article apply.
2. The Department may approve ~~septic tanks constructed~~ use of alternative construction materials under R18-9-A312(G). Tanks constructed of wood, block, or bare steel are prohibited.
3. The Department may inspect septic tanks at the site of manufacturing to verify compliance with subsections (A) ~~through (C)~~ and (B).
4. A septic tank manufacturer shall provide, with each septic tank sold for installation in Arizona, a certificate attesting that the septic tank conforms with the design, materials, and manufacturing requirements in subsections (A) and (B). The manufacturer shall ensure that the certificate and the handling and installation instructions are included with other sales documents that are passed on to the permittee.

D. ~~An applicant~~ A person designing an onsite wastewater treatment facility shall select a septic tank with a design liquid capacity and shall determine its daily design flow as follows:

1. For a single family ~~residence,~~ dwelling ~~the~~:
   a. The design liquid capacity of a septic tank ~~is governed by the following table~~ and its daily design flow are determined based on the number of bedrooms and fixture count as follows:

~~No. of Bedrooms~~	~~No. of Occupants~~	~~No. of Baths~~	~~Maximum Fixture Count~~	~~Minimum Septic Tank Size (gallons)~~
~~2~~	~~4~~	~~1-2~~	~~18~~	~~1000~~
~~3~~	~~6~~	~~1-2~~	~~18~~	~~1000~~
~~4~~	~~8~~	~~2-3~~	~~25~~	~~1250~~
~~5~~	~~10~~	~~2-4~~	~~32~~	~~1500~~
~~6~~	~~12~~	~~3-5~~	~~39~~	~~2000~~
~~7~~	~~14~~	~~3-5~~	~~42~~	~~2000~~

Criteria for Septic Tank Size and Design Flow

Number of Bedrooms	Fixture Count	Minimum Design Liquid Capacity (gallons)	Design Flow (gal/day)
1	7 or less	1000	150
	More than 7	1000	300
2	14 or less	1000	300
	More than 14	1000	450
3	21 or less	1000	450
	More than 21	1250	600
4	28 or less	1250	600
	More than 28	1500	750
5	35 or less	1500	750
	More than 35	2000	900
6	42 or less	2000	900
	More than 42	2500	1050
7	49 or less	2500	1050
	More than 49	3000	1200
8	56 or less	3000	1200
	More than 56	3000	1350

b. Fixture count is determined as follows:

Residential Fixture Type	Fixture Units	Residential Fixture Type	Fixture Units
Bathtub	2	Sink, bar	1
Bidet	2	Sink, kitchen (including dishwasher	2
Clothes washer	2	Sink, service	3
Dishwasher (Separate from kitchen)	2	Utility tub or sink	2
Lavatory, single	1	Water closet, 1.6 gallons per flush (gpf)	3
Lavatory, double in master bedroom	1	Water closet, >1.6 to 3.2 gpf	4
Shower, single stall	2	Water closet, greater than 3.2 gpf	6

2. For other than a single ~~residence~~ family dwelling, the ~~recommended~~ design liquid capacity of a septic tank in gallons is 2.1 times the daily design flow into the tank as determined from ~~Table 1, Unit Daily Design Flows~~ Table 1, Unit Design Flows. If the wastewater strength exceeds that of typical sewage, additional tank volume is required.
3. An applicant may place two septic tanks in series to meet the septic tank design liquid capacity requirements if the capacity of the first tank is at least 67 percent of the total required tank capacity and the capacity of the second tank is at least 33 percent of the total required tank capacity.

E. New or replacement septic tank installation. ~~An applicant~~ A person installing a septic tank shall ensure that:
1. ~~Provide permanent~~ Permanent surface markers for locating the septic tank access openings are provided for maintenance;
2. ~~Ensure that septic tanks~~ A septic tank installed under concrete or pavement ~~have~~ has the required access openings extended to grade;

3. ~~Install a~~ A septic tank effluent filter is installed on ~~all~~ the septic ~~tanks.~~ tank to ~~The applicant shall ensure that the filter:~~
   ~~a.~~ ~~Prevents~~ prevent the passage of solids larger than 1/8 inch in diameter while under ~~two~~ 2 feet of hydrostatic head~~;~~, and
   ~~b.~~ ~~Is~~ is constructed of materials that are resistant to corrosion and erosion, ~~and~~ is sized to accommodate hydraulic and organic loading~~.~~ and is removable for cleaning and maintenance; and
4. ~~Test cast-in-place septic tanks and multi-part septic tanks assembled and sealed at the site of use~~ The septic tank is tested for watertightness after installation by ~~the~~ a water test ~~or the vacuum test~~ and ~~repair~~ repaired or replaced, if necessary.
   a. ~~Water test.~~
      ~~i.~~ The ~~applicant~~ person shall ensure that the septic tank is filled with clean water, as defined in R18-9-A310(A), to the invert of the outlet and the water left standing in the tank for 24 hours. The ~~applicant~~ person shall:
      i. ~~(1)~~ After 24 hours, refill the tank to the invert, if necessary;
      ii. ~~(2)~~ Record the initial water level and time; and
      iii. ~~(3)~~ After one hour, record the water level and time.
   b. ~~ii.~~ The tank passes the water test if the water level ~~dropped less than 1/4 inch~~ does not drop over the one-hour period. Any visible leak of flowing water is considered a failure. A damp or wet spot that is not flowing is not considered a failure.
   ~~b. Vacuum test.~~
      ~~i. The applicant shall:~~
         ~~(1) Seal the empty tank,~~
         ~~(2) Apply and stabilize a vacuum of two inches of mercury, and~~
         ~~(3) Monitor the vacuum for one hour.~~
      ~~ii. The tank passes the vacuum test if the mercury level dropped no more than 0.2 inches over the one hour period.~~

R18-9-A315. Interceptor Design, Manufacturing, and Installation ~~For~~ for Onsite Wastewater Treatment Facilities

A. Interceptor requirement. An applicant shall ensure that an interceptor as required by ~~R18-9-A309(A)(8)(c)~~ R18-9-A309(A)(7)(c) or necessary due to excessive amounts of grease, garbage, sand, or other wastes in the sewage is installed between the sewage source and the onsite wastewater treatment facility.

B. Interceptor design. An applicant shall ensure that:
1. An interceptor has not less than two compartments with fittings designed for grease retention and capable of removing excessive amounts of grease, garbage, sand, or other wastes. Applicable structural and materials requirements prescribed in R18-9-A314 apply~~.~~;
2. Interceptors are located as close to the source as possible and are accessible for servicing. The applicant shall ensure that access openings for servicing are at grade level and gas-tight~~.~~;
3. The ~~applicant shall calculate~~ interceptor size for grease and garbage from non-residential kitchens ~~by~~ is calculated using the following equation: Interceptor Size (in gallons) = M × F × T × S.
   a. "M" is the number of meals per peak hour~~.~~;
   b. "F" is the waste flow rate from ~~Table 1, Unit Daily Design Flows~~ Table 1, Unit Design Flows.
   c. "T" is the estimated retention time:
      i. Commercial kitchen waste, dishwasher or disposal: 2.5 hours; or
      ii. Single service kitchen with utensil wash disposal: 1.5 hours~~.~~;
   d. "S" is the estimated storage factor:
      i. Fully equipped commercial kitchen, 8-hour operation: 1.0;
      ii. Fully equipped commercial kitchen, 16-hour operation: 2.0; or
      iii. Fully equipped commercial kitchen, 24-hour operation: 3.0;
      iv. Single service kitchen~~:~~, 1.5~~:~~; and
4. The ~~applicant shall calculate~~ interceptor size for silt and grease from laundries and laundromats ~~by~~ is calculated using the following equation: Interceptor Size (in gallons) = M × C × F × T × S.
   a. "M" is the number of machines~~,~~;
   b. "C" is the machine cycles per hour (assume 2)~~,~~;
   c. "F" is the waste flow rate from ~~Table 1, Unit Daily Design Flows~~ Table 1, Unit Design Flows~~,~~;
   d. "T" is the estimated retention time (assume 2)~~,~~; and
   e. "S" is the estimated storage factor (assume 1.5 that allows for rock filter).

C. ~~5.~~ The applicant may calculate the size of an interceptor using different factor values than those given in subsections ~~(B)(4) and (B)(5)~~ (B)(3) and (4) based on the values justified by the applicant in the Notice of Intent to Discharge submitted to the Department for the onsite wastewater treatment facility.

D. ~~6.~~ The Department may require installation of a sampling box if the volume or characteristics of the waste will impair the performance of the onsite wastewater treatment facility.

R18-9-A316. Transfer of Ownership Inspection ~~For~~ for Onsite Wastewater Treatment Facilities

A. Conformance with this Section satisfies the Notice of Transfer requirements under R18-9-A304.

~~A.~~B. ~~A person possessing working knowledge of the type of facility and the inspection process shall perform a transfer inspection of an on-site wastewater treatment facility.~~ Within 6 months before the date of property transfer, the transferor of a property served by an onsite wastewater treatment facility shall retain an inspector who meets the following qualifications to perform a transfer of ownership inspection of the onsite wastewater treatment facility:

1. Possesses working knowledge of the type of facility and the inspection process;
2. Holds a certificate of training from a course recognized by the Department as sufficiently covering the information specified in this Section by January 1, 2006; and
3. Holds a license in one of the following categories:
   a. An Arizona-registered engineer,
   b. An Arizona-registered sanitarian,
   c. An owner of a vehicle with a human excreta collection and transport license issued under R18-8-613 or an employee of the owner,
   d. A contractor licensed by the Registrar of Contractors in one of the following categories:
      i. Residential license B-4 or C-41;
      ii. Commercial license A, A-12, or L-41; or
      iii. Dual license KA or K-41;
   e. A wastewater treatment plant operator certified under 18 A.A.C 5, Article 1; or
   f. A person qualifying under another category designated by the Department.

~~B.~~C. The ~~applicant~~ inspector shall ~~send the~~ complete a Report of Inspection ~~and Notice of Transfer forms required by R18-9-A304 and~~ on a form approved by the Department, ~~and any applicable fee to the health or environmental agency delegated by the Director to administer the on-site wastewater treatment facility program~~ sign it, and provide it to the transferor. The Report of Inspection shall:

~~1. The Report of Inspection shall:~~
   ~~a. Indicate that the on-site wastewater treatment facility was inspected within six months before the deed of transfer for the property was recorded, and~~
1. ~~b.~~ Address the physical and operational condition of the onsite wastewater treatment facility and ~~identify associated~~ describe observed deficiencies~~.~~ and repairs completed, if any;
2. ~~A copy of the Report of Inspection shall be transmitted to the buyer of the property.~~ Indicate that any septic tank or other wastewater treatment container on the property was pumped or otherwise serviced to remove, to the maximum extent possible, solid, floating, and liquid waste accumulations, or that pumping or servicing was not performed for one of the following reasons:
   a. A Discharge Authorization for the onsite wastewater treatment facility was issued and the facility was put into service within 12 months before the transfer of ownership inspection,
   b. Pumping or servicing was not necessary at the time of the inspection based on the manufacturer's written operation and maintenance instructions, or
   c. No accumulation of floating or settled waste was present in the septic tank or wastewater treatment container; and
3. Indicate the date the inspection was performed.

~~C.~~D. ~~This Section does not apply to the first sale of a house or property from a developer or subdivider to the buyer of the property.~~ Before transfer of the property, the transferor shall provide to the transferee:

1. The completed Report of Inspection; and
2. Documents in the transferor's possession relating to permitting, operation, and maintenance of the onsite wastewater treatment facility.

E. The transferee shall complete a Notice of Transfer on a form approved by the Department and send the form with the applicable fee specified in A.A.C. R18-14-102(C)(7)(c) within 15 calendar days after the property transfer to:

1. The Department for transfer of a property with an onsite wastewater treatment facility for which construction was completed before January 1, 2001; or
2. The health or environmental agency delegated by the Director to administer the onsite wastewater treatment facility program for transfer of a property with an onsite wastewater treatment facility constructed on or after January 1, 2001.

F. If the Department issued a Discharge Authorization for the onsite wastewater treatment facility but the facility was not put into service before the property transfer, an inspection of the facility is not required and the transferee shall complete the Notice of Transfer form as specified in subsection (E).

G. Effective date.

1. The owner of an onsite wastewater treatment facility operating under a Type 4 General Permit shall comply with this Section by [effective date of this rule].
2. The owner of any other onsite wastewater treatment facility shall comply with this Section by January 1, 2006.

R18-9-A317. Nitrogen Management Area

A. The Director may designate a new Nitrogen Management Area, modify the boundaries of or requirements to a Nitrogen Management Area, or rescind designation of a Nitrogen Management Area.
1. If existing conditions or trends in nitrogen loading to an aquifer will cause or contribute to an exceedance of the Aquifer Water Quality Standard for nitrate at a point or points of current or reasonably foreseeable use of the aquifer, the Director shall use the following criteria to determine whether to designate the area as a Nitrogen Management Area:
   a. Population of the area;
   b. The degree to which the area is unsewered;
   c. Gross areal nitrogen loading, calculated as the amount of nitrogen discharged into the subsurface by use of onsite wastewater treatment facilities, divided by the land area under consideration for designation as a Nitrogen Management Area;
   d. Population growth rate of area;
   e. Existing contamination of groundwater by nitrogen species;
   f. Existing and potential impact to groundwater by sources of nitrogen other than onsite wastewater treatment facilities;
   g. Characteristics of the vadose zone and aquifer;
   h. Location, number, and areal of existing and potential sources of nitrogen;
   i. Location and characteristics of existing and potential drinking water supplies; and
   j. Any other information relevant to determining the severity of actual or potential nitrogen impact on the aquifer.
2. The Director may modify the boundaries of or requirements to a Nitrogen Management Area or rescind designation of a Nitrogen Management Area based on:
   a. A material change to one or more criterion specified in subsection (A)(1); or
   b. The adoption by a local agency of a master plan to substantially sewer the area as soon as possible, but with a completion deadline within 10 years, or longer, if approved by the Director.

B. Preliminary designation, modification, or rescission.
1. The Director shall provide a report to the mayors and members of the Board of Supervisors of all towns, cities, and counties and the directors of all sanitary districts affected by the Department's proposed action to designate, modify, or rescind a Nitrogen Management Area:
   a. If the Department proposes to designate a Nitrogen Management Area, the Department shall provide a report discussing each criterion specified in subsection (A)(1).
   b. If the Department proposes to modify the boundaries of, or the requirements to, a Nitrogen Management Area or rescind the designation of a Nitrogen Management Area, the Department shall provide a report discussing applicable criteria in subsections (A)(1) and (2).
2. The town, city, county, or sanitary district receiving the Director's report may provide written comments to the Department within 120 days to dispute the factual information presented in the report and supply any information supporting the comments.
3. The Director shall evaluate the comments and supporting information obtained under subsection (B)(2) and either designate, modify, or rescind the Nitrogen Management Area or withdraw the proposal.

C. Final designation.
1. If the Director designates or modifies the Nitrogen Management Area, the Department shall:
   a. Issue or modify the Nitrogen Management Area designation and any special provisions established for the area to control groundwater pollution by sources of nitrogen;
   b. Maintain the designation and a map showing the boundaries of the Nitrogen Management Area at the Arizona Department of Environmental Quality, 1110 West Washington, Phoenix, Arizona 85007 and on the Department's website at www.azdeq.gov; and
   c. Provide, upon request, a copy of the Nitrogen Management Area designation and a map of the area.
2. If the Director withdraws the preliminary Nitrogen Management Area designation or rescinds the Nitrogen Management Area designation, the Director shall issue a determination stating the decision and post it on the Department's website at www.azdeq.gov.
3. Any town, city, or county may, under A.R.S. Title 41, Article 10, appeal the Director's decision, provided the town, city, or county is affected by the determination and submitted written comments on the preliminary designation.

D. Nitrogen Management Area requirements.
1. The Department shall issue a Construction Authorization, under R18-9-A301(D)(1)(c), for an onsite wastewater treatment facility only if the applicant proposes, in the Notice of Intent to Discharge, to employ one or more of the technologies allowed under R18-9-E302 through R18-9-E322 that achieves a discharge level containing not more

than 15 mg/l of total nitrogen.

2. Agricultural operations shall use the best control measure necessary to reduce nitrogen discharge when implementing the best management practices developed under 18 A.A.C. 9, Article 4. The Director may require reassessment of the performance of impoundment liner systems constructed under R18-9-403 before [the effective date of the rule].
3. A person shall comply with any special provision established for the Nitrogen Management Area.

PART B. TYPE 1 GENERAL PERMITS

R18-9-B301. Type 1 General Permit

A. A 1.01 General Permit allows any discharge of wash water from a sand and gravel operation, placer mining operation, or other similar activity, including construction, foundation, and underground dewatering, if only physical processes are employed and only hazardous substances at naturally occurring concentrations in the sand, gravel, or other rock material are present in the discharge.

B. A 1.02 General Permit allows any discharge from hydrostatic tests of a drinking water distribution system and pipelines not previously used, if all the following conditions are met:

1. The quality of the water used for the test does not ~~violate any~~ exceed an Aquifer Water Quality Standard or for non-drinking water pipelines, if reclaimed water is used, it meets Class A+ Reclaimed Water Quality Standards under A.A.C. R18-11-303 or Class B+ Reclaimed Water Quality Standards under A.A.C. R18-11-305;
2. The discharge is not to ~~waters~~ a water of the United States, unless the discharge is under ~~a National Pollution Discharge Elimination System~~ an AZPDES permit; and
3. The test site is restored to its natural grade.

C. A 1.03 General Permit allows any discharge from hydrostatic tests of a pipeline, tank, or appurtenance previously used for transmission of fluid, other than those previously used for drinking water distribution systems, if all the following conditions are met:

1. All liquid discharge is contained in an impoundment lined with flexible geomembrane ~~material with a thickness of at least 10 mils;~~. The liquid is evaporated or removed from the impoundment and taken to a treatment works or landfill authorized to accept the material within:
   a. 60 days of the hydrostatic test if the liner is 10 mils, or
   b. 180 days of the hydrostatic test if the liner is 30 mils or greater;
2. The liner ~~material~~ is placed over a layer, at least ~~three~~ 3 inches thick, of well-sorted sand or finer grained material, or over an underliner ~~determined by the Department to provide~~ that provides protection equal to or better than sand or finer grained material and the calculated seepage is less than 550 gallons per acre per day;
3. ~~Within 60 days after the end of a hydrostatic test, all test waters are evaporated or removed from the impoundment and taken to a treatment works or landfill approved under 18 A.A.C. 8 to accept the material. Any other methods for removal of the test waters shall be approved in advance by the Department;~~
4. ~~4.~~3. 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; ~~and~~
5. ~~5.~~4. The test site is restored to its natural grade~~.~~; and
5. If the test waters are removed using a method not specified in subsection (C)(1), including a discharge under an AZPDES permit, the test waters meet Aquifer Water Quality Standards and the specific method is approved in advance by the Department.

D. A 1.04 General Permit allows any discharge from a facility that, for water quality sampling, hydrologic parameter testing, well development, redevelopment, or potable water system maintenance and repair purposes, receives 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 originally withdrawn, or the discharge is under ~~a National Pollution Discharge Elimination System~~ an AZPDES permit~~, or both~~.

E. A 1.05 General Permit allows a discharge to an injection well, surface impoundment, and leach line ~~to receive a~~ only if the discharge ~~only of~~ is filter backwash from a potable water treatment system, condensate from a refrigeration unit, overflows from an evaporative cooler, heat exchange system return water, or swimming pool filter backwash ~~if~~ and the discharge is less than 1000 gallons per day. This general permit allows a discharge of those sources to a navigable water if the discharge is authorized by an AZPDES permit.

F. A 1.06 General Permit allows the burial of mining industry off-road motor vehicle waste tires at the mine site in a manner consistent with the cover requirements in ~~R18-8-703~~ R18-13-1203.

G. A 1.07 General Permit allows the operation of dockside facilities and watercraft if the following conditions are met:

1. Docks that service watercraft equipped with toilets provide sanitary facilities at dockside for the disposal of sewage from watercraft toilets. No wastewater from sinks, showers, laundries, baths, or other plumbing fixtures at a dockside facility is discharged into waters of the state;
2. Docks that service watercraft have conveniently located~~,~~ toilet facilities for men and women;
3. No boat, houseboat, or other type of watercraft is equipped with a marine toilet constructed and operated to discharge

sewage directly or indirectly into ~~waters~~ a water of the state, nor is any container of sewage placed, left, discharged, or caused to be placed, left, or discharged in or near any ~~water~~ waters of the state by a person;

4. Watercraft with marine toilets constructed to allow sewage to be discharged directly into waters of the state are locked and sealed to prevent usage. Chemical or other type marine toilets with approved storage containers are permitted if dockside disposal facilities are provided; and
5. No bilge water or wastewater from sinks, showers, laundries, baths, or other plumbing fixtures on houseboats or other watercraft is discharged into waters of the state.

H. A 1.08 General Permit allows for any earth pit privy, fixed or transportable chemical toilet, incinerator toilet or privy, or pail or can type privy ~~authorized~~ if allowed by a county health or environmental department under A.R.S. Title 36 or a delegation agreement under A.R.S. § 49-107.

I. A 1.09 General Permit allows ~~for a~~:

1. The operation of:
   a. A sewage treatment facility with flows less than 20,000 gallons per day ~~operating under a general permit~~ and approved by the Department before January 1, 2001~~.~~, and
   b. An onsite wastewater treatment facility with flows less than 20,000 gallons per day operating before January 1, 2001;
2. The person who owns or operates ~~the permitted~~ a facility under subsections (I)(1)(a) or (b) ~~shall~~ to operate the facility if the following conditions are met:
   ~~1.~~ a. ~~Cause~~ The discharge from the facility does not cause or contribute to a violation of a water quality standard~~.~~;
   ~~2.~~ b. ~~Expand the facility to accommodate increased flows,~~ The owner or operator does not expand the facility to accommodate flows above the design flow or 20,000 gallons per day, whichever is less;
   ~~3.~~ c. ~~Treat flows that are not~~ The facility only treats typical sewage~~.~~;
   ~~4.~~ d. ~~Treat~~ The facility does not treat flows from commercial operations using hazardous substances or creating hazardous wastes, as defined in A.R.S. § 49-921(5)~~.~~; ~~or~~
   ~~5.~~ e. ~~Create~~ The discharge from the facility does not create any environmental nuisance condition listed in A.R.S. § 49-141~~.~~; or
   f. The owner or operator does not alter the treatment or disposal characteristics of the original facility, except as allowed under R18-9-A309(A)(9)(a).

J. A 1.10 General Permit allows the operation of a sewage collection system installed before January 1, 2001 that serves downstream from the point where the daily design flow is 3000 gallons per day or that includes a manhole, force main, or lift station serving more than one dwelling regardless of flow, if:

1. The system complies with the performance standards in R18-9-E301(B),
2. No sewage is released from the sewage collection system to the land surface, and
3. The system is not operating under R18-9-C205.

K. A 1.11 General Permit allows the operation of a sewage collection system that serves upstream from the point where the daily design flow is 3000 gallons per day to the building drains, or a single gravity sewer line conveying sewage from a building drain directly to an interceptor, lateral, or manhole, regardless of daily design flow, if all of the following are met:

1. The system does not cause or contribute to an exceedance of a water quality standard established in 18 A.A.C. 11, Articles 1 and 4;
2. No sewage is released from the sewage collection system to the land surface;
3. No environmental nuisance condition listed in A.R.S. § 49-141 is created;
4. The system does not include a manhole, force main, or lift station serving more than one dwelling;
5. Applicable local administrative requirements for review and approval of design and construction are followed;
6. The performance standards specified in R18-9-E301(B) are met using:
   a. Local building and construction codes,
   b. Relevant design and construction standards specified in R18-9-E301, and
   c. Appropriate operation and maintenance;
7. The system flows directly into one of the following downstream facilities:
   a. An onsite wastewater treatment facility;
   b. A sewage treatment facility operating under an individual permit; or
   c. A sewage collection system operating under a 1.10, 2.05, or 4.01 General Permit; and
8. The system is not operating under a 2.05 General Permit.

L. A 1.12 General Permit allows the discharge of wastewater resulting from washing concrete from trucks, pumps, and ancillary equipment to an impoundment if the following conditions are met:

1. The person holds an AZPDES Construction General Permit authorizing the concrete washout activities;
2. The Stormwater Pollution Prevention Plan for the construction activity addresses the concrete washout activities;
3. The vegetation at the soil base of the impoundment is cleared, grubbed, and compacted to uniform density not less than 95 percent. If the impoundment is located above grade, the berms or dikes are compacted to a uniform density not less than 95 percent;

4. If groundwater is less than 20 feet below land surface, the impoundment is lined with a synthetic liner at least 30 mils thick;
5. The impoundment is located at least 50 feet from any storm drain inlet, open drainage facility, or watercourse and 100 feet from any water supply well;
6. The impoundment is designed and operated to maintain adequate freeboard to prevent overflow or discharge of wastewater;
7. The concrete washout wastewater from any wash pad is routed to the impoundment;
8. The impoundment receives only concrete washout wastewater;
9. The annual average daily flow of wastewater to the impoundment is less than 3000 gallons per day; and
10. Closure.
    a. The facility is closed by removing and appropriately disposing of any liquids remaining in the impoundment,
    b. The impoundment is restored to conform to the surrounding area to prevent ponding of water, and
    c. Closure activities are completed before filing of the Notice of Termination under the AZPDES Construction General Permit.

PART C. TYPE 2 GENERAL PERMITS

R18-9-C301. 2.01 General Permit: Drywells That Drain Areas Where Hazardous Substances Are Used, Stored, Loaded, or Treated

A. A 2.01 General Permit allows for a drywell that drains an area where hazardous substances are used, stored, loaded, or treated.

B. Notice of Intent to Discharge. In addition to the requirements in R18-9-A301(B), an applicant shall submit:
1. The Department registration number for the drywell or documentation that a drywell registration form was submitted to the Department;
2. For a drywell constructed ~~before January 1, 2001,~~ more than 90 days before submitting the Notice of Intent to the Department, a certification signed, dated, and sealed by an Arizona-registered professional engineer or geologist that a site investigation has concluded ~~either of the following~~ that:
    a. Analytical results from sampling ~~of~~ the drywell settling chamber sediment for pollutants reasonably expected to be present do not exceed the residential soil remediation levels ~~or~~ and groundwater protection levels~~,~~; ~~or~~
    ~~b. Soil borings or groundwater investigations indicate that an Aquifer Water Quality Standard in groundwater beneath the drywell has not been exceeded.~~
    b. The settling chamber does not contain sediment for characterizing and comparison of results to soil remediation levels and the chamber has not been cleaned out within the last six months;
    c. Neither a soil remediation level nor groundwater protection level is exceeded in soil samples collected from a boring drilled within 5 feet of the drywell and sampled in 5-foot increments starting from 5 feet below ground surface and extending to 10 feet below the base of the drywell injection pipe; or
    d. If coarse grained lithology prevents the collection of representative soil samples in a soil boring, a groundwater investigation demonstrates compliance with Aquifer Water Quality Standards in groundwater at the applicable point of compliance;
3. Design information to demonstrate that the requirements in subsection (C) are satisfied; and
~~3.~~4. A copy of the Best Management Practices Plan described in subsection (D)(5).

C. Design requirements. An applicant shall:
1. Locate the drywell no closer than 100 feet from a water supply well and 20 feet from an underground storage tank;
2. Clearly mark the drywell "~~Storm Water~~ Stormwater Only" on the surface grate or manhole cover;
3. Locate the bottom of the drywell hole at least 10 feet above ~~the~~ groundwater ~~table~~. ~~The applicant shall seal off any zone of perched water above the groundwater table from the drywell following the requirements established under 12 A.A.C. 15, Article 8; and~~ If during drilling and well installation the drywell borehole encounters saturated conditions, the applicant shall backfill the borehole with cement grout to at least 10 feet above the elevation of saturated conditions before constructing the drywell in the borehole;
4. Ensure that the drywell design or drainage area design includes a method to remove, intercept, or collect pollutants that may be present at the operation with the potential to reach the drywell. The applicant may include a flow control or pretreatment device, such as an interceptor, sump, or another device or structure designed to remove, intercept, or collect pollutants. The applicant may use flow control or pretreatment devices listed under R18-9-C304(D)(1) or (2) to satisfy the design requirements of this subsection;
5. Record the accurate latitude and longitude of the drywell using a Global Positioning System device or site survey; and
6. Develop and maintain a current site plan showing the accurate location of the drywell with the latitude and longitude coordinates of the drywell, surface drainage patterns, and the location of floor drains and French drains plumbed to the drywell, water supply wells, monitor wells, underground storage tanks, and chemical and waste usage, storage,

loading, and treatment areas.

D. Operational and maintenance requirements.

1. A permittee shall operate the drywell only for the disposal of ~~storm water~~ stormwater. The permittee shall not release industrial process waters or wastes in the drywell or drywell retention basin drainage area.
2. The permittee shall implement a Best Management Practices Plan for operation of the drywell and control of ~~detrimental practices~~ pollutants in the drywell drainage area.
3. The permittee shall keep the Best Management Practices Plan onsite or at the closest practical place of work and provide the plan to the Department upon request.
4. The permittee may substitute any Spill Prevention Containment and Control Plan, facility response plan, or ~~National Pollutant Discharge Elimination System~~ an AZPDES ~~Storm Water~~ Stormwater Pollution Prevention Plan that meets the requirements of this subsection for a Best Management Practices Plan. If the permittee submits a substitute for the Best Management Practices Plan, the permittee shall identify the conditions within the substitute plan that satisfy the requirements of subsection (D).
5. The Best Management Practices Plan shall include:
   a. A site plan showing surface drainage patterns and the location of floor drains, water supply, monitor wells, underground storage tanks, and chemical and waste usage, 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 drywell;
   b. A design plan showing details of drywell 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~~ any pollutant that may be present at the operation with the potential to reach the drywell;
   c. Procedures to prevent and contain spills and minimize discharges to the drywell;
   d. Operational practices that include routine inspection and maintenance of the drywell and associated pretreatment and flow control devices, periodic inspection of waste storage facilities, and proper handling of hazardous substances to prevent discharges to the drywell. Routine inspection and maintenance shall include:
      i. Replacing the adsorbent material in the skimmers, if installed, when the adsorbent capacity is reached;
      ii. Maintaining valves and associated piping for a drywell injection and treatment systems;
      iii. Maintaining magnetic caps and mats, if installed;
      iv. Removing sludge from the oil/water separator, if installed, and replace the filtration or adsorption material to maintain treatment capacity;
      v. Removing sediment from the catch basin inlet filters and retention basin to maintain required storage capacity; and
   e. Procedures for periodic employee training on practices required by the Best Management Practices Plan specific to the drywell and prevention of unauthorized discharges.
6. The permittee shall implement waste management practices to prohibit and prevent discharges, other than those exempted in A.R.S. § 49-250(B)(23), in the drywell drainage area, including:
   a. Maintaining an up-to-date inventory of generated wastes and waste products;
   b. Disposing or recycling all wastes or solvents through a company licensed to handle the material;
   c. Where possible, collecting and storing waste in waste receptacles located outside the drywell drainage area. If the permittee collects and stores the waste within the drywell drainage area, the permittee shall collect and store the waste in properly designed receptacles; and
   d. Using licensed waste hauler to transport waste off-site to a permitted waste disposal facility.

E. Inspection. A permittee shall:

1. Conduct an annual inspection of the drywell for sediment accumulation in the chambers and in flow control and treatment systems, and remove sediment annually or when 25 percent of the effective capacity is filled, whichever comes first, to restore capacity and ensure that the drywell functions properly. The permittee shall characterize the sediments that are removed from the drywell after inspection and dispose of the waste according to local, state, and federal requirements; and
2. If the stormwater fails to drain through the drywell within 36 hours, inspect the treatment system and piping to ensure that the treatment system is functioning properly, make repairs, and perform maintenance as needed to restore proper function.

~~E.~~**F.** Recordkeeping. A permittee shall maintain ~~a log book as part of the Best Management Practices Plan that documents drywell maintenance, inspections, employee training, and sampling activities.~~ for at least 10 years, the following documents onsite or at the closest place of work and make the documents available to the Department upon request:

1. Documentation of drywell maintenance, inspections, employee training, and sampling activities;
2. A site plan showing the accurate location of the drywell, the latitude and longitude coordinates of the drywell, surface drainage patterns and the location of floor drains or French drains that are plumbed to the drywell or are used to alter drainage patterns, water supply wells, monitor wells, underground storage tanks, and places where hazardous substances are used, stored, or loaded;

3. A design plan showing details of drywell design and drainage design, including any flow control and pretreatment technologies;
4. An operations and maintenance manual that includes:
   a. Procedures to prevent and contain spills and minimize any discharge to the drywell and a list of actions and specific methods proposed for hazardous substance spills or leaks;
   b. Methods and procedures for inspection, operation, and maintenance activities;
   c. Procedures for spill response; and
   d. A description of the employee training program for drywell inspections, operations, maintenance, and waste management practices;
5. Drywell sediment waste characteristics and disposal manifest records for sediments removed during routine inspections and maintenance activities; and
6. Sampling plans, certified laboratory reports, and chain of custody forms for soil, sediment, and groundwater sampling associated with drywell site investigations.

~~F.~~**G.** Spills.

1. ~~The~~ In the event of a spill, the permittee shall: ~~notify the Department within 24 hours of any spill of hazardous substances exceeding the applicable reportable quantity established under 40 CFR 302.4, "Designation of Hazardous Substances," and 40 CFR 302.5, "Determination of Reportable Quantities," July 1, 1999 Edition, into the drywell or of any spill of petroleum products exceeding 25 gallons into the drywell. These regulations are incorporated by reference and do not include any later amendments or editions of the incorporated matter. Copies of the incorporated material are available for inspection at the Arizona Department of Environmental Quality and the Office of the Secretary of State.~~
   a. Notify the Department within 24 hours of any spill of hazardous or toxic substance that enters the drywell inlet;
   b. Contain, clean up, and dispose of, according to local, state, and federal requirements, any spill or leak of a hazardous substance in the drywell drainage area and basin drainage area;
   c. If a pretreatment system is present, verify that treatment capacity has not been exceeded; and
   d. If the spill reaches the drywell injection pipe, drill a soil boring within 5 feet of the drywell inlet chamber and sample the soil in 5-foot increments from 5 feet below ground surface to a depth extending at least 10 feet below the base of the injection pipe to determine whether a soil remediation level or groundwater protection level has been exceeded in the subsurface. The permittee shall:
      i. Submit the results to the Department within 60 days of the date of the spill; and
      ii. Notify the Department if soil contamination at the facility, not related to the spill, is being addressed by an existing approved remedial action plan.
2. Based on the results of subsection (G)(1)(d), the Director may require the permittee to submit an application for clean closure or an individual Aquifer Protection Permit.

H. Closure and decommissioning requirements.

1. A permittee shall:
   a. Retain a drywell drilling contractor, licensed under 4 A.A.C. 9, to close the drywell;
   b. Remove sediments and any drainage component, such as standpipes and screens from the drywell's settling chamber and backfill the injection pipe with cement grout;
   c. Remove the settling chamber;
   d. Backfill the settling chamber excavation to the land surface with clean silt, clay, or engineered material. Materials containing hazardous substances are prohibited from use in backfilling the drywell; and
   e. Mechanically compact the backfill.
2. Within 30 days of closure and decommissioning, the permittee shall submit a written verification to the Department that all material that contributed to a discharge has been removed and any reasonable probability of further discharge from the facility and of exceeding any Aquifer Water Quality Standard at the applicable point of compliance has been eliminated to the greatest degree practical. The written verification shall specify:
   a. The reason for the closure;
   b. The drywell registration number;
   c. The general permit reference number;
   d. The materials and methods used to close the drywell;
   e. The name of the contractor who performed the closure;
   f. The completion date;
   g. Any sampling data;
   h. Sump construction details, if a sump was constructed to replace the abandoned drywell; and
   i. Any other information necessary to verify that closure has been achieved.

R18-9-C302. 2.02 General Permit: Intermediate Stockpiles at Mining Sites

A. A 2.02 General Permit allows for intermediate stockpiles not qualifying as inert under A.R.S. § 49-201(19) at a mining

site.

B. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge under R18-9-A301(B), an applicant shall submit the construction and operation specifications used to satisfy the requirements in subsection (C)(1).

C. Design and operational requirements.
1. An applicant shall design, construct, and operate the stockpile so that it does not impound water. An applicant may rely on ~~storm water~~ stormwater run-on controls or facility design features, such as drains, or both.
2. An applicant shall direct storm runoff contacting the stockpile to a mine pit or a facility covered by an individual or general permit.
3. A permittee shall maintain any engineered feature ~~designed to aid compliance with the permit~~ of the facility in good working condition.
4. A permittee shall visually inspect the ~~features described in subsection (C)(1)~~ facility at least quarterly and repair any defect as soon as practical. ~~Any defects noted during the inspection shall be repaired as soon as practical.~~
5. A permittee shall not add hazardous substances to the stockpiled material.

D. Closure requirements. In addition to the closure requirements in R18-9-A306, the following apply:
1. If an intermediate stockpile covered under this general permit is permanently closed, a permittee shall remove any remaining material, to the greatest extent practical, and regrade the area to prevent impoundment of water.
2. The permittee shall submit a narrative description of closure measures to the Department within 30 days after closure.

R18-9-C303. 2.03 General Permit: Hydrologic Tracer Studies

A. A 2.03 General Permit allows for a discharge caused by the performance of tracer studies.
1. This permit does not authorize the use of any hazardous substance, radioactive material, or any substance identified in A.R.S. § 49-243(I) in any tracer study.
2. A permittee shall complete a single tracer test ~~shall be completed~~ within two years of the Notice of Intent to Discharge.

B. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B), an applicant shall submit:
1. A narrative description of the tracer test including the type and amount of tracer used;
2. A Material Safety Data Sheet for the tracer; and
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 following information:
   a. A narrative description of the impacts that may occur if a solution migrates outside the test area, including a list of downgradient users, if any;
   b. The anticipated effects and expected concentrations, if possible to calculate; and
   c. A description of the monitoring, including types of tests and frequency.

C. Design and operational requirements. A permittee shall:
1. Ensure that injection into wells inside the capture zone of an established passive containment system that meets the requirements of A.R.S. § 49-243(G) does not exceed the total depth of the influence of the hydrologic sink;
2. Ensure that injection into wells outside the capture zone of an established passive containment system that meets the requirements of A.R.S. § 49-243(G) does not exceed rock fracture pressures during injection of the tracer;
3. Not add substances to wells that are not compatible with their construction;
4. Ensure that a tracer is compatible with the construction materials at the impoundment if a tracer is placed or collected in an existing impoundment;
5. Monitor any wells hydraulically downgradient of the test site for the tracer, quarterly, for at least two years ~~on a quarterly basis~~ if a tracer is used outside the capture zone of an established passive containment system that meets the requirements of A.R.S. § 49-243(G) and less than 85~~%~~ percent of the tracer is recovered. ~~This~~ The permittee may adjust this period ~~may be adjusted~~ with the consent of the Department if the ~~applicant~~ permittee can show that the hydraulic gradient causes the tracer to reach the monitoring point in a shorter or longer period of time;
6. Ensure that a tracer does not leave the site in concentrations distinguishable from background water quality; and
7. Monitor the amount of tracer used and recovered and submit a report summarizing the test and results to the Department within 30 calendar days of test completion.

D. Recordkeeping. A permittee shall retain the following information at the site where the facility is located for at least three years after test completion and make it available to the Department upon request.
1. Test protocols,
2. Material Safety Data Sheet information,
3. Recovery records, and
4. A copy of the report submitted to the Department under subsection (C)(7).

E. Closure requirements.
1. If a tracer was used outside the capture zone of an established passive containment system that meets the requirements of A.R.S. § 49-243(G), a permittee shall account for any tracer not recovered through attenuation, modeling, or

monitoring.

2. Closure may occur immediately following the test, or if the test area is within a pollutant management area defined in an individual permit, at the conclusion of operations.

R18-9-C304. 2.04 General Permit: Drywells that Drain Areas at Motor Fuel Dispensing Facilities Where Motor Fuels Are Used, Stored, or Loaded

A. A 2.04 General Permit allows for a drywell that drains an area at a facility for dispensing motor fuel, as defined in A.A.C. R20-2-701(19), including a commercial gasoline station with an underground storage tank.

1. A drywell at a motor fuel dispensing facility using hazardous substances is eligible for coverage under this general permit.
2. A drywell at a vehicle maintenance facility owned or operated by a commercial enterprise or by a federal, state, county, or local government is not eligible for coverage under this general permit, unless the facility design ensures that only motor fuel dispensing areas will drain to the drywell. Areas where hazardous substances other than motor fuels are used, stored, or loaded, including service bays, are not covered under this general permit.
3. ~~For purposes of this Section,~~ Definition. "~~hazardous~~ Hazardous substances" means substances that are components of commercially packaged automotive supplies, such as motor oil, antifreeze, and routine cleaning supplies such as those used for cleaning windshields, but not degreasers, engine cleaners, or similar products.

B. Notice of Intent to Discharge. In addition to the requirements in R18-9-A301(B), an applicant shall submit:

~~1. An applicant shall provide design information to demonstrate that the requirements in subsection (C) are met.~~
~~2. In addition to the requirements in R18-9-A301(B), an applicant shall submit:~~
1. ~~a.~~ The Department registration number for the drywell or documentation that a drywell registration form was submitted to the Department; ~~and~~
2. ~~b.~~ For a drywell constructed more than 90 days before submitting the Notice of Intent to Discharge ~~is submitted~~ to the Department, a certification signed, dated, and sealed by an Arizona-registered professional engineer or geologist that a site investigation concluded that: ~~the drywell is marked "Stormwater Only" on the surface grate or manhole cover; and~~
   a. Analytical results from sampling the drywell settling chamber sediment for pollutants reasonably expected to be present do not exceed the residential soil remediation levels or groundwater protection levels;
   b. ~~i.~~ The settling chamber does not contain sediment for characterizing and comparison of results to soil remediation levels and the chamber has not been cleaned out within the last six months; ~~or~~
      ~~ii. Analytical results from sampling of the settling chamber sediment for pollutants reasonably expected to be present do not exceed the residential soil remediation levels or groundwater protection levels; or~~
   c. ~~iii. Soil borings indicate that neither~~ Neither a soil remediation level nor groundwater protection level is exceeded in soil ~~beneath the drywell.~~ samples collected from a boring drilled within 5 feet of the drywell and sampled in 5 foot increments starting at a depth of 5 feet below ground surface and extending to a depth of 10 feet below the base of the drywell injection pipe; or
   d. If coarse grained lithology prevents the collection of soil samples in a soil boring, a groundwater investigation demonstrates compliance with Aquifer Water Quality Standards in groundwater at the applicable point of compliance.
3. Design information to demonstrate that the requirements in subsection (C) are satisfied.

C. Design requirements.

1. An applicant shall:
   a. Include a flow control or pretreatment device identified in subsections (D)(1) or (2), or both, that removes, intercepts, or collects spilled motor fuel or hazardous substances before stormwater enters the drywell injection pipe;
   b. Calculate the volume of runoff generated in the design storm event and anticipate the maximum potential contaminant release quantity to design the treatment and holding capacity of the drywell;
   c. Follow local codes and regulations to meet retention periods for removing standing water;
   d. Locate the drywell at least 100 feet from a water supply well and 20 feet from an underground storage tank; ~~and~~
   e. Locate the bottom of the drywell injection pipe at least 10 feet above ~~the~~ groundwater ~~table. The applicant shall seal off any zone of perched water above the groundwater table from the drywell injection pipe following the requirements in R12-15-816(I)(1) and (2).~~ If during drilling and well installation the drywell borehole encounters saturated conditions, the applicant shall backfill the borehole with cement grout to a level at least 10 feet above the elevation that saturated conditions were encountered in the borehole before constructing the drywell in the borehole;
   f. Record the accurate latitude and longitude of the drywell using a Global Positioning System device or site survey and record the location on the site plans;
   g. Clearly mark the drywell "Stormwater Only" on the surface grate or manhole cover;
   h. Develop and maintain a current site plan showing the accurate location of the drywell and the latitude and longitude coordinates of the drywell, surface drainage patterns, and the location of floor drains and French drains that

are plumbed to the drywell or are used to alter drainage patterns, water supply wells, monitor wells, underground storage tanks, and chemical and waste usage, storage, loading, and treatment areas; and

i. Prepare design plans showing details of drywell design and drainage design, including one or a combination of pre-approved technologies described in subsections (D)(1) and (2) designed to remove, intercept, and collect any pollutant that may be present at the operation with the potential to reach the drywell.

2. ~~An~~ For an existing drywell, an applicant that cannot meet the design requirements in subsections (C)(1)(d) and (e) shall provide the Department with the date of drywell construction, the depth of the drywell borehole and injection pipe, the distance from the drywell to the nearest water supply well and from the drywell to the underground storage tank, and the depth to the groundwater from the bottom of the drywell injection pipe.

D. Flow control and pretreatment. A permittee shall ensure that motor fuels and other hazardous substances are not discharged to the subsurface. A permittee may use any of the following flow control or pretreatment technologies:

1. Flow control. The permittee shall ensure that motor fuel and hazardous substance spills are removed before allowing stormwater to enter the drywell.
   a. Normally closed manual or automatic valve. The permittee shall leave a normally closed valve in a closed position except when stormwater is allowed to enter the drywell;
   b. Raised drywell inlet. The permittee shall:
      i. Raise the drywell inlet at least 6 inches above the bottom of the retention basin or other storage structure, or install a 6-inch asphalt or concrete raised barrier encircling the drywell inlet to provide a non-draining storage capacity within the retention basin or storage structure for complete containment of a spill; and
      ii. Ensure that the storage capacity is at least 110 percent of the ~~combined~~ volume of the design storm event required by the local jurisdiction ~~and the maximum releasable quantity of spilled motor fuel~~ and the estimated volume of a potential motor fuel spill based on the facility's past incident reports or incident reports for other facilities that are similar in design;
   c. Magnetic mat or cap. The permittee shall ensure that the drywell inlet is sealed with a mat or cap at all times, except after rainfall or storm event when the mat or cap is temporarily removed to allow stormwater to enter the drywell; and that the mat or cap is always used with a retention basin or other type of storage;
   d. Primary sump, interceptor, or settling chamber. The permittee may use a primary sump, interceptor, or settling chamber only in combination with another flow control or pre-treatment technology.
      i. The permittee shall remove motor fuel or hazardous substances from the sump, interceptor, or chamber before allowing stormwater to enter the drywell.
      ii. The permittee shall install a settling chamber or sump and allow the suspended solids to settle before stormwater flows into a drywell; install the drywell injection pipe in a separate chamber and connect the sump, interceptor, or chamber to the drywell inlet by piping and valving to allow the stormwater to enter the drywell.
      iii. The permittee may install fuel hydrocarbon detection sensors in the sump, interceptor, or settling chamber that use flow control to prevent fuel from discharging into the drywell;
2. Pretreatment. The permittee shall prevent the bypass of motor fuels and hazardous substances from the pretreatment system to the drywell during periods of high flow.
   a. Catch basin inlet filter. The permittee shall:
      i. Install a catch basin inlet filter to fit inside a catchment drain to prevent motor fuels and hazardous substances from entering the drywell,
      ii. Ensure that a motor fuel spill or a spill during a high rainfall does not bypass the system and directly release to the drywell injection pipe; and
      iii. Combine the catch basin inlet filter with a flow control technology to prevent contaminated stormwater from entering the drywell injection pipe;
   b. Combined settling chamber and a oil/water separator.
      i. The permittee shall install a system that incorporates a catch basin inlet, a settling chamber, and an oil/water separator.
      ii. The permittee may incorporate a self-sealing mechanism, such as fuel hydrocarbon detection sensors that activate a valve to cutoff flow to the drywell inlet.
   c. Combined settling chamber and oil/water separator, and filter/adsorption. The permittee shall:
      i. Allow for adequate collection and treatment capacity for solid and liquid separation; and
      ii. Allow a minimum treated outflow from the system to the drywell inlet of 20 gallons per minute. If a higher outflow rate is anticipated, the applicant shall design a larger collection system with storage capacity.
   d. Passive skimmer.
      i. If a passive skimmer is used, the permittee shall install sufficient hydrocarbon adsorbent materials, such as pads and socks, or suspend the materials on top of the static water level in a sump or other catchment to absorb the entire volume of expected or potential spill.
      ii. The permittee may use a passive skimmer only in combination with another flow control or pre-treatment

technology.

~~E.~~ ~~Inspection. A permittee shall:~~

~~1. Conduct an annual inspection of the drywell for sediment accumulation in the chambers, and flow control and treatment systems to ensure that the drywell is functioning properly; and~~

~~2. If the stormwater fails to drain through the drywell within 36 hours, inspect the treatment system and piping to ensure that it is functioning properly~~.

~~F.~~**E.** Operation and maintenance. A permittee shall:

1. Operate the drywell only for the subsurface disposal of stormwater;
2. Remove or treat any motor fuel or hazardous substance spills;
3 Replace the adsorbent material in skimmers, if installed, when the adsorbent capacity is reached;
4. Maintain valves and associated piping;
5. Maintain magnetic caps and mats, if installed;
6. Remove sludge from the oil/water separator and replace the filtration or adsorption materials to maintain treatment capacity;
7. Remove sediment from the catch basin inlet filters and retention basins to maintain required storage capacity;
8. Remove accumulated sediment from the settling chamber annually or when 25 percent of the effective settling capacity is filled, whichever occurs first; and
9. Provide new employee training within one month of hire and annual employee training on how to maintain and operate flow control and pretreatment technology used in the drywell.

F. Inspection. A permittee shall:

1. Conduct an annual inspection of the drywell for sediment accumulation in the chambers and in the flow control and treatment systems to ensure that the drywell is functioning properly; and
2. If the stormwater fails to drain through the drywell within 36 hours, inspect the treatment system and piping to ensure that it is functioning properly, make repairs, and perform maintenance as needed to restore proper function.

~~G.~~ ~~Closure Requirements.~~

~~1. A permittee shall comply with the following closure requirements:~~

~~a. Retain a drywell drilling contractor, licensed under 4 A.A.C. 9, to close the drywell;~~

~~b. Remove sediments and any drainage components, such as stand pipes and screens from the drywell's settling chamber and backfill the injection pipe with cement grout;~~

~~c. Remove the top of the drywell, including the upper settling chamber to a depth of at least six feet below the ground surface. The permittee may use a backhoe or other excavation equipment;~~

~~d. Fill the remaining settling chamber with clean, mechanically compacted silt, clay, similar engineered material, or ABC slurry;~~

~~e. Place a cement grout plug at least two feet thick with the top set at four feet below the ground surface;~~

~~f. Backfill the remainder of the drywell to the land surface with clean silt, clay, or engineered material. Materials containing hazardous substances are prohibited from use in backfilling the drywell; and~~

~~g. Mechanically compact the backfill.~~

~~2. If a permittee uses procedures other than those listed in subsection (G)(1) in closure, the permittee shall demonstrate to the Department that those procedures are equivalent to the procedures listed in subsection (G)(1) and will prevent any fluid migration from the ground surface to an aquifer and obtain approval before implementation;~~

~~3. Within 30 days of closure, the permittee shall submit written verification of the closure procedures the permittee used to the Department with the drywell registration number, or a completed registration form. The written verification shall specify:~~

~~a. The reason for the closure;~~

~~b. The materials and methods used to abandon the drywell;~~

~~c. The name of the contractor who performed the closure;~~

~~d. The completion date;~~

~~e. Any sampling data collected from the drywell investigation if performed or if required by the Department; and~~

~~f. Sump construction details, if a sump is constructed to replace the abandoned drywell.~~

~~4. The Department may require additional investigations or corrective actions if any of the following conditions exist:~~

~~a. The permittee has not satisfied the closure requirements in A.A.C. R18-9-A306,~~

~~b. The permittee provided incorrect or inaccurate information or there is relevant information missing from the permit application or closure reports,~~

~~c. The permittee has not eliminated discharges from the facility through closure activities, or~~

~~d. Closure and decommissioning activities have not demonstrated or achieved compliance with aquifer water quality standards.~~

~~5. If no motor fuel or hazardous substance spill enters the drywell, the permittee complies with the closure requirements under R18-9-A306 by satisfying the requirements in subsections (G)(1) or (2).~~

~~6. If a motor fuel or hazardous substance spill has entered the injection pipe, the permittee shall comply with the~~

~~requirements in A.R.S. § 49-252, A.A.C. R18-9-A306, and subsection (H)(1)(c) and (2) to close the drywell.~~

G. Recordkeeping. A permittee shall maintain, for at least 10 years, the following documents onsite or at the closest place of work and make the documents available to the Department upon request:

1. Documentation of drywell maintenance, inspections, employee training, and sampling activities;
2. A site plan showing the accurate location of the drywell, the latitude and longitude coordinates of the drywell, surface drainage patterns and the location of floor drains or French drains that are plumbed to the drywell or are used to alter drainage patterns, water supply wells, monitor wells, underground storage tanks, and places where motor fuel and hazardous substances are used, stored, or loaded;
3. A design plan showing details of drywell design and drainage design, including one or a combination of the pre-approved flow control and pretreatment technologies;
4. An operations and maintenance manual that includes:
   a. Procedures to prevent and contain spills and minimize any discharge to the drywell and a list of actions and specific methods proposed for motor fuel and hazardous substance spills or leaks;
   b. Methods and procedures for inspection, operation, and maintenance activities;
   c. Procedures for spill response; and
   d. A description of the employee training program for drywell inspections, operations, and maintenance;
5. Drywell sediment waste characterization and disposal manifest records for sediments removed during routine inspections and maintenance activities; and
6. Sampling plans, certified laboratory reports, and chain of custody forms for soil, sediment, and groundwater sampling associated with drywell site investigations.

H. Spills.

1. ~~A~~ In the event of a spill, the permittee shall:
   a. Notify the Department within 24 hours of any spill of motor fuel or hazardous or toxic substances that enters into the drywell ~~or exceeds the treatment capacity of the pretreatment system~~ inlet;
   b. Contain, cleanup, and dispose of, according to local, state, and federal requirements, any spill or leak of motor fuel and hazardous substance in the drywell drainage area and basin drainage area; ~~and~~
   c. If a pretreatment system is present, verify that treatment capacity has not been exceeded; and
   ~~c.~~d. If the spill reaches the injection pipe, drill a soil boring within ~~five~~ 5 feet of the drywell inlet chamber and sample in ~~five-~~5-foot increments from 5 feet below ground surface to a depth extending at least 10 feet below the base of the injection pipe to determine whether a soil remediation level or groundwater protection level has been exceeded in the subsurface. The permittee shall:
      i. Submit the results to the Department within 60 days of the date of the spill; and
      ii. Notify the Department if soil contamination at the facility, not related to the spill, is being addressed by an existing approved remedial action plan.
2. The ~~Department~~ Director may, based on the results of subsection (H)(1)(d), require ~~additional investigations or corrective actions based on its assessment of whether an exceedance of a soil remediation level or groundwater protection level in the soil boring poses a risk of noncompliance with human health or water quality standards~~ the permittee to submit an application for clean closure or an individual Aquifer Protection Permit.

~~I. Recordkeeping. A permittee shall maintain for at least 10 years, the following documents onsite, or at the closest practical place of work, and make the documents available to the Department upon request:~~

~~1. A log book that documents drywell maintenance, inspections, employee training, and sampling activities;~~
~~2. A site plan showing surface drainage patterns and the location of floor drains, water supply wells, monitor wells, underground storage tanks, and places where motor fuel and hazardous substances are used, stored, or loaded;~~
~~3. A design plan showing details of drywell design and drainage design, including one or a combination of the pre-approved flow control and pretreatment technologies; and~~
~~4. An operations and maintenance manual that includes:~~
   ~~a. Procedures to prevent and contain spills and minimize discharges to the drywell and a list of actions and specific methods that will be used for motor fuel and hazardous substance spills or leaks;~~
   ~~b. A method and procedures for inspection and operation and maintenance activities;~~
   ~~c. The procedure for spill response; and~~
   ~~d. A description of the employee training program.~~

I. Closure and decommissioning requirements.

1. A permittee shall:
   a. Retain a drywell drilling contractor, licensed under 4 A.A.C. 9, to close the drywell;
   b. Remove sediments and any drainage component, such as standpipes and screens from the drywell's settling chamber and backfill the injection pipe with cement grout;
   c. Remove the settling chamber;
   d. Backfill the settling chamber excavation to the land surface with clean silt, clay, or engineered material. Materials containing hazardous substances are prohibited from use in backfilling the drywell; and

e. Mechanically compact the backfill.

2. Within 30 days of closure and decommissioning, the permittee shall submit a written verification to the Department that all material that contributed to a discharge has been removed and any reasonable probability of further discharge from the facility and of exceeding any Aquifer Water Quality Standard at the applicable point of compliance has been eliminated to the greatest degree practical. The written verification shall specify:
   a. The reason for the closure;
   b. The drywell registration number;
   c. The general permit reference number;
   d. The materials and methods used to close the drywell;
   e. The name of the contractor who performed the closure;
   f. The completion date;
   g. Any sampling data;
   h. Sump construction details, if a sump was constructed to replace the abandoned drywell; and
   i. Any other information necessary to verify that closure has been achieved.

R18-9-C305. 2.05 General Permit: Capacity, Management, Operation, and Maintenance of a Sewage Collection System

A. Definition. "Imminent and substantial threat to public health or the environment" means when:
1. The volume of a release is more than 2000 gallons, or
2. The volume of a release is more than 50 gallons and any one of the following apply:
   a. The release entered onto a recognized public area and members of the public were present during the release or before the release was mitigated;
   b. The release occurred on a public or private street and pedestrians were at risk of being splashed by vehicles during the release or before the release was mitigated;
   c. The release entered a perennial stream, an intermittent stream during a time of flow, a waterbody other than an ephemeral stream, a normally dry detention or sedimentation basin, or a drywell;
   d. The release occurred within an occupied building due to a condition in the permitted sewage collection system; or
   e. The release occurred within 100 feet of a school or a public or private drinking water supply well.

B. A 2.05 General Permit allows a permittee to manage, operate, and maintain a sewage collection system under the terms of a CMOM Plan that complies with subsection (D). The Department considers a sewage collection system operating in compliance with an AZPDES permit that incorporates provisions for capacity, management, operation, and maintenance of the system to comply with the provisions of this general permit regardless of whether a Notice of Intent to Discharge for the system was submitted to the Department.

C. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B), an applicant shall submit:
1. The name and ownership of any downstream sewage collection system and sewage treatment facility that receives sewage from the applicant's sewage collection system;
2. A map of the service area for which general permit coverage is sought, showing streets and sewage service boundaries for the sewage collection system;
3. A statement indicating that the CMOM Plan is in effect and the principal officer or ranking elected official of the sewage collection system has approved the plan; and
4. A statement indicating whether the local ordinance requires an onsite wastewater treatment facility to hookup to the sewage collection system.

D. CMOM Plan.
1. A permittee shall continuously implement a CMOM Plan for the sewage collection system under the permittee's ownership, management, or operational control. The CMOM Plan shall include information to comply with subsection (E)(1) and instructions on:
   a. How to properly manage, operate, and maintain all parts of the sewage collection system that are owned by the permittee or under the permittee's operational control, to meet the performance requirements in R18-9-E301(B);
   b. How to maintain sufficient capacity to convey the base flows and peak wet weather flow of a 10-year, 24-hour storm event for all parts of the collection system owned by the permittee or under the permittee's operational control;
   c. All reasonable and prudent steps to minimize infiltration to the sewage collection system;
   d. All reasonable and prudent steps to stop all releases from the collection system owned by the permittee or under the permittee's operational control; and
   e. The procedure for reporting releases described in subsection (F).
2. The permittee shall maintain and update the CMOM Plan for the duration of this general permit and make it available for Department and public review.

3. If the Department requests the CMOM Plan and upon review finds that the CMOM Plan is deficient, the Department shall:
   a. Notify the permittee in writing of the specific deficiency and the reason for the deficiency, and
   b. Establish a deadline of at least 60 days to allow the permittee to correct the deficiency and submit the amended provision to the Department for approval.

E. Sewage release response determination. If the sewage collection system releases sewage, the Director shall consider any of the following factors in determining compliance:

1. Sufficiency of the CMOM Plan.
   a. The level of detail provided by the CMOM Plan is appropriate for the size, complexity, and age of the system;
   b. The level of detail provided by the CMOM Plan is appropriate considering geographic, climatic, and hydrological factors that may influence the sewage collection system;
   c. The CMOM Plan provides schedules for the periodic preventative maintenance of the sewage collection system, including cleaning of all reaches of the sewage collection system below a specified pipe diameter.
      i. The CMOM Plan may allow inspection of sewer lines by Closed Circuit Television (CCTV) with postponement of cleaning to the next scheduled cleaning cycle if the CCTV inspection indicated that cleaning of a reach of the sewer is not needed.
      ii. The CMOM Plan may specify inspection and cleaning schedules that differ according to pipe diameter or other characteristics of the sewer;
   d. The CMOM Plan identifies components of the sewage collection system that have insufficient capacity to convey, when properly maintained, the peak wet weather flow of a 10-year, 24-hour storm event. For those identified components, a capital improvement plan exists for achieving sufficient wet weather flow capacity within ten years of the effective date of permit coverage;
   e. The CMOM Plan includes an overflow emergency response plan appropriate to the size, complexity, and age of the sewage collection system considering geographic, climatic, and hydrological factors that may influence the system;
   f. The CMOM Plan establishes a procedure to investigate and enforce against any commercial and industrial entity whose flows to the sewage collection system has caused or contributed to a release;
   g. The CMOM Plan adequately addresses management of flows from upstream sewage collection systems not under the ownership and operational control of the permittee; or
   h. Any other factor necessary to determine if the CMOM Plan is sufficient;
2. Compliance with the CMOM Plan.
   a. The permittee's response to releases as established in the overflow emergency response plan, including whether:
      i. Maintenance staff respond to and arrive at the release within the time period specified in the plan;
      ii. Maintenance staff follow all written procedures to remove the cause of the release;
      iii. Maintenance staff contain, recover, clean up, disinfect, and otherwise mitigate the release of sewage; or
      iv. Required notifications to the Department, public health agencies, drinking water suppliers, and the public are provided;
   b. The permittee's activities and timeliness in:
      i. Implementing specified periodic preventative maintenance measures;
      ii. Implementing the capital improvement plan;
      iii. Investigating and enforcing against upstream sewage collection systems, not under the ownership and operational control of the permittee, if those systems are impediments to the proper management of flows in the permittee's sewage collection system; or
   c. Any other factor necessary to determine CMOM Plan compliance; or
3. Compliance with the reporting requirements in subsection (F) and the public notice requirements in subsection (G); or
4. The release creates substantial endangerment to public health or the environment.

F. Reporting requirements.

1. Sewage releases.
   a. A permittee shall report to the Department, by telephone, facsimile, or on the applicable notification form on the Department's Internet web site, any release that is an imminent and substantial threat to public health or the environment as soon as practical, but no later than 24 hours of becoming aware of the release.
   b. A permittee shall submit a report to the Department within five business days after becoming aware of a release that is an imminent and substantial threat to public health or the environment. The report shall include
      i. The location of the release;
      ii. The sewage collection system component from which the release occurred;
      iii. The date and time the release began, was stopped, and when mitigation efforts were completed;
      iv. The estimated number of persons exposed to the release, the estimated volume of sewage released, the reason the release is considered an imminent and substantial threat to public health or the environment if the

volume is 2000 gallons or less, and where the release flowed;
v. The efforts made by the permittee to stop, contain, and clean up the released material;
vi. The amount and type of disinfectant applied to mitigate any associated public health or environmental risk; and
vii. The cause of the release or effort made to determine the cause and any effort made to help prevent a future reoccurrence.
2. Annual report. The permittee shall:
a. Submit an annual report to the Department postmarked no later than March 1. The report shall:
i. Tabulate all releases of more than 50 gallons from the permitted sewage collection system;
ii. Provide the date of any release that is an imminent and substantial threat to public health or the environment; and
iii. For other reportable releases under subsection (F)(2)(a)(i), provide the information in subsection (F)(1)(b);
b. Provide an amended map of the service area boundaries if, during the calendar year, any area was removed from the service area or if any area was added to the service area that the permittee wishes to include under this general permit and associated CMOM Plan.

G. Public notice. The permittee shall:
1. Post a notice, in a format approved by the Department, at any location where the number of reportable releases under subsection (F)(2)(a) from a sewage collection system exceeded three during any 12-month period,
2. Include within the notice a warning of the releases or potential releases and potential health hazards from any release at the location,
3. Post the notice at a point where the public is likely to come in contact with the release, and
4. Maintain the postings until no releases from the location are reported during a later 12-month period and the permittee followed all actions specified in the CMOM Plan to prevent releases at that location.

R18-9-C306. 2.06 General Permit: Fish Hatchery Discharge to a Perennial Surface Water

A. A 2.06 General Permit allows a fish hatchery to discharge to a perennial surface water if Aquifer Water Quality Standards are met at the point of discharge and the fish hatchery is operating under a valid AZPDES permit.

B. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B), an applicant shall provide:
1. The applicable AZPDES permit number;
2. A description of the facility; and
3. A laboratory report characterizing the wastewater discharge, including the analytical results for all numeric Aquifer Water Quality Standards under R18-11-401.

C. Design and operational requirements. An applicant shall:
1. Collect a representative sample of the discharge to demonstrate compliance with all numeric water quality standards and make the results available to the Department upon request, and
2. Maintain a record of the average and daily flow rates and make it available to the Department upon request.

PART D. TYPE 3 GENERAL PERMITS

R18-9-D301. 3.01 General Permit: Lined Impoundments

A. A 3.01 General Permit allows a lined surface impoundment and a lined secondary containment structure. A permittee shall:
1. Ensure that inflow to the lined surface impoundment or lined secondary containment structure does not contain organic pollutants identified in A.R.S. § 49-243(I);
2. Ensure that inflow to the lined surface impoundment or lined secondary containment structure is from one or more of the following sources:
a. Evaporative cooler overflow, condensate from a refrigeration unit, or swimming pool filter backwash ~~in excess of 1000 gallons per day~~;
b. Wastewater that does not contain 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 (D)(5). Facilities that continually contain wastewater as a normal function of facility operations are not covered under this general permit;
c. ~~Storm water~~ Stormwater runoff that is not permitted under A.R.S. § 49-245.01 because the facility does not receive solely ~~storm water~~ stormwater or because the runoff is regulated but not considered stormwater under the Clean Water Act ~~but is not considered storm water under the Act~~;
d. Emergency fire event water;
e. Wastewater from air pollution control devices at asphalt plants if the wastewater is routed through a sedimentation trap or sump and an oil/water separator before discharge;
f. Non-contact cooling tower blowdown and non-contact cooling water, except discharges from electric generating

stations with more than 100 megawatts generating capacity;
g. Boiler blowdown;
h. 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;
i. Wastewater from food washing;
j. Heat exchanger return water ~~in excess of 1000 gallons per day~~; ~~and~~
k. Wastewater from industrial laundries~~.~~;
l. Hydrostatic test water from a pipeline, tank, or appurtenance previously used for transmission of fluid;
m. Wastewater treated through an oil/water separator before discharge; and
n. Cooling water or wastewater from food processing.

B. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B), an applicant shall submit:
1. A listing and description of all sources of inflow;
2. A representative chemical analysis of each expected source of inflow. If a sample is not available before facility construction, a permittee shall provide the chemical analysis of each inflow to the Department within 60 days of each inflow to the facility;
3. A narrative description of how the conditions of this general permit ~~is~~ are satisfied. The narrative shall include a Quality Assurance/Quality Control program for liner installation, impoundment maintenance and repair, impoundment operational procedures; and
4. A contingency plan that specifies actions ~~to be taken~~ proposed in case of an accidental release from the facility, overtopping of the impoundment, ~~or~~ breach of the berm, ~~and~~ or unauthorized inflows into the impoundment or containment structure.

C. Design and installation requirements. An applicant shall:
1. Design and construct surface water controls~~. The applicant shall~~ to:
   a. Ensure that the impoundment or secondary containment structure maintains, using design volume or mechanical systems, normal operating volumes, if any, and any inflow from the 100-year, 24-hour storm event. The facility shall maintain ~~two~~ at least 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; and
   b. Direct any surface water run-on from the 100-year 24-hour storm event not intended for capture by facility design around the facility~~.~~;
2. Ensure that the facility design accommodates any significant geologic hazard, addressing static and seismic stability. The applicant shall document any design adjustments for this reason in the Notice of Intent to Discharge;
3. Ensure that site preparation includes, as appropriate, clearing the area of vegetation, grubbing, grading, and embankment~~,~~ and subgrade preparation. The applicant shall ensure that supporting surface slopes and foundation are stable and structurally sound; and
4. ~~Impoundment~~ Comply with the following impoundment lining requirements~~. The applicant shall~~:
   a. ~~Ensure~~ If a synthetic liner is used, ensure that the liner is at least a 30-mil geomembrane liner or a 60-mil liner if High Density Polyethylene ~~is used~~, or an alternative, ~~and~~ that the liner's calculated seepage rate is less than 550 gallons per acre per day, and:
      i. ~~If a synthetic liner is used, the applicant shall anchor~~ Anchor the liner by securing it in an engineered anchor trench; ~~and~~
      ii. ~~The applicant shall ensure~~ Ensure that the liner is ultraviolet resistant if it is regularly exposed to sunlight~~.~~; and
      iii. Ensure that the liner is constructed of a material that is chemically compatible with the wastewater or impounded solution and is not affected by corrosion or degradation;
   b. If a soil liner is used~~.~~;
      i. ~~ensure~~ Ensure it resists swelling, shrinkage, and cracking and that the liner's calculated seepage rate is less than 550 gallons per acre per day~~. The applicant shall:~~;
      ~~i.~~ii. Ensure that the soil is at least ~~one~~ 1-foot thick and compacted to a uniform density of 95~~%~~ percent to meet the "Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effect (12,400 ft-lbf/ft^3), D698-00ae1," ~~(D 698-91),~~ published by the American Society for Testing and Materials~~, reapproved 1998~~. This material is incorporated by reference and does not include any later amendments or editions of the incorporated ~~matter~~ material. Copies of the incorporated material are available for inspection at the Arizona Department of Environmental Quality, 1110 W. Washington, Phoenix, AZ 85007 ~~and the Office of the Secretary of State,~~ or may be obtained from the American Society for Testing and Materials International, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959; and
      ~~ii.~~iii. Upon installation, protect the soil liner to prevent dessication~~.~~ and
   c. For new facilities, develop and implement a construction Quality Assurance/Quality Control program that addresses site and subgrade preparation, inspection procedures, field testing, laboratory testing, and final inspec-

tion after construction of the liner to ensure functional integrity.

D. Operational requirements. A permittee shall:
1. Maintain sufficient freeboard to manage the 100-year, 24-hour storm event ~~plus two~~ including at least 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. Remove accumulated residues, sediments, debris, and vegetation to maintain the integrity of the liner ~~material~~ and the design capacity of the impoundment;
3. Perform and document a visual inspection for damage to the liner ~~material~~ and for accumulation of residual material at least monthly. The operator shall conduct an inspection within 72 hours after the facility receives a significant volume of ~~storm water~~ stormwater inflow;
4. Repair damage to the liner following the Quality Assurance/Quality Control Plan required under subsection (B)(3); and
5. Remove all inflow from the impoundment as soon as practical, but no later than 60 days after a temporary event~~,~~ for facilities designed to contain inflow only for temporary events, such as process upsets.

E. Recordkeeping. A permittee shall maintain at the site, the following information for at least 10 years and make it available to the Department upon request:
1. Construction drawings and as-built ~~drawings~~ plans, if available;
2. A log book or similar documentation to record inspection results, repair and maintenance activities, monitoring results, and facility closure~~.~~;
3. Capacity design criteria;
4. A list of standard operating procedures;
5. The construction Quality Assurance/Quality Control program documentation; and
6. Records of any inflow into the impoundment other than those permitted by this Section.

F. 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 five days of discovery and implement the contingency plan required in subsection (B)(4). 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 five days of discovery and implement the contingency plan required in subsection (B)(4).

G. Closure requirements. The permittee shall notify the Department of the intent to close the facility permanently. Within 90 days following closure notification the permittee shall comply with the following requirements, as applicable:
1. Remove liquids and any solid residue on the liner ~~material~~ and dispose ~~of it~~ appropriately;
2. Inspect the liner ~~material~~ for evidence of holes, tears, or defective seams that could have leaked;
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 define the lateral and vertical extent of contamination and, within 60 days, notify the Department and submit an action plan for achieving clean closure for the Department's approval before implementing the plan;
4. If there is no evidence of holes, tears, or defective seams that could have leaked:
   a. Cover the liner in place or remove it for disposal or reuse if the impoundment is an excavated impoundment,
   b. Remove and dispose of the liner elsewhere if the impoundment is bermed, and
   c. Grade the facility to prevent the impoundment of water~~.~~, and
5. Notify the Department within 60 days following closure that the action plan ~~has been~~ was implemented and the closure is complete.

R18-9-D302. 3.02 General Permit: Process Water Discharges from Water Treatment Facilities

A. A 3.02 General Permit allows filtration backwash and discharges obtained from sedimentation and coagulation in the water treatment process from facilities that treat water for industrial process or potable uses. The permittee shall ensure that:
1. Liquid fraction. The discharge ~~shall meet~~ meets:
   a. ~~all~~ All numeric Aquifer Water Quality Standards for inorganic chemicals, organic chemicals, and pesticides established in R18-11-406(B) through (D);
   ~~2.~~ b. The discharge ~~shall meet~~ meets one of the following criteria for microbiological contaminants:
   ~~a. A fecal coliform limit, using the membrane filter technique, of two colony forming units per 100 ml (seven 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; or~~
   ~~b. A seven-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 the average daily flow processed by the water treat-~~

~~ment facility is less than 250,000 gallons.~~

i. Either the concentration of fecal coliform organisms is not more than 2/100 ml or the concentration of E. coli bacteria is not more than 1/100 ml, or

ii. Either the concentration of fecal coliform organisms is less than 200/100 ml or the concentration of E. coli bacteria is less than 126/100 ml provided the average daily flow processed by the water treatment facility is less than 250,000 gallons; and

2.Solid Fraction. The solid material in the discharge qualifies as inert material, as defined in A.R.S. § 49-201(19).

B. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B), an applicant shall submit:

1. A characterization of the discharge, including a representative chemical and biological analysis of expected discharges and all source waters; and
2. The design capacity of any impoundment covered by this general permit.

C. ~~Design~~ Impoundment design and siting requirements. An applicant shall:

1. Ensure that the depth to the static groundwater table is greater than 20 feet;
2. Not locate the area of discharge immediately above karstic or fractured bedrock, unless the discharge meets the microbial limits specified in subsection (A)(1)(b)(i);
3. Maintain a minimum horizontal setback of 100 feet between the facility and any water supply well;
4. Design and construct an impoundment, ~~used to manage process water discharges,~~ to maintain, using design volume or mechanical systems, normal operating volumes~~, if any,~~ and 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 applicant shall:
   a. Design the facility to maintain ~~two~~ 2 feet of freeboard or an alternative level of freeboard that the applicant demonstrates is reasonable, considering the size of the impoundment, meteorologic, and other site-specific factors; and
   b. Divert any surface water run-on from the 100-year, 24-hour storm event not intended for capture by facility design around the facility~~.~~; or
   c. Discharge to surface water under the conditions of an AZPDES permit; and
5. Manage off site disposal of ~~sludges~~ sludge according to A.R.S. Title 49, Chapter 4.

D. Operational requirements.

1. Inorganic chemical, organic chemical, and pesticide monitoring~~:~~.
   a. The permittee shall monitor any discharge annually to determine compliance with the requirements of subsection ~~(A)(1)~~ (A).
   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.
   c. If the condition in subsection (D)(1)(b) persists for two additional quarters, the permittee shall submit an application for an individual permit.
2. Microbiological contaminants monitoring~~:~~.
   a. The permittee shall monitor any discharge annually to determine compliance with the requirements of subsection ~~(A)(2)~~ (A)(1)(b).
   b. If the concentration of any constituent exceeds the limits established in subsection ~~(A)(2)~~ (A)(1)(b), the permittee shall submit a report to the Department with a proposal for mitigation and increase monitoring frequency for that pollutant to monthly.
   c. If the condition in subsection (D)(2)(b) persists for three additional months, the permittee shall submit an application for an individual permit.

E. Recordkeeping. A permittee shall maintain at the site, the following information for at least 10 years, if applicable for the disposal method, and make it available to the Department upon request:

1. Construction drawings and as-built ~~drawings~~ plans, if available;
2. A log book or similar documentation to record inspection results, repair and maintenance activities, monitoring results, and facility closure;
3. Water quality data collected under subsection (D);
4. Standard operating procedures; and
5. Records of any discharge other than those identified by subsection (B).

F. Reporting requirements. The permittee shall:

1. ~~report~~ Report unauthorized flows into the impoundment to the Department within five days of discovery~~.~~, and
2. Submit the report required in subsections (D)(1)(b) or (2)(b) within 30 days of receiving the analytical results.

R18-9-D303. 3.03 General Permit: Vehicle and Equipment Washes

A. A 3.03 General Permit allows a facility that discharges water from washing vehicle exteriors and vehicle equipment. 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 washing the interior of vessels used to transport fuel products or chemicals, or washing equipment contaminated with fuel products or chemicals; or
4. Discharges resulting from washing 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. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B), an applicant shall submit a narrative description of the facility and a design of the disposal system and wash operations.

C. Design, installation, and testing requirements. An applicant shall:
1. Design and construct the wash pad:
   a. To drain and route wash water to a sump or similar sediment settling structure and an oil/water separator or a comparable pretreatment technology;
   b. Of concrete or material 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. Not use unlined ditches or natural channels to convey wash water;
3. Ensure that a surface impoundment meets the requirements in R18-9-D301(C)(1) ~~and~~ through ~~(C)(3)~~ (3). The applicant shall ensure that berms or dikes at the impoundment can withstand wave action erosion and are adequately compacted to a uniform density not less than 95~~%~~ percent;
4. Ensure that a surface impoundment required for wash water described in subsection (A)(1) meets design and installation requirements in R18-9-D301(C);
5. If wash water is received by an unlined surface impoundment or engineered subsurface disposal system, the applicant shall:
   a. Ensure that the annual daily average flow is less than 3000 gallons per day;
   b. Maintain a minimum horizontal setback of 100 feet between the impoundment or subsurface disposal system and any water supply well;
   c. Ensure that 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 bedrock ~~rock~~;
   d. Ensure that the wash water receives primary treatment before discharge through, at a minimum, a sump or similar structure for settling sediments or solids and an oil/water separator or a comparable pretreatment technology designed to reduce oil and grease in the wastewater to 15 mg/l or less;
   e. Withdraw the separated oil from the oil/water separator using equipment such as adjustable skimmers, automatic pump-out systems, or level sensing systems to signal manual pump-out; and
   f. If a subsurface disposal system is used, design the system to prevent surfacing of the wash water.

D. Operational requirements. The permittee shall:
1. Inspect the oil/water separator before operation to ensure that there are no leaks and that the oil/water separator is in operable condition;
2. Inspect the entire facility 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. Visually inspect each surface impoundment at least monthly, to ensure the volume of wash water is maintained within the design capacity and freeboard limitation;
4. Repair damage to the integrity of the wash pad or impoundment liner as soon as practical;
5. Maintain the oil/water separator to achieve the operational performance of the separator;
6. Remove accumulated sediments in all surface impoundments to maintain design capacity; and
7. Use best management practices to minimize the introduction of chemicals not typically associated with the wash operations. Only biodegradable surfactant or soaps are allowed. Products that contain chemicals in concentrations likely to cause a violation of an Aquifer Water Quality Standard at the applicable point of compliance are prohibited.

E. Monitoring requirements.
1. 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 C_{10} through C_{32} hydrocarbons using a Department of Health Services certified method.
2. If pH is not between 6.0 and 9.0 or the concentration of C_{10} through C_{32} 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.
3. If the condition in subsection (E)(2) persists for three additional months, the permittee shall submit an application for an individual permit.

F. Recordkeeping. A permittee shall maintain the following information for at least 10 years and make it available to the Department upon request:
1. Construction drawings and as-built ~~drawings~~ plans, if available;
2. A log book or similar documentation to record inspection results, repair and maintenance activities, monitoring results, and facility closure; and
3. The Material Safety Data Sheets for the chemicals used in the wash operations and any required monitoring results.

G. Closure requirements. A permittee shall comply with the closure requirements specified in R18-9-D301(G) if a liner has been used. If no liner is used the permittee shall remove and appropriately dispose of any liquids and grade the facility to prevent impoundment of water.

R18-9-D304. 3.04 General Permit: Non-~~storm Water~~ Stormwater Impoundments at Mining Sites

A. A 3.04 General Permit allows discharges to lined surface impoundments, lined secondary containment structures, and associated lined conveyance systems at mining sites.
1. A discharge 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, provided the solution is promptly removed from the facility as required under subsection (D);
   c. ~~Storm water~~ Stormwater runoff not permitted under A.R.S. § 49-245.01 because the facility does not receive solely ~~storm water~~ stormwater or because the runoff is regulated but not considered stormwater under the Clean Water Act ~~and is not considered storm water under the Act~~; and
   d. Wash water specific to sand and gravel operations not covered by R18-9-B301(A).
2. Facilities that continually contain process solution as a normal function of facility operations are not eligible for coverage under this general permit. If a normal process solution contains a pollutant regulated under A.R.S. § 49-243(I) this general permit does not apply if the pollutant will compromise the integrity of the liner.

B. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B), an applicant shall submit:
1. A description of the sources of inflow to the facility. An applicant shall include a representative chemical analysis of expected sources of inflow to the facility unless a sample is not available, before facility construction, in which case the applicant shall provide a chemical analysis of solution present in the facility to the Department within 90 days after the solution first enters the facility;
2. Documentation demonstrating that plans have been reviewed by a mining engineer or an Arizona-registered professional engineer before submission to the Department; and
3. A contingency plan that specifies actions ~~to be taken~~ proposed in case of an accidental release from the facility, overtopping of the impoundment ~~or~~ breach of the berm, ~~and~~ or unauthorized inflows into the impoundment or containment structure.

C. Design, construction, and installation requirements. An applicant shall:
1. Design and construct the impoundment or secondary containment structure as specified under R18-9-D301(C)(1);
2. Ensure that conveyance systems are capable of handling the peak flow from the 100-year storm;
3. Construct the liner as specified in R18-9-D301(C)(4)(a);
4. 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, 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, design the facility so it is protected from damage or flooding as a result of a 100-year, 24-hour ~~peak streamflows~~ storm event;
6. Design and manage the facility so groundwater does not come into contact with the liner;
7. Ensure that the facility design accommodates any significant geologic hazard addressing static and seismic stability. The applicant shall document any design adjustments for this reason in the Notice of Intent to Discharge;
8. Ensure that the site preparation includes, as appropriate, clearing the area of vegetation, grubbing, grading, and embankment~~,~~ and subgrade preparation. The applicant shall ensure that supporting surface slopes and foundation are stable and structurally sound;
9. Ensure that the liner is anchored by being secured in an engineered anchor trench. If regularly exposed to sunlight, the applicant shall ensure that the liner is ultraviolet resistant; and
10. Use compacted clay subgrade in areas with shallow groundwater conditions.

D. Operational requirements. The permittee shall:
1. Maintain the freeboard required in subsection (C)(1) through design, pumping, or both;
2. Remove accumulated residues, sediments, debris, and vegetation to maintain the integrity ~~and~~ of the liner ~~to maintain~~ and the design capacity of the impoundment;
3. ~~Document~~ Perform and document a visual inspection for cracks, tears, perforations and residual build-up at least monthly. The operator shall conduct an inspection after the facility receives significant volumes of ~~storm water~~

stormwater inflow;
4. Report cracks, tears, and perforations in the liner to the Department, and repair them as soon as practical, but no later than 60 days under normal operating conditions, after discovery of the crack, tear, or perforation;
5. For facilities that temporarily contain a process solution due to process upsets, remove the process solution from the facility as soon as practical, but no later than 60 days after cessation of the upset; and
6. For facilities that temporarily contain a process solution due to rainfall, remove the process solution from the facility as soon as practical.

E. Recordkeeping. A permittee shall maintain the following information for at least 10 years and make it available to the Department upon request:
1. Construction drawings and as-built ~~drawings~~ plans, if available;
2. A log book or similar documentation to record inspection results, repair and maintenance activities, monitoring results and facility closure~~.~~;
3. Capacity design criteria;
4. ~~List~~ A list of standard operating procedures;
5. The Quality Assurance/Quality Control program required under subsection (C)(4); and
6. Records of any unauthorized flows into the impoundment.

F. 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 five days of discovery and implement the contingency plan required in subsection (B)(3). 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 five days of discovery and implement the contingency plan required in subsection (B)(3).

G. Closure requirements.
1. The permittee shall notify the Department of the intent to close the facility permanently.
2. Within 90 days following closure notification the permittee shall comply with the following requirements, as applicable:
   ~~1.~~ a. Remove liquids and any solid residue on the liner ~~material~~ and dispose ~~of it~~ appropriately;
   ~~2.~~ b. Inspect the liner ~~material~~ for evidence of holes, tears, or defective seams that could have leaked;
   ~~3.~~ c. 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 an action plan for the Department's approval before implementing the plan~~.~~;
   ~~4.~~ d. If there is no evidence of holes, tears, or defective seams that could have leaked:
      ~~a.~~ i. Cover the liner in place or remove it for disposal or reuse if the impoundment is an excavated impoundment,
      ~~b.~~ ii. Remove and dispose of the liner elsewhere if the impoundment is bermed, and
      ~~c.~~ iii. Grade the facility to prevent the impoundment of water~~.~~; and
   ~~5.~~3. Notify the Department within 60 days following closure that the action plan has been implemented and the closure is complete.

R18-9-D305. 3.05 General Permit: Disposal Wetlands

A. A 3.05 General Permit allows discharges of reclaimed water into constructed or natural wetlands, including waters of the United States, waters of the state, and riparian areas, for disposal. This general permit does not apply if the purpose of the wetlands is to provide treatment.

B. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B), an applicant shall submit the name and individual permit number of the facility providing the reclaimed water.

C. Design requirements. An applicant shall:
1. Ensure that the reclaimed water released into the wetland meets numeric and narrative Aquifer Water Quality Standards for all parameters except for coliform bacteria and is Class A+ reclaimed water. A+ reclaimed water is wastewater that has undergone secondary treatment established under R18-9-B204(B)(1), filtration, and meets a total nitrogen concentration ~~less than 10 mg/l~~ under R18-9-B204(B)(3) and fecal coliform limits under ~~R18-9-B204(B)(4)(b)~~ R18-9-B204(B)(4);
2. Maintain a minimum horizontal separation of 100 feet between any water supply well and the maximum wetted area of the wetland;
3. Post signs 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 applicant shall ensure that the signs are in English and Spanish, or in English with inclusion of the international "do not drink" symbol; and
4. Ensure that wetland siting is consistent with local zoning and land use requirements.

D. Operational requirements.
1. A permittee shall manage the wetland 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, ~~storm water~~ 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 management plan for vector control;
    e. A plan or criteria for enhancing or supplementing 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, the condition of signage and vegetation, and correct any problem noted.

E. Recordkeeping. A permittee shall maintain the following information for at least 10 years and make it available to the Department upon request:
1. Construction drawings and as-built ~~drawings~~ plans, if available; and
2. A log book or similar documentation to record inspection results, repair and maintenance activities, monitoring results, and facility closure.

F. Reporting requirements. The permittee shall provide the Department with an annual assessment of the biological condition of the wetland, including the volume of inflow to the wetland in the past year.

R18-9-D306. 3.06 General Permit: Constructed Wetlands to Treat Acid Rock Drainage at Mining Sites

A. A 3.06 General Permit allows the operation of constructed wetlands that receive, with the intent to treat, acid rock drainage from a closed facility.

B. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B), an applicant shall submit a design, including information on the quality of the influent, the treatment process to be used, the expected quality of the wastewater, and the nutrients and other constituents that will indicate wetland performance.

C. Design, construction, and installation. An applicant shall:
1. Ensure that:
    a. Water released into the wetland is compatible with construction materials and vegetation;
    b. Water released from the wetland:
        i. ~~meets~~ Meets numeric Aquifer Water Quality Standards,
        ii. Has a pH ~~is~~ between 6.0 and 9.0, and
        iii. Has a sulfate concentration ~~is~~ less than 1000 mg/l; and
    c. Water released from the wetland complies with and is released under an individual permit and ~~a National Pollution Discharge Elimination System~~ an AZPDES Permit, if required~~.~~;
2. Construct the treatment wetland with a liner, using low hydraulic conductivity ~~artificial~~ synthetic liner ~~material~~, site-specific liner ~~material~~, or both, to achieve a calculated seepage rate of less than 550 gallons per acre per day. The applicant shall:
    a. Ensure that, if an ~~artificial~~ synthetic liner ~~material~~ is used, such as geomembrane, the ~~material~~ liner is underlain by at least ~~six~~ 6 inches of prepared and compacted subgrade;
    b. Anchor the liner along the perimeter of the wetland; and
    c. Manage the plants in the wetland to prevent species with root penetration that impairs liner performance~~.~~;
3. Design the treatment wetland for optimum:
    a. Sizing appropriate for the anticipated treatment,
    b. Cell configuration,
    c. Vegetative species composition, and
    d. Berm configuration~~.~~;
4. Construct and locate the treatment wetland so that it:
    a. Maintains physical integrity during a 100-year, 24-hour storm event; and
    b. Operates properly during a 25-year, 24-hour storm event~~.~~;
5. Ensure that the bottom of the treatment wetland is at least 20 feet above the seasonal high groundwater table~~.~~; and
6. If public access to the wetland is anticipated or encouraged, post signs 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." The permittee shall ensure that the signs are in English and Spanish, or in English with inclusion of the international "do not drink" symbol.

D. Operational requirements.
1. The permittee shall monitor the water leaving the wetlands at least quarterly for the standards specified in subsection (C)(1)(b). 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, ~~storm water~~ stormwater drainage, and placement of vegetation;
   b. A contingency plan to address problems, including treatment performance, wash-out and vegetation die-off, and a plan to apply for an individual permit if the wetland is unable to achieve the treatment standards in subsection (C)(1)(b) 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; and
   f. A plan or criteria for enhancing or supplementing wetland vegetation.
3. The permittee shall perform quarterly inspections to review the bank and liner integrity, erosion evidence, and the condition of signage and vegetation, and correct any problems noted.

E. Recordkeeping. A permittee shall maintain the following information for at least 10 years and make it available to the Department upon request:
1. Construction drawings and as-built ~~drawings~~ plans, if available; and
2. A log book or similar documentation to record inspection results, repair and maintenance activities, monitoring results, and facility closure.

F. Reporting requirements.
1. If preliminary laboratory ~~result indicates~~ results indicate that the quality of the water leaving the wetlands does not meet the standards specified in subsection (C)(1)(b), the permittee may request that the laboratory re-analyze the sample before reporting the results to the Department. The permittee shall:
   a. Conduct verification sampling within 15 days of receiving final laboratory results,
   b. Conduct verification sampling only for parameters that are present in concentrations greater than the standards specified in subsection (C)(1)(b), and
   c. Notify the Department in writing within five days of receiving final laboratory results.
2. If the final laboratory result confirms that the quality of the water leaving the wetlands does not meet the standards in subsection (C)(1)(b), the permittee shall implement the contingency plan required by subsection (D)(2)(b) and notify the Department that the plan is being implemented.
3. The permittee shall provide the Department with an annual assessment of the biological condition of the wetland, including the volume of inflow to the wetland in the past year.

R18-9-D307. 3.07 General Permit: Tertiary Treatment Wetlands

A. A 3.07 General Permit allows constructed wetlands that receive with the intent to treat, discharges of reclaimed water that meet the secondary treatment level requirements specified in R18-9-B204(B)(1).

B. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B), an applicant shall submit:
1. The name and individual permit number of any facility that provides the reclaimed water to the wetland;
2. The name and individual permit number of any facility that receives 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, and the expected quality of the wastewater;
4. A Best Management Practices Plan that includes:
   a. A site plan showing the wetland footprint, point of inflow, ~~storm water~~ stormwater drainage, and placement of vegetation;
   b. A contingency plan to address any problem~~.~~, including 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. A plan or criteria for enhancing or supplementing wetland vegetation.

C. Design requirements. An applicant shall:
1. Release water from the wetland under an individual permit and ~~a National Pollution Discharge Elimination System~~ an AZPDES permit, if required. The applicant shall release water from the wetland only to a direct reuse site if the site is permitted to receive reclaimed water of the quality generated under the individual permit specified in subsection (B)(1);
2. Construct and locate the treatment wetland so that it:
   a. Maintains physical integrity during a 100-year, 24-hour storm event, and
   b. Operates properly during a 25-year, 24-hour storm event~~.~~;
3. Ensure that the bottom of the treatment wetland is at least 20 feet above the seasonal high groundwater table;
4. Maintain a minimum horizontal separation of 100 feet between ~~any~~ a water supply well and the maximum wetted

area of the wetland;

5. Maintain ~~a minimum 1000 foot setback~~ the setbacks specified in R18-9-B201(I) for no noise, odor, or aesthetic controls between the property boundary at the site and the maximum wetted area of the wetland;
6. Fence the wetland area to prevent unauthorized access;
7. Post signs at points of access stating "CAUTION. THESE WETLANDS CONTAIN RECLAIMED WATER, DO NOT DRINK." The applicant shall ensure that the signs are in English and Spanish, or in English with inclusion of the international "do not drink" symbol;
8. Construct the treatment wetland with a liner using low hydraulic conductivity ~~artificial~~ ~~synthetic~~ liner ~~material~~, site-specific liner ~~material~~, or both, to achieve a calculated seepage rate of less than 550 gallons per acre per day. The applicant shall:
   a. Ensure that if ~~an artificial~~ a synthetic liner ~~material~~ is used, such as geomembrane, the ~~material~~ liner is underlain by at least ~~six~~ 6 inches of prepared and compacted subgrade;
   b. Anchor the liner along the perimeter of the wetland; and
   c. Manage the plants in the wetland to prevent species with root penetration that impairs liner performance~~.~~;
9. Calculate the size and depth of the wetland so that the rate of flow allows adequate treatment detention time. The applicant shall design the wetland with at least two parallel treatment cells to allow for efficient system operation and maintenance;
10. Ensure that the wetland vegetation includes cattails, bulrush, common reed, or other species of plants with high pollutant treatment potential to achieve the intended water quality identified in subsection (B)(3); and
11. Ensure that construction and operation of the wetlands is consistent with local zoning and land use requirements.

D. Operational requirements. The permittee shall:

1. Implement an approved Best Management Practices Plan;
2. Monitor wastewater leaving the treatment wetland to ensure that discharge water quality meets the intended treatment specified in subsection ~~(A)(3)~~ (B)(3). The permittee shall ensure that analyses of wastewater samples are conducted by a laboratory certified by the Department of Health Services, following the Department's Quality Assurance/Quality Control requirements;
3. Follow the prescribed measures as required in the contingency plan under subsection (B)(4)(b) and report to the Department within five days if verification sampling demonstrates that an alert level or discharge limit is exceeded;
4. Inspect the wetlands at least quarterly for bank and liner integrity, erosion evidence, and condition of signage and vegetation, and correct any problem discovered; and
5. Ensure that the wetland is operated by a certified operator.

E. Recordkeeping. A permittee shall maintain the following information for at least 10 years and make it available to the Department upon request:

1. Construction drawings and as-built ~~drawings~~ plans, if available; and
2. A log book or similar documentation to record inspection results, repair and maintenance activities, monitoring results, and facility closure.

F. Reporting requirements. The permittee shall provide the Department with an annual assessment of the biological condition of the wetland including the volume of inflow to the wetland in the past year.

PART E. TYPE 4 GENERAL PERMITS

R18-9-E301. 4.01 General Permit: Sewage Collection Systems

A. A 4.01 General Permit allows for construction and operation of a new sewage collection system or an expansion of an existing sewage collection system ~~involving new construction~~ for:

~~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 points 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 an expansion of the system that requires a Notice of Intent to Discharge. Repairs include work performed in response to deterioration of existing structures, devices, and appurtenances with the intent to maintain or restore the system to its original operational characteristics.~~

1. A sewage collection system or portion of a sewage collection system that serves downstream from the point where the daily design flow is 3000 gallons per day based on Table 1, Unit Design Flows, except a gravity sewer line conveying sewage from a single building drain directly to an interceptor, collector sewer, lateral, or manhole regardless of daily design flow;
2. A sewage collection system that includes a manhole; or
3. A sewage collection system that includes a force main or lift station serving more than one dwelling.

B. Performance. An applicant shall design, construct, and operate a sewage collection system so that it:
1. Provides adequate wastewater flow capacity for the planned service area;
2. Minimizes sedimentation, blockage, and erosion through maintenance of proper flow velocities throughout the system;
3. Prevents ~~sanitary sewer overflows~~ releases of sewage to the land surface through appropriate sizing, capacities, and inflow and infiltration prevention measures throughout the system;
4. Protects water quality through minimization of exfiltration losses from the system;
5. Provides for adequate inspection, maintenance, testing, visibility, and accessibility; ~~and~~
6 Maintains system structural integrity~~.~~; and
7. Minimizes septic conditions in the sewage collection system.

C. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B), an applicant shall submit the following information:
1. A statement on a form approved by the Director, signed by the owner or operator of the sewage treatment facility that treats or processes the sewage from the proposed ~~sewer~~ sewage collection system.
   a. The ~~owner or operator~~ statement shall affirm that the additional volume of wastewater delivered to the facility by the proposed ~~sewer~~ sewage collection system will not cause any flow or effluent quality limits of the individual permit for the facility to be exceeded.
   b. If the facility is classified as a groundwater protection permit facility under A.R.S. § 49-241.01(C), or if no flow or effluent limits are applicable, the ~~owner or operator~~ statement shall affirm that the design flow of the facility will not be exceeded~~.~~;
2. If the proposed sewage collection system delivers wastewater to a downstream ~~sewer~~ sewage collection system under different ownership or control, a statement on a form approved by the Director, signed by the owner or operator of the downstream ~~sewer~~ sewage collection system, affirming that the downstream system can maintain the performance required by subsection (B) ~~if it receives~~ when receiving the increased flows ~~associated with the new system or the expansion~~;
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~~ The plans and profiles ~~of~~ for all sewer lines, ~~force mains,~~ manholes, force mains, depressed sewers, 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~~ sewage collection system to allow Department verification of design and performance characteristics, including the slope of each gravity sewer segment stated as a percentage; ~~and~~
   c. Drainage features and controls, and erosion protection as applicable, for the components of the project~~.~~; and
   d. Horizontal and vertical location of utilities within the area affected by the sewer line construction;
5. Documentation of design flows for significant components of the sewage collection system and the basis for calculating the design flows;
6. An operation and maintenance ~~plan if the project has a design flow of more than 10,000 gallons per day~~ manual unless a current operation and maintenance manual for the sewage collection system is on file with the Department. The manual shall contain the 24-hour emergency number of the owner or operator of the sewage collection system;
7. Drawings, reports, and other information that are clear, reproducible, and in a size and format specified by the Department. The applicant may submit the drawings in a Department-approved electronic format; and
8. Design documents, including plans, specifications, drawings, reports, and calculations that are signed, dated, and sealed by an Arizona-registered professional engineer ~~unless prohibited by law~~. The designer shall use good engineering ~~judgement~~ judgment following engineering standards of practice, and rely on appropriate engineering methods, calculations, and guidance.

D. Design requirements.
1. General Provisions. ~~An applicant shall ensure that the design, installation, and testing of a new sewage collection system or an expansion to an existing sewage collection system involving new construction complies with the following rules.~~ An applicant shall design and construct a new sewage collection system or an expansion of an existing sewage collection system involving new construction, according to the requirements of this general permit. An applicant shall:
   a. Base design flows for components of the system on unit flows specified in ~~Table 1, Unit Daily Design Flows~~ *Table 1, Unit Daily Design Flows*. ~~If documented by the applicant, the Department may accept lower unit flow values in the served area due to significant use of low flow fixtures.~~
   ~~b.~~ ~~Use the "Uniform Standard Specifications for Public Works Construction," referenced in this Section and published by the Maricopa Association of Governments, revisions through 2000, or the "Pima County Wastewater Management," November 1994 Edition, as the applicable design and construction criteria, unless the Department approved alternative design standards or specifications authorized by a delegation agreement under A.R.S. § 49-~~

~~107.~~

~~e.~~ ~~Use gravity sewer lines, if appropriate~~. The applicant shall design gravity sewer lines and all other ~~sewer~~ sewage collection system components, including ~~force mains~~, manholes, force mains, lift stations, depressed sewers, and appurtenant devices and structures to accommodate maximum sewage flows ~~as~~ determined ~~by the method specified in subsections (D)(1)(e)(i) or (D)(1)(e)(ii) that yields the greatest calculated flow~~ as follows:

i. Any point in a sewer main when flowing full can accommodate ~~an average flow of 100 gallons per capita per day for all populations upstream from that point, or~~ a peak wet weather flow calculated by multiplying the sum of the upstream sources of flow from Table 1, Unit Design Flows by a dry weather peaking factor based on upstream population, as tabulated below, and adding a wet weather infiltration and inflow rate based on either a percentage of peak dry weather flow or a gallons per acre rate of flow;

~~ii. Any point in a sewer collection system can accommodate a peak flow for all populations upstream from that point as tabulated below:~~

Upstream Population	Dry Weather 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
1000	2.38
1001 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	$PF = (4.500 \times p^{-0.174}) + 0.945$

PF = Dry Weather Peaking Factor
p = Upstream Population

ii. For a lift station serving less than 600 single family dwelling units (d.u.), use either of the following methods to size the pumps for peak dry weather flow in gallons per minute and add an allowance for wet weather flow and infiltration:
(1) Peak dry weather flow = $17\ d.u.^{0.42}$, or
(2) Peak dry weather flow = $11.2\ (population)^{0.42}$

iii. If justified by the applicant, the Department may accept lower unit flow values in the served area due to significant use of low flow fixtures, hydrographs of actual flows, or other factors;

b. Use the "Uniform Standard Specifications for Public Works Construction" revisions through 2004 and the "Uniform Standard Details for Public Works Construction" revisions through 2004 published by the Maricopa Association of Governments, or the "Standard Specifications for Public Improvements," 2003 Edition, and "Standard Details for Public Improvements," 2003 Edition, published jointly by Pima County Wastewater Management and the City of Tucson, as the applicable design and construction criteria, unless the Department approves alternative design standards or specifications.

i. This material is incorporated by reference and does not include any later amendments or editions of the incorporated material.
ii. Copies of the incorporated material are available for inspection at the Arizona Department of Environmental Quality, 1110 W. Washington, Phoenix, AZ 85007 or may be obtained from the Maricopa Association of Governments, 302 N. 1st Avenue, Suite 300, Phoenix, Arizona 85003, or on their website at http://www.mag.maricopa.gov/archive/Newpages/on-line.htm; or from Pima County Wastewater Management, 201 N. Stone Avenue, Tucson, Arizona 85701-1207, or on their website at http://www.pima.gov/wwm/std-det;

~~d.~~c. Ensure ~~the separation of~~ that sewage collection system components are separated from drinking water distribution system components ~~under R18-4-502.~~ as specified in 18 A.A.C. 5, Article 5;
d. Ensure that sewage collection system components are separated from reclaimed water system components as specified in 18 A.A.C. 9, Article 6; and
e. Request review and approval of an alternative to a design feature specified in this Section by following the requirements ~~of~~ in R18-9-A312(G).

2. Gravity sewer lines. An applicant shall:
a. Ensure that any sewer line that runs between manholes, if not straight, is of constant horizontal curvature with a radius of curvature not less than 200 feet;
b. Cover each sewer line with at least ~~three~~ 3 feet of ~~backfill~~ earth cover meeting the requirements of subsection (D)(2)(h)(i). The applicant shall:
i. Include at least one note specifying this requirement in construction plans;
ii. If site-specific limitations prevent ~~three~~ 3 feet of earth cover, provide the maximum cover attainable, ~~and~~ construct the sewer line of ductile iron pipe or other ~~materials~~ design of equivalent or greater tensile and compressive strength, and note the change on the construction plans; and
~~iii. If ductile iron pipe is not used, design and construct the sewer line pipe with restrained joints or an equivalent feature; and~~
~~iv.~~iii. Ensure that the design of the pipe and joints can withstand crushing or shearing from any expected static and live load to protect the structural integrity of the pipe. Construction plans shall note locations requiring these measures~~.~~;
c. If sewer lines cross or are constructed in floodways~~,~~;
i. ~~place~~ Place the lines at least ~~two~~ 2 feet below the level of the 100-year storm scour depth and calculated 100-year bed degradation and construct the lines using ductile iron pipe or pipe with equivalent tensile strength, compressive strength, shear resistance, and scour protection~~. The applicant shall~~;
ii. If it is not possible to maintain the 2 feet of clearance specified in subsection (D)(2)(c)(i), using the process described in R18-9-A312(G), provide a design that ensures that the sewer line will withstand any lateral and vertical load for the scour and bed degradation conditions specified in subsection (D)(2)(c)(i);
iii. ~~ensure~~ Ensure that sewer lines constructed in ~~this manner~~ a floodway extend at least 10 feet beyond the boundary of the 100-year storm scouring~~.~~;
iv. If a sewer line is constructed in a floodway and is longer than the applicable maximum manhole spacing distance in subsection (D)(3)(a), using the process described in R18-9-A312(G), provide a design that ensures the performance standards in subsection (B) are met; and
v. ~~Construction plans shall note~~ Note locations requiring these measures on the construction plans~~.~~;
d. Ensure that each sewer line is ~~eight~~ 8 inches in diameter or larger except~~:~~
~~i.~~ ~~The~~ the first 400 feet of a dead end sewer line with no potential for extension may be ~~six~~ 6 inches in diameter if the design flow criteria specified in subsection ~~(D)(1)(C)~~ (D)(1)(a) are met and the sewer line is installed with a slope sufficient to achieve a velocity of at least 3 feet per second when flowing full. If the line is ~~ever~~ extended, the applicant seeking the extension shall replace the entire length with larger pipe to accommodate the new design flow unless the applicant demonstrates with engineering calculations that using the existing 6-inch pipe will accommodate the design flow; ~~or~~
~~ii. The sewer lines for a sewage collection system for a manufactured home, mobile home, or recreational vehicle park are not less than four- inches in diameter for up to 20 units, five inches in diameter for 21 to 36 units, and six inches in diameter for 37 to 60 units.~~
e. Design sewer lines with at least the minimum slope calculated from Manning's Formula using a coefficient of roughness of 0.013 and a sewage velocity of ~~two~~ 2 feet per second when flowing full.
i. An applicant may request a smaller minimum slope under R18-9-A312(G) if the smaller slope is justified by a quarterly program of inspections, flushings, and cleanings.
ii. If a smaller minimum slope is requested, the applicant shall not specify a slope ~~shall not be~~ that is less than 50~~%~~ percent of that calculated from Manning's formula using a coefficient of roughness of 0.013 and a sewage velocity of ~~two~~ 2 feet per second.
iii. The ratio of flow depth in the pipe to the diameter of the pipe shall not exceed 0.75 in peak dry weather flow

conditions;

f. Design sewer lines to avoid a slope that creates a sewage velocity greater than 10 feet per second. The applicant shall construct any sewer line carrying a flow with a normal velocity of greater than 10 feet per second using ductile iron pipe or pipe with equivalent erosion resistance, and structurally reinforce the receiving manhole or sewer main~~.~~;

g. Design and install sewer lines, connections, and fittings with materials that meet or exceed manufacturer's specifications ~~not inconsistent~~ consistent with this Chapter to:
   i. Limit inflows, infiltration, and exfiltration;
   ii. Resist corrosion in the ~~project~~ ambient electrochemical environment;
   iii. Withstand anticipated static and live ~~and dead~~ loads; and
   iv. Provide internal erosion protection~~.~~;

h. Indicate trenching and bedding details applicable for each pipe material and size in the design plans. ~~Sewer~~ The applicant shall place and bed the sewer lines ~~shall be placed~~ in trenches ~~and bedded~~ following the specifications established in subsections (D)(2)(h)(i) and ~~(D)(2)(h)(ii)~~ (ii), which is incorporated by reference in subsection (D)(1)(b), unless the Department approved alternative design standards or specifications under subsection (D)(1)(b). ~~This material is incorporated by reference and does not include any later amendments or editions of the incorporated matter. Copies of the incorporated material are available for inspection at the Department of Environmental Quality and the Office of the Secretary of State, or may be obtained from the Maricopa Association of Governments, 302 N. 1st Avenue, Suite 300, Phoenix, Arizona 85003, or from Pima County Wastewater Management, 201 N. Stone Avenue, Tucson, Arizona 85701-1207.~~
   i. "Trench Excavation, Backfilling, and Compaction" (Section 601), revised 2004, published in the "Uniform Standard Specifications for Public Works Construction~~,~~" ~~published~~ by the Maricopa Association of Governments~~, revisions through 2000~~; and
   ii. "Rigid Pipe Bedding for Sanitary Sewers" (WWM 104), revised July 2002, and "Flexible Pipe Bedding for Sanitary Sewers" (WWM 105), revised July 2002, published by Pima County Wastewater Management~~, revised November 1994.~~;

i. Perform a deflection test of the total length of all sewer lines made of flexible materials to ensure that the installation meets or exceeds the manufacturer's recommendations and record the results~~.~~;

j. Test each segment of the sewer line for leakage using the applicable method below and record the results:
   i. "Standard Test Method for Installation of Acceptance of Plastic Gravity Sewer Lines Using Low-Pressure Air, F1417-92(1998)," published by the American Society for Testing and Materials~~, (F1417-92), reapproved 1998~~;
   ii. "Standard Practice for Testing Concrete Pipe Sewer Lines by Low-Pressure Air Test Method, C924-02," published by the American Society for Testing and Materials~~, (C 924-89), reapproved 1997~~;
   iii "Standard Test Method for Low-Pressure Air Test of Vitrified Clay Pipe Lines, C828-03," published by the American Society for Testing and Materials~~, (C 828-98), approved March 10, 1998~~; ~~or~~
   iv. "Standard Test Method for Hydrostatic Infiltration Testing of Vitrified Clay Pipe Lines, C1091-03a," published by the American Society for Testing Materials;
   v. "Standard Practice for Infiltration and Exfiltration Acceptance Testing of Installed Precast Concrete Pipe Sewer Lines, C969-02," published by the American Society for Testing Material; or
   vi. "Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications, D2321-00," published by the American Society for Testing Materials; or
   ~~iv.~~vii. The material listed in subsections (D)(2)(j)(i)~~, (D)(2)(j)(ii), and (D)(2)(j)(iii)~~ through (vi) is incorporated by reference and does not include any later amendments or editions of the incorporated ~~matter~~ material. Copies of the incorporated material are available for inspection at the Arizona Department of Environmental Quality, 1110 W. Washington, Phoenix, AZ 85007 ~~and the Office of the Secretary of State,~~ or may be obtained from the American Society for Testing and Materials International, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959~~.~~;

k. Test the total length of the sewer line for uniform slope by lamp lighting, remote camera or similar method approved by the Department, and record the results~~.~~; and

l. Minimize the planting within the disturbed area of new sewage collection system construction of plant species having roots that are likely to reach and damage the sewer or adversely impair the operation of the sewer or visual and vehicular access to any manhole.

3. Manholes.
   a. An applicant shall install manholes at all grade changes, ~~all~~ size changes, ~~all~~ alignment changes, ~~all~~ sewer intersections, and at any location necessary to comply with the following spacing requirements:

Sewer Pipe Diameter (inches)	Maximum Manhole Spacing (feet)
~~4 to less~~ Less than 8	~~300~~ 400
8 to less than 18	500
18 to less than 36	600
36 to less than 60	800
60 or greater	1300

b. The Department shall allow greater manhole spacing following the procedure provided in R18-9-A312(G) if documentation is provided showing the operator possesses or has available specialized sewer cleaning equipment suitable for the increased spacing.

c. The applicant shall ensure that manhole design is consistent with "Pre-cast Concrete Sewer Manhole" (~~#420~~ 420-1, revised January 2004 and 420-2, revised January 2001), "Offset Manhole for 8" – 30" Pipe" (~~#~~421), revised January 1994, and "~~Brick~~ Sewer Manhole and Cover Frame Adjustment" (~~#422~~ 422), ~~1998, including revisions through 2000,~~ revised January 2001, published by the Maricopa Association of Governments; and "Manholes and Appurtenant Items" (WWM 201 through WWM 211, except WWM 204, 205, and 206), revised July 2002, ~~Standard Details for Public Improvements, 1994 Edition,~~ published by Pima County Wastewater Management. This material is incorporated by reference in subsection (D)(1)(b).

~~d. The material specified in subsection (D)(3)(c) is incorporated by reference and does not include any later amendments or editions of the incorporated matter. Copies of the incorporated material are available for inspection at the Department of Environmental Quality and the Office of the Secretary of State, or may be obtained from the Maricopa Association of Governments, 302 N. 1st Avenue, Suite 300, Phoenix, Arizona 85003, or from Pima County Wastewater Management, 201 N. Stone Avenue, Tucson, Arizona 85701-1207.~~

~~e.~~d. The applicant shall not locate manholes 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~~ stormwater inflow.

~~f.~~e. The applicant shall test ~~manholes~~ each manhole using one of the following test protocols:

i. Watertightness testing by filling the manhole with water. The applicant shall ensure that the drop in water level following presoaking does not exceed ~~0.001~~ 0.0034 of total manhole volume ~~in one~~ per hour~~.~~;

ii. ~~Air~~ Negative air pressure testing using the "Standard Test Method for Concrete Sewer Manholes by Negative Air Pressure (Vacuum) Test, C1244-02e1," published by the American Society for Testing and Materials~~, (C 1244-93), approved August 15, 1993~~. This material is incorporated by reference, does not include any later amendments or editions of the incorporated ~~matter,~~ material and ~~is on file with the Office of the Secretary of State. The material~~ may be viewed at the Arizona Department of Environmental Quality, 1110 W. Washington, Phoenix, AZ 85007 ~~Water Quality Division~~, or obtained from the American Society for Testing and Materials International, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959~~.~~; or

iii. Holiday testing of a lined manhole constructed with uncoated rebar using the "High-Voltage Electrical Inspection of Pipeline Coatings, RP0274-2004," published by the National Association of Corrosion Engineers (NACE International). This material is incorporated by reference, does not include any later amendments or editions of the incorporated material and may be viewed at the Arizona Department of Environmental Quality, 1110 W. Washington, Phoenix, AZ 85007 or obtained from NACE International, 1440 South Creek Drive, Houston, Texas 77084-4906. The following substitutions apply:

(1) Where the word "metal" is used in the standard, use the word "surface" instead, and

(2) Where the words "pipe" or "pipeline" are used, use the word "manhole" instead.

~~g.~~f. The applicant shall perform manhole testing under subsection ~~(D)(3)(f)~~ (D)(3)(e) after installation of the manhole cone or top riser to verify watertightness integrity of the manhole from the top of the cone or riser down.

i. Upon satisfactory test results, the applicant shall install the manhole ring and any spacers, complete the joints, and seal the manhole to a watertight condition.

ii. If the applicant can install the manhole cone or top riser, spacers, and ring ~~can be installed~~ to final grade without disturbance or adjustment by later construction, the applicant may perform the testing from the top of the manhole ring on down.

~~h.~~g. The applicant shall locate a manhole to provide adequate visibility and vehicular maintenance accessibility ~~after the manhole has been built~~ following construction.

4. Force mains. If justified, ~~it is impractical to install a gravity sewer line system,~~ an applicant may install a force main if it meets the following design, installation, and testing requirements. The applicant shall:

a. Design force mains to maintain a minimum flow velocity of ~~three~~ 3 feet per second and a maximum flow velocity of ~~seven~~ 7 feet per second. The applicant may design for sustained periods of flow above 7 feet per second, if the applicant justifies the design using the process specified in R18-9-A312(G);
b. Ensure that force mains 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 manual or automatic drainback~~.~~;
c. Incorporate air release valves or other appropriate components in force mains 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 shall waive the requirement for an air release valve~~.~~;
d. ~~Provide~~ Design ~~thrust blocks, or~~ restrained joints or thrust blocks on force mains to accommodate water hammer, surge control, and ~~if needed~~ to prevent excessive movement of the force main. ~~Construction~~ Submitted construction plans shall show ~~thrust block or~~ restrained joint or thrust block 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 an Arizona registered professional engineer.~~
e. If a force main is proposed to discharge directly to a sewage treatment facility without entering a flow equalization basin, include in the Notice of Intent to Discharge a statement from the owner or operator of the sewage treatment facility that the design is acceptable~~.~~;
f. Design a force main to withstand~~, and upon completion test the force main for leakage, at~~ a pressure of 50 pounds per square inch or more above the design working pressure for two hours and test upon completion to ensure no leakage~~.~~;
g. Supply flow to a force main using a lift station that meets the requirements of subsection (D)(5)~~.~~; and
h. Ensure that force mains are designed to control odor.

5. Lift stations. An applicant shall:
a. Secure a lift station to prevent tampering and affix on its exterior, or on the nearest vertical object if the lift station is entirely below grade, at least one warning sign that includes the 24-hour emergency phone number of the owner or operator of the collection system;
b. Protect lift stations from physical damage from a 100-year flood event. Construction of a lift station is prohibited in a floodway;
c. Lift station wet well design. ~~The applicant shall:~~
i. Ensure that the minimum wet well volume in gallons ~~shall be~~ is 1/4 of the product of the minimum pump cycle time, in minutes, and the total pump capacity, in gallons per minute;
ii. Protect the wet well against corrosion to provide at least a 20-year ~~design~~ operational life;
iii. Ensure that wet well volume does 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. Notwithstanding these measures, the applicant shall not allow the septic condition of the sewage to adversely affect downstream collection systems or sewage treatment facility performance;
iv. Ensure that excessively high or low levels of sewage in the wet well trigger an audible or visual alarm at the wet well site and at the system control center; ~~and~~
v. Ensure that a wet well designed to accommodate more than 5000 gallons per day has a horizontal ~~open~~ cross-sectional area of at least 20 square feet~~.~~; and
vi. Ensure that lift stations are designed to prevent odor from emanating beyond the lift station site;
d. Equip a lift station wet well with at least two pumps. The applicant shall ensure that:
i. The pumps are capable of passing a 2.5-inch sphere or are grinder pumps;
ii. The lift station is capable of operating at design flow with any one pump out of service; and
iii. Piping, valves, and controls are arranged to allow independent operation of each pump~~.~~;
e. Not use suction pumps if the sewage lift is more than 15 feet. The applicant shall ensure that other types of pumps are self-priming and that pump water brake horsepower is at least 0.00025 times the product of the required discharge, in gallons per minute, and the required total dynamic head, in feet~~.~~; and
~~f. For safety during operation and maintenance, design lift stations to conform with~~ follow ~~all applicable state and federal confined space requirements; and~~
~~g.~~ f. For lift stations receiving an average flow of more than 10,000 gallons per day, include a standby power source in the lift station design that ~~may be put into~~ will provide immediate service ~~immediately~~, if the main power source fails, and remain available for 24 hours per day.

6. Depressed Sewers. An applicant shall:
a. Size the depressed sewer to attain a minimum velocity of 3 feet per second through all barrels of the depressed sewer when the flow equals or exceeds the design daily peak dry weather flow,
b. Design the depressed sewer to convey the sewage flow through at least two parallel pipes at least 6 inches in

diameter,
c. Include an inlet and outlet structure at each end of the inverted sewer,
d. Design the depressed sewer so that the barrels are brought progressively into service as flow increases to its design value, and
e. Design the depressed sewer to minimize release of odors to the atmosphere.

E. Additional ~~Verification of General Permit Conformance~~ Discharge Authorization requirements. An applicant shall:
1. Supply a signed, dated, and sealed Engineer's Certificate of Completion~~, unless prohibited by law,~~ in a format approved by the Department that provides the following:
   a. Confirmation that the project was completed in compliance with the requirements of this Chapter, as described in the plans and specifications corresponding to the ~~Provisional Verification of General Permit Conformance~~ Construction Authorization issued by the Director, or with changes that are reflected in as-built plans submitted with the Engineer's Certificate of Completion;
   b. As-built plans, if required, that are properly identified and numbered; and
   c. ~~Confirmation of satisfactory~~ Satisfactory field test results from deflection, leakage, and uniform slope testing~~.~~;
2. Provide any other relevant information required by the Department to determine that the facility conforms to the terms of this general permit; and
3. ~~If the project has a design flow of more than 10,000 gallons per day, provide~~ Provide a final operation and maintenance ~~plan~~ manual ~~that includes the 24-hour emergency number of the owner or operator of the system~~ if different or modified from the manual submitted under R18-9-E301(C)(6).

F. Operation and maintenance requirements. The permittee shall:
~~1. The permittee 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 plan for the system at the system control center.~~
~~2. The permittee shall ensure that the operation and maintenance plan is the basis for operation and continuing maintenance of the sewer collection system.~~
1. Operate the new sewage collection system or expansion of an existing sewage collection system involving new construction using the operation and maintenance manual required in subsection (E)(3), to meet the performance standards specified in subsection (B), unless the permittee is operating the sewage collection system under a CMOM Plan under the general permit established in R18-9-C305;
2. Ensure that the sewage collection system is operated according to the operator certification requirements in 18 A.A.C. 5, Article 1; and
3. For safety during operation and maintenance of lift station and other confined space components of the sewage collection system, follow all applicable state and federal confined space entry requirements.

G. Recordkeeping. A person owning or operating a facility permitted under R18-9-E301 shall maintain the documents listed in subsection (E) for the life of the facility and make them available to the Department upon request.

H. Repairs.
1. A Notice of Intent to Discharge is not required for sewage collection system repairs. Repairs include work performed in response to deterioration or damage of existing structures, devices, and appurtenances with the intent to maintain or restore the system to its original design flow and operational characteristics. Repairs do not include changes in vertical or horizontal alignment.
2. Components used in the repair shall meet the design, installation, and operational requirements of this Section.

R18-9-E302. 4.02 General Permit: Septic Tank ~~With~~ with Disposal by Trench, Bed, Chamber Technology, or Seepage Pit, Less Than 3000 Gallons Per Day Design Flow

A. A 4.02 General Permit allows for a system consisting of a septic tank dispensing wastewater to an approved means of disposal described in this Section. Only gravity flow of wastewater from the septic tank to the disposal ~~field~~ works is authorized by this general permit.
1. The standard septic tank and disposal ~~field~~ works design specified in this general permit ~~is intended to serve most~~ serves sites where no site limitations are identified by the site investigation conducted under R18-9-A310.
2. If site conditions allow, this general permit authorizes the discharge of wastewater from a septic tank meeting the requirements of R18-9-A314 to one of the following disposal ~~fields~~ works:
   a. ~~Shallow trench~~ Trench,
   ~~b. Deep trench,~~
   ~~c.~~b. Bed,
   ~~d.~~c. ~~Disposal field using chamber~~ Chamber technology, or
   ~~e.~~d. Seepage pit.

B. Performance. An applicant shall design a system consisting of a septic tank and one of the disposal ~~fields~~ works listed in subsection (A)(2) ~~on the basis~~ so that treated wastewater released to the native soil meets the following criteria:
1. TSS of 75 milligrams per liter, 30-day arithmetic mean;

2. BOD_5 of 150 milligrams per liter, 30-day arithmetic mean;
3. Total nitrogen (as nitrogen) of 53 milligrams per liter, five-month arithmetic mean; and
4. Total coliform level of 100,000,000 (Log_{10} 8) colony forming units per 100 milliliters, 95th percentile.

C. Design and installation requirements.

1. General provisions. ~~The~~ In addition to the applicable requirements in R18-9-A312, the applicant shall:
   a. Ensure that the septic tank meets the requirements specified in R18-9-A314;
   b. Before placing aggregate or ~~drain lines~~ disposal pipe in a prepared excavation, remove all smeared or compacted surfaces from trenches by raking to a depth of ~~one~~ 1 inch and removing loose material. The applicant shall:
      i. Place aggregate in the trench to the depth and grade specified in subsection (C)(2);
      ii. Place the drain pipe on aggregate and cover it with aggregate to the minimum depth specified in subsection (C)(2); and
      iii. Cover the aggregate with landscape filter material, geotextile, or similar porous material to prevent filling of voids with earth backfill~~.~~;
   c. Use a grade board stake placed in the trench to the depth of the aggregate if the ~~distribution line~~ disposal pipe is constructed of drain tile or flexible pipe that will not maintain alignment without continuous support;
   d. Disposal pipe. If two or more ~~drain lines~~ disposal pipes are installed, install a distribution box approved by the Department of sufficient size to receive all lateral lines and flows at the head of each disposal ~~field.~~ works and ~~The applicant shall~~:
      i. Ensure that the inverts of all outlets are level and the invert of the inlet is at least ~~one~~ 1 inch above the outlets;
      ii. Design distribution boxes to ensure equal flow and install the boxes on a stable level surface such as a concrete slab or native or compacted soil; and
      iii. Protect concrete distribution boxes from corrosion by coating them with an appropriate bituminous coating, constructing the boxes with concrete that has a 15 to 18~~%~~ percent fly ash content, or by using other allowable means~~.~~;
   e. Construct all lateral pipes running from a distribution box to the disposal ~~field~~ works with watertight joints and ensure that multiple disposal ~~field~~ laterals, wherever practical, are of uniform length;
   f. Lay pipe connections between the septic tank and a distribution box on natural ground or compact fill and construct the pipe connections with watertight joints;
   g. Construct steps within distribution line trenches or beds, if necessary, to maintain a level disposal pipe on sloping ground. The applicant shall construct the lines between each horizontal section ~~shall be constructed~~ with watertight joints and ~~installed~~ install them on natural or unfilled ground; and
   h. Ensure that a disposal ~~field~~ works consisting of trenches, beds, chamber technology, or seepage pits is not 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 or oxygen transport to the soil absorption surfaces.
2. ~~Shallow and deep trenches~~ Trenches.
   a. The applicant ~~may, in computing the trench bottom absorption, include a trench sidewall area between 12 and 36 inches below the distribution line~~ shall calculate the trench absorption area as the total of the trench bottom area and the sum of both trench sidewall areas to a maximum depth of 48 inches below the bottom of the disposal pipe.
   b. The applicant shall ensure that trench bottoms and disposal pipe are level. The applicant shall calculate trench sizing ~~for shallow and deep trenches~~ from the soil absorption rate specified under R18-9-A312(D) and the design flow established in R18-9-A312(B).
   c. The following design criteria for ~~shallow and deep~~ trenches apply:

~~Shallow and Deep~~ Trenches	Minimum	Maximum
1. Number of trenches	1 (2 are recommended)	—
2. Length of trench[1]	—	100 feet
3. Bottom width of trench	12 inches	36 inches
4. Trench absorption area (sq. ft. of absorption area per linear foot of trench)	—	11 sq. ft.
5. Depth of cover over ~~distribution~~ aggregate surrounding disposal pipe	9 inches	24 inches[2]
6. Thickness of aggregate material over disposal pipe	2 inches	2 inches
7. ~~Aggregate~~ Thickness of aggregate material under disposal pipe	12 inches	—
~~Aggregate material over pipe~~	~~2 inches~~	~~2 inches~~
8. Slope of ~~distribution~~ disposal pipe	Level	Level
9. ~~Distribution~~ Disposal pipe diameter	3 inches	4 inches
10. Spacing of ~~distribution pipe~~ trenches (measured between nearest sidewalls)	2 times effective depth[23] or five feet, whichever is greater	—

Notes:
1. If unequal trench lengths are used, proportional distribution of wastewater is required.
~~1.~~2. For more than 24 inches, ~~SDR~~ Standard Dimensional Ratio 35 or equivalent strength pipe is required.
3. The effective depth is the distance between the bottom of the disposal pipe and the bottom of the trench ~~bed~~.

d. The applicant may substitute clean, durable, crushed, and washed recycled concrete for aggregate if noted in design documents and the trench absorption area calculation excludes the trench bottom.

3. Beds. An applicant shall:
   a. If a bed is installed ~~instead of a trench, ensure that the area of each bed is at least 50% greater than the tabular dimensions required for a trench.~~ use the soil absorption rate specified in R18-9-A312(D) for "SAR, Bed." The applicant may, in computing the bed bottom absorption area, include ~~a~~ the bed bottom and the perimeter sidewall area between 12 and 36 inches below the disposal ~~line~~ pipe~~.~~:
   ~~b. Ensure that the bottom of a bed is level and calculate bed sizing from the soil absorption rate as specified by R18-9-A312(D).~~
   ~~c.~~b. ~~The following design criteria for beds apply:~~ Comply with the following design criteria for beds:

Gravity Beds	Minimum	Maximum
1. Number of ~~distribution~~ disposal pipes	2	—
2. Length of bed	—	100 feet
3. Distance between disposal pipes	4 feet	6 feet
4. Spacing of beds measured between nearest sidewalls	2 times effective depth[1] or 5 feet, whichever is greater	—
5. Width of bed	10 feet	12 feet
6. Distance from disposal pipe to sidewall	3 feet	3 feet
7. Depth of cover over disposal pipe	9 inches	14 inches

8. ~~Aggregate~~ Thickness of aggregate material under disposal pipe	12 inches	—
9. ~~Aggregate~~ Thickness of aggregate material over disposal pipe	2 inches	2 inches
10. Slope of ~~distribution~~ disposal pipe	Level	Level
11. ~~Distribution~~ Disposal pipe diameter	3 inches	4 inches

Note:
1. The effective depth is the distance between the bottom of the disposal pipe and the bottom of the bed.

4. ~~Disposal field using chamber~~ Chamber technology. An applicant shall:
   a. ~~If leaching chambers are proposed instead of trenches or beds installed with distribution pipes, calculate~~ Calculate an equivalent effective chamber absorption area to size the disposal ~~field~~ works area and determine the number of chambers needed. The effective absorption area of each chamber is calculated as follows:

$$A = (\text{~~1.43~~ } 1.8 \times B \times L) + (2 \times V \times L)$$

      i. "A" is the effective absorption area of each chamber,
      ii. "B" is the ~~nominal~~ exterior width of the ~~open~~ bottom ~~absorption surface~~ of the chamber,
      iii. "V" is the vertical height of the louvered sidewall of the chamber ~~sidewall~~, and
      iv. "L" is the length of the chamber~~.~~;
   b. Calculate the disposal ~~field~~ works size and number of chambers from the effective absorption area of each chamber and the soil absorption rates specified in R18-9-A312(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.~~;
   c. Ensure that the sidewall of the chamber provides at least 35~~%~~ percent open area for sidewall credit and that the design and construction minimizes the movement of fines into the chamber area. The use of filter fabric or geotextile against the sidewall openings is prohibited.
5. Seepage pits. ~~The~~ If allowed by R18-9-A311(B)(1), the applicant shall:
   a. ~~If allowed by R18-9-A311, design~~ Design a seepage pit to comply with R18-9-A312(E)(1) for minimum vertical separation distance;
   b. Ensure that multiple seepage pit installations are served through a distribution box approved by the Department or connected in series with a watertight connection laid on undisturbed or compacted soil. The applicant shall ensure that the outlet from the pit has a sanitary tee with the vertical leg extending at least 12 inches below the inlet;
   c. Ensure that each seepage pit is circular and has an excavated diameter of ~~four~~ 4 to ~~six~~ 6 feet. If multiple seepage pits are installed, ensure that the minimum spacing between seepage pit sidewalls is 12 feet or three times the diameter of the seepage pit, whichever is greater. The applicant may use the alternative design procedure specified in R18-9-A312(G) for a proposed seepage pit more than ~~six~~ 6 feet in diameter;
   d. For a gravel filled seepage pit, backfill the entire pit with aggregate. The applicant shall ensure that each pit has a breather conductor pipe that consists of a perforated pipe at least ~~four~~ 4 inches in diameter, placed vertically within the backfill of the pit. The pipe shall extend from the bottom of the pit to within 12 inches below ground level;
   e. For a lined, hollow seepage pit, lay a concrete liner or a liner of a different approved material in the pit on a firm foundation and fill excavation voids behind the liner with at least ~~nine~~ 9 inches of aggregate;
   f. For the cover of a lined seepage pit, use an approved one or two piece reinforced concrete slab with a minimum compressive strength of 2500 pounds per square inch. The applicant shall ensure that the cover:
      i. Is at least ~~five~~ 5 inches thick and designed to support an earth load of at least 400 pounds per square foot;
      ii. Has a 12-inch square or diameter minimum access hole with a plug or cap that is coated on the underside with an approved bituminous seal, constructed of concrete with 15~~%~~ percent to 18~~%~~ percent fly ash content, or made of other nonpermeable protective material; and
      iii. Has a ~~four~~ 4-inch or larger inspection pipe placed vertically not more than ~~six~~ 6 inches below ground level;
   g. Ensure that the top of the seepage pit cover is ~~four~~ 4 to 18 inches below the surface of the ground;
   h. Install a vented inlet fitting in every seepage pit to prevent flows into the seepage pit from damaging the sidewall.
      ~~i.~~ An applicant may use a 1/4 bend fitting placed through an opening in the top of the slab cover if a one or two piece concrete slab cover inlet is used; ~~or~~
      ~~ii. For multiple seepage pit installations, an applicant shall install the outlet fittings following a reference design drawing on file with the Department.~~
   i. Bore seepage pits five feet deeper than the proposed pit depth to verify underlying soil characteristics and backfill the five feet of overdrill with low permeability drill cuttings or other suitable material;

j. Backfill seepage pits that terminate in gravelly, coarse sand zones five feet above the beginning of the zone with low permeability drill cuttings or other suitable material;
k. Determine the minimum sidewall area for a seepage pit from the design flow and the soil absorption rate derived from the testing procedure described in ~~R18-9-A310(F)~~ R18-9-A310(G). The effective absorption surface for a seepage pit is the sidewall area only. The sidewall area is calculated ~~by~~ using the following formula:

$$A = 3.14 \times D \times H$$

i. "A" is the minimum sidewall area in square feet needed for the design flow and soil absorption rate for the installation~~;~~,
ii. "D" is the diameter of the proposed seepage pit in feet~~;~~, and
iii. "H" is the vertical height in feet in the seepage pit through which wastewater infiltrates native soil. The applicant shall ensure that H is at least 10 feet for any seepage pit.

D. Operation and maintenance. The permittee shall follow the applicable operation and maintenance requirements in R18-9-A313.

R18-9-E303. 4.03 General Permit: Composting Toilet, Less Than 3000 Gallons Per Day Design Flow

A. A 4.03 General Permit allows a composting toilet.
1. Definition. For purposes of this Section, "composting toilet" means a manufactured turnkey or kit form treatment technology that receives human waste from a waterless toilet directly into an aerobic composting ~~tank~~ chamber where dehydration and biological activity reduce the waste volume and the content of nutrients and harmful microorganisms to an appropriate level for later disposal at the site or ~~elsewhere~~ by other means.
~~2. An applicant shall use a composting toilet system only if a wastewater system or gray water system is used to accommodate wastewater that does not originate from toilets.~~
~~3.~~2. An applicant may use a composting toilet if:
a. Limited water availability prevents use of other types of onsite wastewater treatment facilities,
b. Environmental constraints prevent the discharge of wastewater or nutrients to a sensitive area,
c. Inadequate space prevents use of other systems, ~~or~~
d. Severe site limitations exist that make other forms of treatment or disposal unacceptable~~.~~, or
e. Maximum water conservation is desired.
3. A permittee may use a composting toilet only if:
a. Wastewater is managed as provided in this Section and, if gray water is separated and reused, the gray water reuse complies with18 A.A.C. 9, Article 7, and
b. Soil conditions support subsurface disposal of all wastewater sources.

B. Restrictions. ~~An applicant shall:~~
1. ~~Not install a composting toilet if the composting chamber temperature cannot be maintained between 60°F and 70°F or for any seven day average the temperature of the chamber is less than 55°F or greater than 80°F, and~~ The maximum daily use of the composting toilet is 50 persons.
2. ~~Ensure that a~~ A composting toilet ~~system receives~~ shall only receive human excrement unless the manufacturer's specifications allow the deposit of kitchen or other wastes into the toilet.

C. Performance. An applicant shall ensure that ~~a composting toilet~~:
1. ~~Prevents~~ The composting toilet provides containment to prevent the discharge of ~~blackwater~~ toilet contents to the native soil ~~through containment in the composting toilet system,~~ except leachate, which may drain to the wastewater disposal works described in subsection (F);
~~2. Manages gray water as provided in this Article or under A.A.C. Title 18, and~~
~~3.~~2. ~~Prevents~~ The composting toilet limits access by vectors to the contained waste~~.~~; and
3. Wastewater is disposed into the subsurface to prevent any wastewater from surfacing.

D. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B) and R18-9-A309(B), the applicant shall submit the following information:
1. Composting toilet.
~~1.~~ a. The name and address of the composting toilet system manufacturer;
~~2.~~ b. A copy of the manufacturer's warranty, and the specifications for installation~~,~~ ~~and~~ operation, and maintenance ~~plans~~;
~~3.~~ c. The product model number;
~~4.~~ d. ~~The rate of composting~~ Composting rate, ~~and~~ capacity, and waste accumulation volume calculations~~.~~;
~~5.~~ e. Documentation of listing by a national listing organization indicating that the composting toilet meets the stated manufacturer's specifications for loading, treatment performance, and operation, unless the composting toilet is listed under R18-9-A309(E) or is a component of a reference design approved by the Department;
~~6.~~ f. The method of vector control; ~~and~~
~~7.~~ g. The ~~calculation of waste volume and~~ planned method and frequency for disposing ~~of~~ the composted human excrement residue; and

h. The planned method for disposing of the drainage from the composting unit; and

2. Wastewater.
   a. The number of bedrooms in the dwelling or persons served on a daily basis, as applicable, and the corresponding design flow of the disposal works for the wastewater;
   b. The results from soil evaluation or percolation testing that adequately characterize the soils into which the wastewater will be dispersed and the locations of soil evaluation and percolation testing on the site plan; and
   c. The design for the disposal works in subsection (F), including the location of the interceptor, the location and configuration of the trench or bed used for wastewater dispersal, the location of connecting wastewater pipelines, and the location of the reserve area.

E. Design requirements for a composting toilet. An applicant shall ensure that:

1. ~~Ensure that the~~ The composting ~~tank~~ chamber is ~~double-walled for leak protection~~ watertight, constructed of solid durable materials not subject to excessive corrosion or decay, and is constructed to exclude access by vectors;
2. ~~Ensure that the~~ The composting ~~tank~~ chamber has airtight seals to prevent odor or toxic gas from escaping into the building. The system may be vented to the outside;
3. ~~Base the~~ The capacity of the chamber and rate of composting ~~and capacity calculations~~ are calculated based on:
   a. ~~the~~ The lowest monthly average ~~tank~~ chamber temperature~~, unless a temperature control device is installed~~; or
   b. The yearly average chamber temperature, if the composting toilet is designed to compost on a yearly cycle or longer; and
4. ~~Unless a temperature control device is installed, ensure that the capacity of the~~ The composting ~~facility~~ system provides adequate storage ~~for~~ of all waste produced during the months when the average temperature is below 55^{o}F, ~~if the manufacturer allows operation at this temperature;~~ unless a temperature control device is installed to increase the composting rate and reduce waste volume.
5. ~~Dispose of the composted product at the end of the treatment process as provided under 18 A.A.C. 8 and 18 A.A.C. 13.~~

F. Design requirements for the disposal works.

1. Interceptor. An applicant shall ensure that the design complies with the following:
   a. Wastewater passes into an interceptor before it is conducted to the subsurface for dispersal;
   b. The interceptor is designed to remove grease, oil, fibers, and solids to ensure long-term performance of the trench or bed used for subsurface dispersal;
   c. The interceptor is covered to restrict access and eliminate habitat for mosquitoes and other vectors; and
   d. Minimum interceptor size is based on design flow.
      i. For a dwelling, the following apply:

No. of Bedrooms	Design Flow (gallons per day)	Minimum Interceptor Size (gallons)	
		Kitchen Wastewater Only (All gray water sources are collected and reused)	Combined Non-Toilet Wastewater (Gray water is not separated and reused)
1 (7 fixture units or less)	90	42	200
1-2 (greater than 7 fixture units)	180	84	400
3	270	125	600
4	330	150	700
5	380	175	800
6	420	200	900
7	460	225	1000

      ii. For other than a dwelling, minimum interceptor size in gallons is 2.1 times the design flow from Table 1, Unit Design Flows.

2. Dispersal of wastewater. An applicant shall ensure that the design complies with the following:
   a. A trench or bed is used to disperse the wastewater into the subsurface;
   b. Sizing of the trench or bed is based on the design flow of wastewater as determined in subsection (F)(1)(d) and an SAR determined under R18-9-A312(D);
   c. The minimum vertical separation from the bottom of the trench or bed to a limiting subsurface condition is at least 5 feet; and
   d. Other aspects of trench or bed design follow R18-9-E302, as applicable.

3. Setback distances. Setback distances are no less than 1/4 of the setback distances specified in R18-9-A312(C), but not less than 5 feet, except the setback distance from wells is 100 feet.

F.G. Operation and maintenance requirements. A permittee shall:

1. Composting toilet.
   1. a. Provide adequate mixing, ventilation, temperature control, moisture, and bulk to reduce fire hazard and prevent anaerobic conditions;
   2. b. If consistent with this Chapter, follow the Follow manufacturer's recommendations specifications regarding use of an for addition of any organic bulking agent to control liquid drainage, promote aeration, or provide additional carbon;
   3. c. If consistent with this Chapter, follow Follow the manufacturer's recommendations specifications for operation, and maintenance, and recordkeeping regarding rotating tines used to control the movement of material to the bottom of within the composting chamber;
   4. d. If batch system containers are mounted on a carousel, place a new container in the toilet area if the previous one is full;
   5. e. Ensure that only human waste, paper approved for septic tank use, and the amount of bulking material required for proper maintenance is introduced to the composting tank chamber. The applicant permittee shall immediately remove all other materials or trash. If allowed by the manufacturer's specifications and consistent with this Chapter, the permittee may add other nonliquid compostable food preparation residues, such as fruit and vegetable peels, may be added to the toilet;
   6. f. Ensure that any liquid end product that does not evaporate is:
      i. sprayed Sprayed back onto the composting waste material;
      ii. or removed Removed by a permitted or licensed waste hauler licensed under 18 A.A.C. 13, Article 11; or
      iii. Is drained to the interceptor described in subsection (F);
   7. g. Remove and dispose of composted waste, at least annually as necessary, using a permitted or licensed waste hauler licensed under 18 A.A.C. 13, Article 11 if the waste is not placed in a disposal area for burial or used onsite as mulch;
   8. h. Before ending use for an extended period take measures to assure that moisture is maintained to sustain bacterial activity and free liquids in the tank chamber do not freeze; and
   9. i. After an extended period of non-use, empty the composting tank chamber of solid end product and inspect all mechanical components to verify that the mechanical components are operating as designed.;
2. Wastewater Disposal Works.
   a. Ensure that the interceptor is maintained regularly according to manufacturer's instructions to prevent grease and solid wastes from impairing performance of the trench or bed used for dispersal of wastewater, and
   b. Protect the area of the trench or bed from soil compaction or other activity that will impair dispersal performance.

H. Reference design.

1. An applicant may use a composting toilet that achieves the performance requirements in subsection (C) by following a reference design on file with the Department.
2. 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.

R18-9-E304. 4.04 General Permit: Pressure Distribution System, Less Than 3000 Gallons Per Day Design Flow

A. A 4.04 General Permit allows pressurized distribution of wastewater treated to a level equal to or better than that provided by a 4.02 General Permit septic tank specified in R18-9-E302(B).

1. Definition. For purposes of this Section, a "pressure Pressure-distribution system" means a tank, pump, controls, and piping that conducts wastewater under pressure in controlled amounts and intervals to a disposal field, bed, trench, bed or trench or other means of disposal distribution authorized by a general permit for an onsite wastewater treatment facility.
2. An applicant may use a pressure distribution systems system if a gravity flow system is unsuitable, inadequate, unfeasible, or cost prohibitive because of site limitations or other conditions, or if needed to optimally disperse distribute wastewater to some types of disposal systems.

B. Performance. An applicant shall ensure that a pressure distribution system:

1. Has Department-approved dispersing components that provide proper dispersal of Disburses wastewater so that:
   a. loading Loading rates are optimized for the particular system intended purpose, and
   b. The wastewater is delivered under pressure and evenly distributed within the disposal works, and
2. Prevents ponding on the land surface.

C. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B) and R18-9-A309(B), the applicant shall submit:

1. A copy of operation, maintenance, and warranty materials for the principal components; and

2. A copy of dosing specifications, including pump curves, dispersing component ~~curves~~ details, and float ~~switch~~ control settings.

D. Design requirements.

1. Pumps. An applicant shall ensure pumps used in the onsite wastewater treatment facility:
   a. Are rated for ~~effluent~~ wastewater service by the manufacturer and certified by Underwriters Laboratories,
   b. Achieve the minimum design flow rate and total dynamic head requirements for the particular site, and
   c. Incorporate a quick disconnect using compression-type unions for pressure connections. The applicant shall ensure that:
      i. Quick-disconnects are accessible in the pressure piping, and
      ii. A pump has adequate lift attachments for removal and replacement of the pump and switch assembly without entering the dosing tank or process chamber.
2. Switches, controls, alarms, timers, and electrical components. An applicant shall ensure that:
   a. Switches and controls accommodate the minimum and maximum dose capacities of the distribution network design. Pressure diaphragm level control switches are prohibited;
   b. ~~Controls designed for fail-safe treatment or flow equalization functions are field tested to assure compliance with the design and operation specifications~~ Fail-safe controls that can be tested in the field are used to prevent discharge of inadequately treated wastewater. The applicant shall include counters or flow meters if critical to control functions, such as timed dosing;
   c. Control panels and alarms:
      i. Are mounted in an exterior location visible from the dwelling,
      ii. Provide manual pump switch and alarm test features, and
      iii. Include written instructions covering standard operation and alarm events~~.~~;
   d. Audible and visual alarms are used for all critical control functions, such as pump failures, treatment failures, and excess flows. The applicant shall ensure that:
      i. The visual portion of the signal is conspicuous from a distance 50 feet from the system and its appurtenances~~.~~;
      ii. The audible portion of the signal is between 70 and 75 db at 5 feet and is discernable from a distance of 50 feet from the system and its appurtenances~~.~~; and
      iii. Alarms, test features, and controls are 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 complies with the National Electrical Code, ~~1999~~ 2005 Edition, published by the National Fire Protection Association. This material is incorporated by reference and does not include any later amendments or editions of the incorporated ~~matter~~ material. Copies of the incorporated material are available for inspection at the Arizona Department of Environmental Quality, 1110 W. Washington, Phoenix, AZ 85007 ~~and the Office of the Secretary of State,~~ or may be obtained from the National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101, Quincy, MA 02269-9101. The applicant shall ensure:
      i. Connections are made using National Electrical Manufacturers Association (NEMA) 4x junction boxes certified by Underwriters Laboratories; and
      ii. All controls are in NEMA 3r, 4, or 4x enclosures for outdoor use.
3. Dosing tanks and wastewater distribution components. ~~An applicant shall:~~
   a. An applicant shall:
      ~~a.~~ i. Design dosing tanks to withstand anticipated internal and external loads under full and empty conditions, and design concrete tanks to meet the "Standard Specification for Precast Concrete Water and Wastewater Structures, C913-02," published by the American Society for Testing and Materials~~, (C 913-98), approved December 10, 1998~~. This material is incorporated by reference and does not include any later amendments or editions of the incorporated ~~matter~~ material. Copies of the incorporated material are available for inspection at the Arizona Department of Environmental Quality, 1110 W. Washington, Phoenix, AZ 85007 ~~and the Office of the Secretary of State,~~ or may be obtained from the American Society for Testing and Materials International, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959;
      ~~b.~~ ii. Design dosing tanks to be easily accessible and have secured covers;
      ~~c.~~ iii. Install risers to provide access to the inlet and outlet of the tank and to service internal components;
      ~~d.~~ iv. Ensure that the volume of the dosing tank accommodates 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 applicant shall ensure that the combined surge capacity and reserve volume above the high water alarm is not less than the daily design flow volume; ~~and~~
      ~~e.~~ v. Ensure that dosing tanks are watertight and anti-buoyant~~.~~;
      vi. Design the wastewater distribution components to withstand system pumping pressures;
      vii. Design the wastewater distribution system to allow air to purge from the system;

viii. Design pressure piping to minimize freezing during cold weather;
ix. Ensure that the end of each wastewater distribution line is accessible for maintenance;
x. Ensure that orifices emit the design discharge rate uniformly throughout the wastewater distribution system; and
xi. Design orifices using orifice shields to provide proper distribution of wastewater to the receiving medium.

b. An applicant may use a septic tank second compartment or a second septic tank in series 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.

4. Design SAR. If the site conditions of the property for the onsite wastewater treatment facility do not require pressure distribution, but an applicant chooses to use pressure distribution, the applicant shall use a design SAR for the absorption surfaces in the disposal works that is not more than 1.10 times the adjusted SAR determined in R18-9-A312(D).

~~**E.** Installation requirements. An applicant may use a septic tank second compartment or a second septic tank in series 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. An applicant shall:~~

~~1. Install switches, controls, alarms, and electrical components for easy access for routine monitoring and maintenance; and~~

~~2. Compact berms around the disposal area to 85% and ensure that the berms are adequate to retain wastewater and rainwater from a 10-year, 24-hour rainfall event within the disposal field.~~

~~**F.**~~**E.** Additional ~~Verification of General Permit Conformance~~ Discharge Authorization requirements. An installer shall provide copies of instructions for the critical controls of the system to the ~~homeowner and~~ applicant. The applicant shall submit one copy with information required by the Department ~~before~~ for issuance of the ~~Verification of General Permit Conformance~~ Discharge Authorization.

~~**G.**~~**F.** Operation and maintenance requirements. In addition to the applicable requirements specified in ~~R18-9-A313~~ R18-9-A313(B), a permittee shall ensure that:

1. The operation and maintenance ~~plan~~ manual for the onsite wastewater treatment facility that supplies the wastewater to the pressure distribution system specifies inspection and maintenance needed for the following items:
   a. Sludge level in the bottom of the treatment and dosing tanks,
   b. Watertightness,
   c. Condition of electrical and mechanical components, and
   d. Piping and other components functioning within design limits~~.~~;
2. All critical control functions are specified in the ~~Operation and Maintenance Plan~~ operation and maintenance manual for testing to demonstrate compliance with design specifications, including:
   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; and
   e. Voltage test on pumps, motors, and controls, as applicable~~.~~;
3. The finished grade is observed and maintained for proper surface drainage. The applicant shall observe the levelness of the tank for differential settling. If there is settling, the applicant shall grade the facility to maintain surface drainage.

R18-9-E305. 4.05 General Permit: Gravelless Trench, Less Than 3000 Gallons Per Day Design Flow

A. A 4.05 General Permit allows a gravelless trench receiving wastewater treated to a ~~quality~~ level equal to or better than that ~~provided by a 4.02 General Permit septic tank~~ specified in R18-9-E302(B). ~~This general permit authorizes the discharge of wastewater from a septic tank that meets the requirements of R18-9-A314 to the gravelless pipe system described in this Section.~~

1. Definition. ~~For purposes of this Section, a~~ "~~gravelless~~ Gravelless trench" means 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 allowed in R18-9-E302.
2. A permittee may use a gravelless trench if suitable gravel or volcanic rock aggregate is unavailable, excessively expensive, or if adverse site conditions make movement of gravel difficult, damaging, or time consuming.

B. Performance. An applicant shall design a gravelless trench ~~on the basis~~ so that treated wastewater released to the native soil meets the following criteria:

1. TSS of 75 milligrams per liter, 30-day arithmetic mean;
2. BOD_5 of 150 milligrams per liter, 30-day arithmetic mean;
3. Total nitrogen (as nitrogen) of 53 milligrams per liter, 5-month arithmetic mean; and
4. Total coliform level of 100,000,000 (Log_{10} 8) colony forming units per 100 milliliters, 95th percentile.

C. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B) and R18-9-A309(B), an applicant shall submit the following:

1. The soil absorption area that ~~is~~ would be required if a conventional disposal ~~field~~ trench filled with aggregate ~~is~~ was used at the site,
2. The configuration and size of the proposed gravelless disposal ~~field~~ works, and
3. The manufacturer's installation instructions and warranty of performance for absorbing wastewater into the native soil.

D. Design requirements. ~~An~~ In addition to the applicable requirements in R18-9-A312, an applicant shall:
1. Ensure that the top of the gravelless disposal pipe or similar disposal mechanism is at least ~~six~~ 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;
2. Calculate the infiltration surface as follows:
   a. For ~~eight~~ 8-inch diameter pipe, ~~two~~ 2 square feet of absorption area is allowed per linear foot;
   b. For 10-inch diameter pipe, ~~three~~ 3 square feet of absorption area is allowed per linear foot;
   c. For bundles of two pipes of the same diameter, the absorption area is calculated as 1.67 times the absorption area of one pipe; and
   d. For bundles of three pipes of the same diameter, the absorption area is calculated as 2.00 times the absorption area of one pipe~~.~~;
3. Use a pressure distribution system meeting the requirements of R18-9-E304 in medium sand, coarse sand, and coarser soils; and
4. Construct the drainfield of material that will not decay, deteriorate, or leach chemicals or byproducts if exposed to sewage or the subsurface soil environment.

E. Installation requirements. ~~An~~ In addition to the applicable requirements in R18-9-A313(A), an applicant shall:
1. Install the gravelless pipe material according to manufacturer's instructions if the instructions are consistent with this Chapter,
2. Ensure that the installed disposal system can withstand the physical disturbance of backfilling and the load of any soil cover above natural grade placed over the installation, and
3. Shape any backfill and soil cover in the area of installation to prevent settlement and ponding of rainfall for the life of the disposal ~~field~~ works.

F. Operation and maintenance requirements. In addition to the applicable requirements in ~~R18-9-A313~~ R18-9-A313(B), the permittee shall inspect the finished grade in the vicinity of the gravelless disposal ~~field~~ works for maintenance of proper drainage and protection from damaging loads.

R18-9-E306. 4.06 General Permit: Natural Seal Evapotranspiration Bed, Less Than 3000 Gallons Per Day Design Flow

A. A 4.06 General Permit allows a natural seal evapotranspiration bed receiving wastewater treated to a level equal to or better than that ~~provided by a 4.02 General Permit septic tank~~ specified in R18-9-E302(B). ~~This general permit authorizes the discharge of wastewater from a septic tank that meets the requirements of R18-9-E314 to the general permitted disposal feature described in this Section.~~
1. Definition. ~~For purposes of this Section, a~~ "~~natural~~ Natural seal evapotranspiration bed" means a disposal technology characterized by a bed of sand or other ~~durable~~ media with an internal wastewater distribution system, contained on the bottom and sidewalls by an engineered liner consisting of natural soil and clay materials.
2. An applicant may use a natural seal evapotranspiration bed if 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 a person provides design documentation to show that a natural seal evapotranspiration bed will properly function, the person shall not install this technology if:
1. Average minimum temperature in any month is 20°F or less,
2. Over 1/3 of the average annual precipitation falls in a 30-day period, or
3. Design flow exceeds net evaporation.

C. Performance. An applicant shall ensure that a natural seal evapotranspiration bed:
1. Minimizes discharge to the native soil through the natural seal liner,
2. Maximizes wastewater disposed to the atmosphere by evapotranspiration, and
3. Prevents ponding of wastewater on the bed surface and maintains an interval of unsaturated media directly beneath the bed surface.

~~**D.** Reference design.~~
~~1. An applicant may design and install a natural seal evapotranspiration bed with the performance required in subsection (C), following a reference design on file with the Department.~~
~~2. The applicant shall file a form provided by the Department for supplemental information about the proposed system with the applicant's Notice of Intent to Discharge.~~

~~**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 requirements specified in R18-9-A312(G).~~

~~1. The Department shall consider the submittal of an alternative design as one design change to establish the applicable fee under 18 A.A.C. 14.~~
~~2. The applicant shall file a form provided by the Department for supplemental information about the proposed system with the applicant's Notice of Intent to Discharge.~~

D. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements in R18-9-A301(B) and R18-9-A309(B), an applicant shall submit:
1. Capillary rise potential test results for the media used to fill the evapotranspiration bed, unless sand meeting a D_{50} of 0.1 millimeter (50 percent by weight of grains equal to or smaller than 0.1 millimeter in size) is used; and
2. Water mass balance calculations used to size the evapotranspiration bed.

E. Design requirements. An applicant shall:
1. Ensure that the evapotranspiration bed is from 18 to 36 inches deep and shall calculate the bed design based on the capillary rise of the bed media, following the "Standard Test Method for Capillary-Moisture Relationships for Coarse- and Medium-Textured by Porous-Plate Apparatus, D2325-68(2003)," incorporated by reference in R18-9-E307(E), and the anticipated maximum frost depth;
2. Ensure the media is sand or other durable material;
3. Base design area calculations on a water mass balance for the winter months and the design seepage rate;
4. Ensure that the natural seal liner is a durable, low hydraulic conductivity liner that has a specified design and seepage rate for the calculated bottom and sidewall area;
5. If a surfacing layer is used, use topsoil, dark cinders, decomposed granite, or similar landscaping material placed to a maximum depth of 2 inches and ensure that:
   a. If topsoil is used as a surfacing layer for growth of landscape plants:
      i. The topsoil is a fertile, friable soil obtained from well-drained arable land;
      ii. The topsoil is free of nut grass, refuse, roots, heavy clay, clods, noxious weeds, or any other material toxic to plant growth;
      iii. The pH of the topsoil is between 5.5 and 8.0;
      iv. The plasticity index of the topsoil is between 3 and 15; and
      v. The topsoil contains approximately 1-1/2 percent organic matter, by dry weight, either natural or added;
   b. If another landscaping material is used as a surfacing layer, the material meets the following gradation:

Sieve Size	Percent Passing
1"	100
1/2"	95-100
No. 4	90-100
No. 10	70-100
No. 200	15-70

6. Use shallow-rooted, non-invasive, salt and drought tolerant evergreens if vegetation is planted on the evapotranspiration bed;
7. Install at least two observation ports to determine the level of the liquid surface of wastewater within the evapotranspiration bed;
8. Design the bed to pump out the saturated zone if accumulated salts or a similar condition impairs bed performance; and
9. Instead of the minimum vertical separation required under R18-9-A312(E), ensure that the minimum vertical separation from the bottom of the natural seal evapotranspiration bed liner to the seasonal high water table is at least 12 inches.

F. Installation requirements. In addition to the applicable requirements in R18-9-A313(A), an applicant shall ensure that:
1. The liner covers the bottom and all sidewalls of the bed and is installed on a stable base according to manufacturer's installation specifications;
2. If the inlet pipe passes through the liner, the joint is tightly sealed to minimize leakage during the operational life of the facility;
3. The liner is leak tested under the supervision of an Arizona-registered professional engineer to confirm the design leakage rate; and
4. A 2- to 4-inch layer of 1/2- to 1-inch gravel or crushed stone is placed around the distribution pipes within the bed. Place the filter cloth on top of the gravel or crushed stone to prevent sand from settling into the crushed stone or gravel.

G. Additional Discharge Authorization requirements. An applicant shall submit the satisfactory results of the leakage test

required under subsection (F)(3) to the Department for issuance of the Discharge Authorization.

H. Operation and maintenance requirements. In addition to the applicable requirements in R18-9-A313(B), the permittee shall:
1. Not allow irrigation of an evapotranspiration bed, and
2. Protect the bed from vehicle loads and other damaging activities.

R18-9-E307. 4.07 General Permit: Lined Evapotranspiration Bed, Less Than 3000 Gallons Per Day Design Flow

A. A 4.07 General Permit allows a lined evapotranspiration bed receiving wastewater treated to a level equal to or better than that ~~provided by a 4.02 General Permit septic tank~~ specified in R18-9-E302(B). ~~This general permit authorizes the discharge of wastewater from a septic tank that meets the requirements of R18-9-E314 to the general permitted disposal feature described in this Section.~~
1. Definition. ~~For purposes of this Section, a~~ "~~lined~~ Lined evapotranspiration bed" means a disposal technology characterized by a bed of sand or other ~~durable~~ media with an internal wastewater distribution system contained on the bottom and sidewalls by an impervious synthetic liner.
2. An applicant may use a lined evapotranspiration bed if site conditions restrict soil infiltration or require reduction or elimination of the volume of wastewater or nitrogen load ~~content of wastewater~~ discharged to the native soil.
3. Provision of a reserve area is not required for a lined evapotranspiration bed.

B. Restrictions. Unless a person provides design documentation to show that a lined evapotranspiration bed will properly function, the person shall not install this technology 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. An applicant shall ensure that a lined evapotranspiration bed:
1. Prevents discharge to the native soil by a synthetic liner,
2. Attains full disposal of wastewater to the atmosphere by evapotranspiration, and
3. Prevents ponding of wastewater on the bed surface and maintains an interval of unsaturated media directly beneath the bed surface.

D. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B) and R18-9-A309(B), an applicant shall submit:
1. Capillary rise potential test results for the media used to fill the evapotranspiration bed, unless sand meeting a D_{50} of 0.1 millimeter (50~~%~~ percent by weight of grains equal to or smaller than 0.1 millimeter in size) is used; and
2. Water mass balance calculations used to size the evapotranspiration bed.

E. Design requirements. ~~An~~ In addition to the applicable requirements in R18-9-A312, an applicant shall:
1. Ensure that the evapotranspiration bed is from 18 to 36 inches deep and calculate the bed design on the basis of the capillary rise of the bed media, according to the "Standard Test Method for Capillary-Moisture Relationships for Coarse- and Medium-Textured by Porous-Plate Apparatus, D2325-68(2003)," published by the American Society for Testing and Materials~~, (D 2325-68), reapproved 1994^{E1}~~, and the anticipated maximum frost depth. This material is and does not include any later amendments or editions of the incorporated ~~matter~~ material. Copies of the incorporated material are available for inspection at the Arizona Department of Environmental Quality, 1110 W. Washington, Phoenix, AZ 85007 ~~and the Office of the Secretary of State,~~ or may be obtained from the American Society for Testing and Materials International, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959;
2. Ensure the media is sand or other durable material;
~~2.~~3. Base design area calculations on a water mass balance for the winter months;
~~3.~~4. Ensure that the evapotranspiration bed liner is a durable, low hydraulic conductivity synthetic liner that has a calculated bottom area and sidewall seepage rate of less than 550 gallons per acre per day;
~~4.~~5. If a surfacing layer is used, use topsoil, dark cinders, decomposed granite, or similar landscaping material placed to a maximum depth of ~~two~~ 2 inches. The applicant shall ensure that:
   a. If topsoil is used as a surfacing layer for growth of landscape plants:
      ~~a.~~ i. The topsoil is a fertile, friable soil obtained from well-drained arable land~~,~~; ~~and~~
      ii. The topsoil is free of nut grass, refuse, roots, heavy clay, clods, noxious weeds, or any other material toxic to plant growth; ~~and~~
      ~~b.~~ iii. The pH ~~factor does not exceed 8.0 or fall lower than 5.5, soluble salts do not exceed 1500 milligrams per liter,~~ of the topsoil is between 5.5 and 8.0;
      iv. ~~the~~ The plasticity index of the topsoil is ~~in the range of~~ between ~~three~~ 3 and 15 ~~inclusive,~~; and
      v. ~~the soil~~ The topsoil contains approximately 1-1/2~~%~~ percent organic matter, by dry weight, either natural or added;
   b. ~~The applicant shall ensure that~~ If another landscaping material is used ~~for the~~ as a surfacing layer, the material meets the following gradiation:

Sieve Size	Percent Passing
1”	100
1/2”	95-100
No. 4	90-100
No. 10	70-100
No. 200	15-70

~~5.~~6. Use shallow-rooted, non-invasive, salt and drought tolerant evergreens if vegetation is planted on the evapotranspiration bed;
~~6.~~7. Install at least one observation port to allow determination of the depth to the liquid surface of wastewater within the evapotranspiration bed;
~~7.~~8. Design the bed to pump out the saturated zone if accumulated salts or a similar condition impairs bed performance~~. Provision of a reserve area is not required for a lined evapotranspiration bed~~; and
~~8.~~9. Instead of the minimum vertical separation required under R18-9-A312(E), ensure that the minimum vertical separation from the bottom of the evapotranspiration bed liner to the surface of the seasonal high water table or impervious layer or formation is at least 12 inches.

F. Installation requirements. ~~An~~ In addition to the applicable requirements in R18-9-A313(A), an applicant shall ensure that:
1. All liner seams are factory fabricated or field welded according to manufacturer’s specifications ~~not inconsistent with this Chapter~~. The applicant shall ensure that:
2. ~~a.~~ The liner covers the bottom and all sidewalls of the bed and is cushioned on the top and bottom with layers of sand at least ~~two~~ 2 inches thick or other equivalently protective material~~.~~; ~~and~~
3. ~~b.~~ If the inlet pipe passes through the liner, the joint is tightly sealed to minimize leakage during the operational life of the facility~~.~~;
~~2.~~4. The liner is leak tested under the supervision of an Arizona-registered professional engineer~~.~~; and
~~3.~~5. A ~~two-~~ 2- to ~~four~~ 4-inch layer of 1/2- to ~~one~~ 1-inch gravel or crushed stone is placed around the distribution pipes within the bed. The applicant shall place filter cloth on top of the gravel or crushed stone to prevent sand from settling into the crushed stone or gravel.

G. Additional ~~Verification of General Permit Conformance~~ Discharge Authorization requirements. An applicant shall submit the ~~sealed~~ liner test results ~~of the liner test~~ sealed by an Arizona-registered professional engineer to the Department ~~before~~ for issuance of the ~~Verification of General Permit Conformance~~ Discharge Authorization.

H. Operation and maintenance requirements. In addition to the applicable requirements in R18-9-A313(B), the permittee shall:
1. ~~Irrigation~~ Not allow irrigation of an evapotranspiration bed ~~is not allowed.~~; and
2. ~~A permittee shall protect~~ Protect the bed from vehicle loads and other damaging activities.

R18-9-E308. 4.08 General Permit: Wisconsin Mound, Less Than 3000 Gallons Per Day Design Flow

A. A 4.08 General Permit allows a Wisconsin mound receiving wastewater treated to a level equal to or better than that ~~provided by a 4.02 General Permit septic tank~~ specified in R18-9-E302(B).
1. Definition. ~~For purposes of this Section, a~~ “Wisconsin mound” means a disposal technology characterized by:
   a. An above-grade bed system that blends with the land surface into which is dispensed pressure dosed wastewater from a septic tank or other upstream treatment device,
   b. Dispersal of wastewater under unsaturated flow conditions through the engineered media system contained in the mound, and
   c. Wastewater treated by passage through the mound before percolation into the native soil below the mound.
2. An applicant may use a Wisconsin mound if:
   a. ~~the~~ The native soil has excessively high or low permeability,
   b. ~~there~~ There is little native soil overlying fractured or excessively permeable rock, or
   c. ~~a~~ A reduction in minimum vertical separation is desired.

B. Performance. An applicant shall design a Wisconsin mound ~~on the basis~~ so that treated wastewater released to the native soil meets the following criteria:
1. Performance Category A.
   a. TSS of 20 milligrams per liter, 30-day arithmetic mean;
   b. BOD_5 of 20 milligrams per liter, 30-day arithmetic mean;
   c. Total nitrogen (as nitrogen) of 53 milligrams per liter, 5-month arithmetic mean; and
   d. Total coliform level of 1000 (Log_{10} 3.0) colony forming units per 100 milliliters, 95th percentile;

2. Performance Category B.
   ~~1.~~ a. TSS of 30 milligrams per liter, 30-day arithmetic mean;
   ~~2.~~ b. BOD_5 of 30 milligrams per liter, 30-day arithmetic mean;
   ~~3.~~ c. Total nitrogen (as nitrogen) of 53 milligrams per liter, 5-month arithmetic mean; and
   ~~4.~~ d. Total coliform level of 300,000 (Log_{10} 5.5) colony forming units per 100 milliliters, 95th percentile.

C. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B) and R18-9-A309(B), an applicant shall submit:
1. Specifications for the internal wastewater distribution system media proposed for use in the Wisconsin mound;
2. Two scaled or dimensioned cross sections of the mound (~~1~~ one of the shortest basal area footprint dimension and one of the lengthwise dimension); and
3. Design calculations following the "Wisconsin Mound Soil Absorption System: Siting, Design, and Construction Manual," published by the University of Wisconsin – Madison, January 1990 Edition. This material is incorporated by reference and does not include any later amendments or editions of the incorporated ~~matter~~ material. Copies of the incorporated material are available for inspection at the Arizona Department of Environmental Quality, 1110 W. Washington, Phoenix, AZ 85007 ~~and the Office of the Secretary of State,~~ or may be obtained from the University of Wisconsin – Madison, SSWMP, 1525 Observatory Drive, Room 345, Madison, WI 53706.

D. Design requirements. ~~An~~ In addition to the applicable requirements in R18-9-A312, an applicant shall ensure that:
1. Pressure dosed wastewater is delivered into the Wisconsin mound through a pressurized line and secondary distribution lines into an engineered aggregate infiltration bed, or equivalent system, in conformance with R18-9-E304 and the Wisconsin Mound Manual. The applicant shall ensure that the aggregate is washed;
2. Wastewater is ~~distributed in the aggregate infiltration bed and~~ applied to the ~~mound bed~~ inlet surface of the mound media at ~~the following rates:~~
   ~~a.~~ ~~Not~~ not more than 1.0 gallon per day per square foot of mound bed inlet surface if the mound bed media conforms with the "Standard Specification for Concrete Aggregates, C33-03," ~~(C 33-99a^{E1}),~~ published by the American Society for Testing and Materials~~, approved July 10, 1999,~~ and the Wisconsin Mound Manual, except if cinder sand is used that is the appropriate grade with not more than 5~~%~~ percent passing a #200 screen. ~~The Standard Specification for Concrete Aggregates," (C 33-99a^{E1}), approved July 10, 1999,~~ This material is incorporated by reference and does not include any later amendments or editions of the incorporated ~~matter~~ material. Copies of the incorporated material are available for inspection at the Arizona Department of Environmental Quality, 1110 W. Washington, Phoenix, AZ 85007 ~~and the Office of the Secretary of State,~~ or may be obtained from the American Society for Testing and Materials International, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959. The applicant shall:
   a. ~~i.~~ For cinder sand, ensure that the rate is not more than 0.8 gallons per day per square foot of mound bed inlet surface; and
   b. ~~ii.~~ Wash the media used for the mound bed~~.~~;
   ~~b. A rate, configuration, or material for the infiltration bed or the mound bed submitted under R18-9-A312(G). The applicant shall ensure that the submittal includes supporting analyses for the design configuration, materials, and loading rates.~~
3. The aggregate infiltration bed and mound bed is capped by coarser textured soil, such as sand, sandy loam, or silt loam. Silty clay, clay loam, or clays are prohibited;
4. The cap material is covered by topsoil following the Wisconsin Mound Manual, and the topsoil is capable of supporting vegetation, is not clay, and is graded to drain;
5. The top and bottom surfaces of the aggregate infiltration bed are level and do not exceed 10 feet in width~~. The applicant shall ensure~~ and that:
   a. The minimum depth of the aggregate infiltration bed is ~~nine~~ 9 inches, and
   b. Synthetic filter fabric permeable to water and air and capable of supporting the cap and topsoil load is placed on the top surface of the aggregate infiltration bed~~.~~;
6. The minimum depth of mound bed media is:
   a. Performance Category A, 24 inches;
   b. Performance Category B, 12 inches;
7. The maximum allowable side slope of the mound bed, cap material, and topsoil is not more than one vertical to three horizontal;
8. Ports for inspection and monitoring are provided to verify performance, including verification of unsaturated flow within the aggregate infiltration bed. The applicant shall:
   a. Install a vertical PVC pipe and cap with a minimum diameter of ~~four~~ 4 inches as an inspection port at the end of the disposal line, and
   b. Install the pipe with a physical restraint to maintain pipe position~~.~~;
9. The main pressurized line and secondary distribution lines for the aggregate infiltration bed are equipped at appropriate locations with cleanouts to grade;

10. ~~Setbacks~~ The following requirements and the setbacks specified in R18-9-A312(C) are observed~~, except that the applicant shall~~:
    a. Increase setbacks for the following downslope features at least 30 feet from the toe of the mound system:
        i. Property line,
        ii. Driveway,
        iii. Building,
        iv. Ditch or interceptor drain, or
        v. Any other feature that impedes water movement away from the mound; and
    b. Ensure that no upslope natural feature or improvement channels surface water or groundwater to the mound area~~.~~;
11. The active portion of the basal area of native soil below the mound conforms to the Wisconsin Mound Manual. The applicant shall:
    a. Calculate the absorption of wastewater into the native soil for only the effective basal area;
    b. Apply the soil ~~application rates~~ absorption rate specified in R18-9-A312(D). The applicant may increase allowable loading rate to the mound bed inlet surface ~~may be increased~~ up to 1.6 times if the wastewater dispersed to the mound is pretreated to reduce the sum of TSS and BOD_5 to 60 mg/l or less. The applicant may increase the soil ~~application~~ absorption 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:
        i. Sandy clay loam, clay loam, silty clay loam, or finer with weak platy structure; or
        ii. Sandy clay loam, clay loam, silty clay loam, or silt loam with massive structure~~.~~;
12. The slope of the native soil at the basal area does not exceed 25~~%~~ percent, and a slope stability analysis is performed whenever the basal area or site slope within 50 horizontal feet from the mound system footprint exceeds 15~~%~~ percent.

E. Installation. An applicant shall:
1. Prepare native soil for construction of a Wisconsin mound system. The applicant shall:
    a. Mow vegetation and cut down trees in the vicinity of the basal area site to within ~~two~~ 2 inches of the surface;
    b. Leave in place boulders and tree stumps and other herbaceous material that excessively alters the soil structure if removed after mowing and cutting;
    c. Plow native soil serving as the basal area footprint along the contours to ~~seven~~ 7- to ~~eight~~ 8- ~~inches~~ inch depth;
    d. Not substitute rototilling for plowing; and
    e. Begin mound construction immediately after plowing~~.~~;
2. Place each layer of the bed system to prevent differential settling and promote uniform density; and
3. Use the Wisconsin Mound Manual to guide any other detail of installation. ~~Installation~~ The applicant may vary installation procedures and criteria ~~may vary~~ depending on mound design but shall ~~be~~ use installation procedures and criteria that are at least equivalent to the Wisconsin Mound Manual.

F. Operation and maintenance requirements. In addition to the applicable requirements specified in R18-9-A313, the permittee shall:
1. If an existing mound system shows evidence of overload or hydraulic failure, consider the following measures:
    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, changing surface drainage patterns at upgrade locations and lowering the groundwater level by installing interceptor drains to reduce native soil saturation at shallow levels; and
    e. Increasing the basal area, consistent with R18-9-A309(A)(9)(b)(iv), which is most efficient if the bed length is increased~~.~~;

~~2. If the mound needs to be expanded in size, submit a new Notice of Intent to Discharge for this modification; and~~

~~3.~~2. Specify servicing and waste disposal procedures and task schedules necessary for clearing the main pressurized wastewater line and secondary distribution lines, septic tank effluent filter, pump intake, and controls.

R18-9-E309. 4.09 General Permit: Engineered Pad System, Less Than 3000 Gallons Per Day Design Flow

A. A 4.09 General Permit allows an engineered pad system receiving wastewater treated to a level equal to or better than that ~~provided by a 4.02 General Permit septic tank~~ specified in R18-9-E302(B).

1. Definition. ~~For purposes of this Section, the~~ "~~engineered~~ Engineered pad system" means a treatment and disposal technology characterized by:
    a. The delivery of ~~treated~~ pretreated wastewater by gravity or pressure distribution to the engineered pad and sand bed assembly, ~~which then disperses the wastewater~~ followed by dispersal of the wastewater into the native soil; and

b. ~~Passage of the treated wastewater~~ Wastewater movement through ~~a pad and~~ the engineered pad and sand bed assembly by gravity under unsaturated flow conditions to provide additional passive biological treatment~~;~~. ~~and~~

~~c. Provision of additional passive biological treatment to the wastewater and reduced biomat formation at the inlet absorption surface of the underlying native soil.~~

2. The applicant may use an engineered pad system if:
   a. The native soil is excessively permeable,
   b. There is little native soil overlying fractured or excessively permeable rock, or
   c. The available area is limited for installing a disposal ~~field system~~ works authorized by R18-9-E302.

B. Performance. An applicant shall ensure that:
1. ~~Any proprietary~~ The engineered pad system ~~previously approved by the Department~~ is designed ~~on the basis~~ so that the ~~released~~ treated wastewater released to the native soil meets the following criteria:
   a. TSS of 50 milligrams per liter, 30-day arithmetic mean;
   b. BOD_5 of 50 milligrams per liter, 30-day arithmetic mean;
   c. Total nitrogen (as nitrogen) of 53 milligrams per liter, 5-month arithmetic mean; and
   d. Total coliform level of 1,000,000 (Log_{10} 6) colony forming units per 100 milliliters, 95th percentile~~.~~; or
2. ~~Any engineered pad not previously approved by the Department is designed on the basis that the treated wastewater released to the native soil does not exceed the performance values specified for the systems described in R18-9-E302. If an applicant wishes to use different performance values, the Department shall review the system as established under R18-9-A309(E).~~ The engineered pad system is designed to meet any other performance, loading rate, and configuration criteria specified in the reviewed product list maintained by the Department as required under R18-9-A309(E).

C. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B) and R18-9-A309(B), an applicant shall submit design materials and construction specifications for the engineered pad system.

D. Design requirements. ~~An~~ In addition to the applicable requirements in R18-9-A312, an applicant shall ensure that:
1. Gravity and pressurized wastewater delivery is from a septic tank or intermediate watertight chamber equipped with a pump and controls. The applicant shall ensure that:
   a. Delivered wastewater is distributed onto the top of the engineered pad system and achieves even distribution by good engineering practice, and
   b. The dosing rate for pressurized wastewater delivery is at least four doses per day and no more than 24 doses per day~~.~~;
2. The sand bed consists of mineral sand washed to conform to the "Standard Specification for Concrete Aggregates, C33-03," ~~(C 33-99a^{E1}),~~ which is incorporated by reference in R18-9-E308(D)(2)(a), unless the performance testing and design specifications of the engineered pad manufacturer justify a substitute specification. The applicant shall ensure that:
   a. The sand bed design provides for the placement of at least ~~six~~ 6 inches of sand bed material below and along the perimeter of each pad, and
   b. The contact surface between the bottom of the sand bed ~~contact with~~ and the native soil ~~absorption system~~ is level~~.~~;
3. The spacing between adjacent two-pad-wide rows is at least two times the distance between the bottom of the distribution pipe and the bottom of the sand bed or 5 feet, whichever is greater;
~~3.~~4. The wastewater distribution system installed on the top of the engineered pad system is covered with a breathable geotextile material that is itself covered with at least 10 inches of backfill.
   a. The applicant shall ensure that rocks and cobbles are removed from backfill cover and grade the backfill for drainage.
   b. The applicant may place the engineered pad system above grade, partially bury it, or bury it depending on site and service circumstances~~.~~;
~~4.~~5. The engineered pad system is constructed with durable materials and capable of withstanding stress from installation and operational service; and
~~5.~~6. At least two inspection ports are installed in the engineered pad system to confirm unsaturated wastewater treatment conditions at diagnostic locations.

E. Installation requirements. In addition to the applicable requirements ~~specified~~ in ~~R18-9-A313,~~ R18-9-A313(A) an applicant shall place sand media to obtain a uniform density of 1.3 to 1.4 grams per cubic centimeter.

F. Operation and maintenance requirements. In addition to the applicable requirements ~~specified~~ in ~~R18-9-A313~~ R18-9-A313(B), an applicant shall inspect the backfill cover for physical damage or erosion and promptly repair the cover, if necessary.

R18-9-E310. 4.10 General Permit: Intermittent Sand Filter, Less Than 3000 Gallons Per Day Design Flow

A. A 4.10 General Permit allows an intermittent sand filter receiving wastewater treated to a level equal to or better than that

~~provided by a 4.02 General Permit septic tank~~ specified in R18-9-E302(B).

1. Definition. ~~For purposes of this Section, an~~ "~~intermittent~~ Intermittent sand filter" means a treatment technology characterized by:
   a. 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;
   b. Delivered wastewater dispersed throughout the sand media by periodic doses from the delivery pump to maintain unsaturated flow conditions in the bed; and
   c. Wastewater that is treated during passage through the media, collected by a bed underdrain chamber, and removed by pump or gravity to the disposal works, or wastewater that percolates downward directly into the native soil as part of a bottomless filter design.
2. An applicant may use an intermittent sand filter if:
   a. The native soil is excessively permeable,
   b. There is little native soil overlying fractured or excessively permeable rock, or
   c. ~~Reduction~~ A reduction in setback distances or minimum vertical separation is desired.

B. Performance. An applicant shall ensure that:

1. An intermittent sand filter with underdrain system is designed ~~on the basis~~ so that it produces treated wastewater that meets the following criteria:
   a. TSS of 10 milligrams per liter, 30-day arithmetic mean;
   b. BOD_5 of 10 milligrams per liter, 30-day arithmetic mean;
   c. Total nitrogen (as nitrogen) of 40 milligrams per liter, 5-month arithmetic mean; and
   d. Total coliform level or 1000 (Log_{10} 3) colony forming units per 100 milliliters, 95th percentile~~.~~; or
2. An intermittent sand filter with a bottomless filter ~~design~~ is designed ~~on the basis~~ so that it produces ~~the~~ treated wastewater released to the native soil that meets the following criteria:
   a. TSS of 20 milligrams per liter, 30-day arithmetic mean;
   b. BOD_5 of 20 milligrams per liter, 30-day arithmetic mean;
   c. Total nitrogen (as nitrogen) of 53 milligrams per liter, five-month arithmetic mean; and
   d. Total coliform level of 100,000 (Log_{10} 5) colony forming units per 100 milliliters, 95th percentile.

C. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B) and R18-9-A309(B), an applicant shall submit specifications for the media proposed for use in the intermittent sand filter.

D. Design requirements. ~~An~~ In addition to the applicable requirements in R18-9-A312, an applicant shall ensure that:

1. Pressurized wastewater delivery is 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 applicant shall ensure that the dosing rate is at least ~~four~~ 4 doses per day and not more than 24 doses per day;
2. The pressurized wastewater delivery system provides even distribution in the sand filter through good engineering practice. The applicant shall:
   a. Specify all necessary controls, pipe, valves, orifices, filter cover materials, gravel, or other distribution media, and monitoring and servicing components in the design documents; and
   b. Ensure that the cover and topsoil is ~~six~~ 6 to 12 inches in depth and graded to drain~~.~~;
3. The sand filter containment vessel is watertight, structurally sound, durable, and capable of withstanding stress from installation and operational service. ~~Intermittent~~ The applicant may place the 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 is mineral sand and that the media is washed and conforms to "Standard Specification for Concrete Aggregates, C33-03," ~~(C 33-99a^{E1}),~~ which is incorporated by reference in R18-9-E308(D)(2)(a);
5. The sand media depth is a minimum of 24 inches with the top and bottom surfaces level and the maximum wastewater loading rate is ~~1.2~~ 1.0 gallons per day per square foot of inlet surface at the rated daily design flow;
6. The underdrain system:
   a. Is within the containment vessel;
   b. Supports the filter media and all overlying loads from the unsupported construction above the top surface of the sand media;
   c. Has sufficient void volume above the 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
   d. Includes necessary monitoring, inspection, and servicing features;
7. Inspection ports are 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. The applicant shall ensure that 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 water saturation in the sand media;

9. The native soil absorption system is designed to ensure that the linear loading rate does not exceed site disposal capability; and
10. The bottomless sand filter discharge rate per unit area to the native soil does not exceed the adjusted soil ~~application~~ absorption rate for the quality of wastewater specified in subsection (B)(2).

E. Installation requirements. ~~An~~ In addition to the applicable requirements in R18-9-A313(A), an applicant shall place the containment vessel, underdrain system, filter media, and pressurized wastewater distribution system 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. The applicant shall follow the applicable requirements ~~specified~~ in R18-9-A313(B).

R18-9-E311. 4.11 General Permit: Peat Filter, Less Than 3000 Gallons Per Day Design Flow

A. A 4.11 General Permit allows a peat filter receiving wastewater treated to a ~~quality~~ level equal to or better than that ~~provided by a 4.02 General Permit septic tank~~ specified in R18-9-E302(B).

1. Definition. ~~For purposes of this Section, a~~ "~~peat~~ Peat filter" means a disposal technology characterized by:
   a. 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;
   b. Wastewater passing through the peat that is further treated by removal of positively charged molecules, filtering, and biological activity before entry into native soil; and
   c. If the peat filter system is constructed as a disposal bed filled with compacted peat, wastewater that is absorbed into native soil at the bottom and sides of the bed.
2. An applicant may configure a modular system if a portion of the wastewater that has passed through the peat filter is recirculated back to the pump chamber.
3. An applicant may use a peat filter system if:
   a. The native soil is excessively permeable,
   b. There is little native soil overlying fractured or excessively permeable rock,
   c. ~~Reduction~~ A reduction in setback distances or minimum vertical separation is desired, or
   d. Cold weather ~~reduces effectiveness~~ inhibits performance of other treatment or disposal ~~sites~~ technologies.

B. Performance. An applicant shall ensure that a peat filter is designed ~~on the basis~~ so that it produces treated wastewater that meets the following criteria:

1. TSS of 15 milligrams per liter, 30-day arithmetic mean;
2. BOD_5 of 15 milligrams per liter, 30-day arithmetic mean;
3. Total nitrogen (as nitrogen) of 53 milligrams per liter, 5-month arithmetic mean; and
4. Total coliform level of 100,000 (Log_{10} 5) colony forming units per 100 milliliters, 95th percentile.

C. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B) and R18-9-A309(B), an applicant shall submit:

1. Specifications for the peat media proposed for use in the peat filter or provided in the peat module, including:
   a. ~~the porosity, surface area, and~~ Porosity;
   b. Degree of humification;
   c. pH;
   d. Particle size distribution;
   e. ~~moisture~~ Moisture content;
   ~~a.~~f. A statement of whether the peat is air dried, and whether the peat is from sphagnum moss or bog cotton; and
   ~~b.~~g. A description of the degree of decomposition~~.~~;
2. Specifications for installing the peat media; and
3. If a peat module is used:
   a. The name and address of the manufacturer,
   b. The model number, and
   c. A copy of the manufacturer's warranty.

D. Design requirements.

1. If a pump tank is used to dose the peat module or bed, an applicant shall:
   a. Ensure that liquid volume meets or exceeds the calculated dose plus the required storage capacity and a reserve volume above the high water alarm to contain the daily design flow volume; and
   b. Use a control panel with a programmable timer to dose ~~approximately 1/12 of the maximum daily design flow plus the drain back, if applicable, every two hours~~ at the applicable loading rate.
2. Peat module system. ~~The~~ In addition to the applicable requirements in R18-9-A312, the applicant shall:
   a. Size the gravel bed supporting the peat filter modules to allow it to act as a disposal ~~field~~ works~~. The applicant shall~~ and ensure that the bed is level, long, and narrow, and installed on contour to optimize lateral movement away from the disposal area;

~~b. Ensure that the minimum module system size is adequate to treat 500 gallons per day. The applicant shall add modules to accommodate additional design flow;~~

~~c.~~b. For modules designed to allow wastewater flow through the peat filter and base material into underlying native soil, size the base on which the modules rest to accommodate the soil absorption rate of the native soil;

~~d.~~c. Place fill over the module so that it conforms to the manufacturer's specification ~~if the specification is consistent with this Chapter~~. If the fill is planted, the applicant shall use only grass or shallow rooted plants; and

~~e.~~d. Ensure that the peat media depth is ~~a minimum of~~ at least 24 inches, ~~and~~ the peat is installed with the top and bottom surfaces level~~.~~, ~~The applicant shall~~ and ~~ensure that~~ the maximum wastewater loading rate is ~~5.0~~ 5.5 gallons per day per square foot of inlet surface at the rated daily design flow, unless a different wastewater loading rate is approved under R18-9-A309(E).

3. Peat filter bed system. ~~The~~ In addition to the applicable requirements in R18-9-A312, the applicant shall ensure that:
   a. The bed is filled with peat derived from sphagnum moss and compacted according to the installation specification;
   b. The maximum wastewater loading rate is ~~one~~ 1 gallon per day per square foot of inlet surface at the rated daily design flow;
   c. At least 24 inches of installed peat underlies the distribution piping and 10 to 14 inches of installed peat overlies the piping;
   d. The cover material over the peat filter bed is slightly mounded to promote runoff of rainfall. The applicant shall not place additional fill over the peat; and
   e. ~~The peat is derived from decomposed sphagnum moss or roots of the plant Eriophorum (bog cotton).~~ The ~~applicant shall ensure that the~~ peat is air dried, with a porosity greater than 90~~%~~ percent, and a ~~surface area at least 190 square meters per gram~~ particle size distribution of 92 to 100 percent passing a No. 4 sieve and less than 8 percent passing a No. 30 sieve.

E. Installation requirements. ~~The~~ In addition to the applicable requirements in R18-9-A313(A), the applicant shall:

1. Peat module system.
   a. Compact the bottom of all excavations for the filter modules, pump, aerator, and other components to provide adequate foundation, slope toward the discharge to minimize ponding, and ensure that the bottom is flat, and free of debris, rocks, and sharp objects. If the excavation is uneven or rocky, the applicant shall use a bed of sand or pea gravel to create an even, smooth surface;
   b. Place the peat filter modules on a level, ~~six~~ 6-inch deep gravel bed;
   c. Place backfill around the modules and grade the backfill to divert surface water away from the modules;
   d. Not place objects on or move objects over the system area that might damage the module containers or restrict airflow to the modules;
   e. Cover gaps between modules to prevent damage to the system;
   f. Fit each system with at least one sampling port that allows collection of wastewater at the exit from the final treatment module;
   g. Provide the modules and other components with anti-buoyancy devices to ensure stability in the event of flooding or high water table conditions; and
   h. Provide a mechanism for draining the filter module inlet line~~.~~; or
2. Peat filter bed system. ~~The applicant shall:~~
   a. Scarify the bottom and sides of the leaching bed excavation to remove any smeared surfaces~~.~~, and ~~The applicant shall~~:
      i. Unless directed by an installation specification consistent with this Chapter, place peat media in the excavation in ~~six~~ 6-inch lifts; and
      ii. Compact each lift before the next lift is added. The applicant shall take care to avoid compaction of the underlying native soil~~.~~;
   b. Lay distribution pipe in trenches cut in the compacted peat~~.~~; ~~The applicant shall:~~ and
      i. Ensure that at least ~~three~~ 3 inches of aggregate underlie the pipe to reduce clogging of holes or scouring of the peat surrounding the pipe, and
      ii. Place peat on top of and around the sides of the pipes.

F. Operation and maintenance requirements. In addition to the applicable requirements in ~~R18-9-A313~~ R18-9-A313(B), the permittee shall inspect the finished grade over the peat filter for proper drainage, protection from damaging loads, and root invasion of the wastewater distribution system and perform maintenance as needed.

R18-9-E312. 4.12 General Permit: Textile Filter, Less Than 3000 Gallons Per Day Design Flow

A. A 4.12 General Permit allows a textile filter receiving wastewater treated to a level equal to or better than that ~~provided by a 4.02 General Permit septic tank~~ specified in R18-9-E302(B).

1. Definition. ~~For purposes of this Section, a~~ "~~textile~~ Textile filter" means 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; and

b. The textile filter medium provides further treatment by removing suspended material from the wastewater by physical straining, and reducing nutrients by microbial action.

2. An applicant may use a textile filter in conjunction with a two-compartment septic tank or a two-tank system if the second compartment or tank is used as a recirculation and blending tank. ~~A~~ The applicant shall divert a portion of the wastewater flow from the textile filter ~~shall be diverted~~ back into the second tank for further treatment.
3. An applicant may use a textile filter if nitrogen reduction is desired or as an alternative to a sand filter if delivering sand with the required properties is difficult or expensive.

B. Performance. An applicant shall ensure that a textile filter is designed ~~on the basis~~ so that it produces treated wastewater that meets the following criteria:

1. TSS of 15 milligrams per liter, 30-day arithmetic mean;
2. BOD_5 of 15 milligrams per liter, 30-day arithmetic mean;
3. Total nitrogen (as nitrogen) of 30 milligrams per liter, five-month arithmetic mean, or 15 milligrams, five-month arithmetic mean per liter if documented under subsection (C)(4); and
4. Total coliform level of 100,000 (Log_{10} 5) colony forming units per 100 milliliters, 95th percentile.

C. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B) and R18-9-A309(B), an applicant shall submit:

1. The name and address of the filter manufacturer;
2. The filter model number;
3. A copy of the manufacturer's filter warranty;
4. If the system is for nitrogen reduction to 15 milligrams per liter, five-month arithmetic mean, specifications on the nitrogen reduction performance of the filter system and corroborating third-party test data;
5. The manufacturer's operation and maintenance recommendations to achieve a 20-year operational life; and
6. If a pump or aerator is required for proper operation, the pump or aerator model number and a copy of the manufacturer's warranty.

D. Design requirements. ~~An~~ In addition to the applicable requirements in R18-9-A312, an applicant shall ensure that:

1. The textile medium has a porosity of greater than 80~~%~~ percent;
2. The wastewater is delivered to the textile filter by gravity flow or a pump;
3. If a pump ~~tank~~ is used to dose the textile ~~module or modules~~ filter, ~~it meets~~ the pump and appurtenances meet the following criteria:
   a. The textile media loading rate and wastewater recirculation rate are based on calculations that conform with performance data listed in the reviewed product list maintained by the Department as required under R18-9-A309(E),
   b. ~~Liquid~~ The liquid volume of the tank and recirculation components equals or exceeds the calculated dose plus the required storage capacity and a reserve volume above the high water level alarm to contain the design flow volume, and
   ~~b.~~c. A control panel with a programmable timer is used to dose ~~approximately 1/12 of the maximum daily design flow (plus the drain-back if applicable) every two hours~~ the textile media at the applicable loading rate and wastewater recirculation rate.

E. Installation requirements. ~~An~~ In addition to the applicable requirements in R18-9-A313(A), an applicant shall:

1. Before placing the filter modules, slope the bottom of the excavation for the modules toward the discharge point to minimize ponding;
2. Ensure that the bottom of all excavations for the filter modules, pump, aerator, or other components is level and free of debris, rocks, and sharp objects. If the excavation is uneven or rocky, the applicant shall use a bed of sand or pea gravel to create an even, smooth surface;
3. Provide the modules and other components with anti-buoyancy devices to ensure they remain in place in the event of high water table conditions; and
4. Provide a mechanism for draining the filter module inlet line.

F. Operation and maintenance requirements. In addition to the applicable requirements in R18-9-A313, the permittee shall not flush corrosives or other materials known to damage the textile material into any drain that transmits wastewater to the onsite wastewater treatment facility.

R18-9-E313. 4.13 General Permit: ~~RUCK®~~ Denitrifying System Using Separated Wastewater Streams, Less Than 3000 Gallons Per Day Design Flow

A. A 4.13 General Permit allows ~~residential applications~~ for the use of a ~~RUCK®~~ separated wastewater streams, denitrifying system for a dwelling.

1. Definition. ~~For purposes of this Section a~~ "~~RUCK®~~ Separated wastewater streams, denitrifying system" means a ~~proprietary~~ gravity flow treatment and disposal system for ~~residential applications~~ dwellings that requires ~~segregated~~ separate plumbing drains for conducting ~~dishwater~~ dishwasher, kitchen sink, and toilet flush water to ~~a black water~~

~~tank~~ wastewater treatment tank "A" and all other wastewater to a ~~gray water tank.~~ wastewater treatment tank "B."

a. Treated wastewater from ~~each tank~~ tanks "A" and "B" is delivered to ~~a proprietary,~~ an engineered composite disposal bed system that includes an upper distribution pipe to deliver treated ~~black water~~ wastewater from tank "A" to a ~~proprietary,~~ columnar celled, sand-filled bed.

b. 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.~~ wastewater from tank "B."

c. The entire composite bed is constructed within an excavation about ~~six~~ 6 feet deep.

d. The system ~~typically~~ operates under gravity flow from ~~the black water and gray water pretreatment tanks.~~ tanks "A" and "B."

e. ~~A proprietary~~ An engineered sampling assembly is installed at the midpoint of the disposal line run and at the base of the composite bed during construction to monitor system performance.

2. An applicant may use a ~~RUCK®~~ separated wastewater streams, denitrifying system, which is typically limited to soil conditions where a standard system described in R18-9-E302 is acceptable, ~~if the~~ where total nitrogen ~~content in the wastewater is reduced~~ reduction is required before release to the native soil.

B. Performance. An applicant shall ensure that a ~~RUCK®~~ separated wastewater streams, denitrifying system is designed ~~on the basis~~ so that the treated wastewater released to the native soil meets the following criteria:

1. TSS of 30 milligrams per liter, 30-day arithmetic mean;
2. BOD_5 of 30 milligrams per liter, 30-day arithmetic mean;
3. Total nitrogen (as nitrogen) of 30 milligrams per liter, five-month arithmetic mean~~, or 15 milligrams per liter, five-month arithmetic mean, if demonstrated under subsection (D)~~; and
4. Total coliform level of 1,000,000 (Log_{10} 6) colony forming units per 100 milliliters, 95th percentile.

C. Notice of Intent to Discharge. The applicant shall comply with the Notice of Intent to Discharge requirements in R18-9-A301(B) and R18-9-A309(B).

D. Design, installation, operation, and maintenance requirements. The applicant shall comply with the applicable design, installation, operation, and maintenance requirements in R18-9-A312, R18-9-A313(A), and R18-9-A313(B).

~~C.~~**E.** Reference design.

1. An applicant may ~~design and install~~ use a ~~RUCK®~~ separated wastewater streams, denitrifying system achieving the performance requirements specified in subsection (B) by following a reference design on file with the Department.
2. 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.

~~**D.** Alternative design. An applicant may submit an alternative design to the RUCK® system if, following the requirements in R18-9-A312(G), the design achieves equal or better performance than that specified in subsection (B).~~

~~1. The Department shall consider the submittal of an alternative design as one design change to establish the applicable fee under 18 A.A.C. 14.~~

~~2. 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.~~

~~3. If nitrogen reduction to a level from 15 to less than 30 milligrams per liter is proposed, the applicant shall ensure that the supplemental information includes specifications on system nitrogen reduction performance and corroborating third-party test data.~~

R18-9-E314. 4.14 General Permit: Sewage Vault, Less Than 3000 Gallons Per Day Design Flow

A. A 4.14 General Permit allows a sewage vault that receives sewage.

~~1. An applicant pumping a sewage vault for disposal shall comply with state and local laws, rules, and ordinances.~~

~~2.~~1. An applicant may use a sewage vault if ~~there is~~ a severe site or operational constraint ~~that~~ prevents installation of a conventional septic tank and disposal ~~field system~~ works or any other ~~alternative provided by general permit~~ onsite wastewater treatment facility allowed under this Article ~~from being installed~~.

~~3.~~2. An applicant may install a sewage vault as a temporary measure if ~~the applicant will install~~ connection to a sewer or installation of another onsite wastewater treatment facility occurs within two years.

B. Performance. An applicant shall:

1. ~~not~~ Not allow a discharge from a sewage vault to the native soil or land surface~~. The applicant shall~~, and
2. Pump and dispose of vault contents at a sewage treatment facility or other sewage disposal mechanism allowed by law.

C. Notice of Intent to Discharge. The applicant shall comply with the Notice of Intent to Discharge requirements in R18-9-A301(B) and R18-9-A309(B).

~~C.~~**D.** ~~Restrictions.~~ Design requirements. ~~An~~ In addition to the requirements in R18-9-A312, an applicant shall ~~not install a sewage vault~~:

1. Install a sewage vault with a minimum capacity that is 10 times the daily design flow determined by R18-9-A314(D)(1),
2. ~~If~~ Use design elements to prevent the buoyancy of the vault if installed in an area where a high groundwater table

~~impinges~~ may impinge on the vault~~;~~.

3. Test the sewage vault for leakage using the procedure under R18-9-A314(E)(4). The tank passes the water test if the water level does not drop over a twenty-four hour period,
4. Install an alarm or signal on the vault to indicate when 85 percent of the vault capacity is reached, and
~~2.~~5. ~~Unless the applicant has a service contract from~~ Contract with a licensed waste hauler to ~~periodically~~ pump out the vault on a schedule specified within the contract to ensure that the vault is pumped before full~~;~~. ~~or~~
~~3. If the capacity of the vault is less than 450 gallons per bedroom or 75 gallons per fixture unit, whichever is larger.~~

E. Installation, operation, and maintenance requirements. The applicant shall comply with the applicable installation, operation, and maintenance requirements in R18-9-A313(A) and (B).

~~**D.**~~**F.** Reference design.

1. An applicant may ~~design and install~~ use a sewage vault that achieves the performance requirements in subsection (B) by following a reference design on file with the Department.
2. 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.

~~**E.** Alternative design. An applicant may submit an alternative to the reference design for a sewage vault if, following the requirements in R18-9-A312(G), the design achieves the performance requirements in subsection (B).~~

~~1. The Department shall consider the submittal of an alternative design as one design change to establish the applicable fee under 18 A.A.C. 14.~~
~~2. 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.~~

R18-9-E315. 4.15 General Permit: Aerobic System ~~with Subsurface Disposal,~~ Less Than 3000 Gallons Per Day Design Flow

A. A 4.15 General Permit allows for an aerobic system that ~~consists of an aerator~~ uses aeration for treatment ~~and a subsurface absorption field for disposal of treated wastewater~~.

1. Definition. ~~For purposes of this Section, an~~ "~~aerobic~~ Aerobic system ~~with subsurface disposal~~" means a treatment unit consisting of components that:
   a. ~~the mechanical introduction of~~ Mechanically introduce oxygen to wastewater, ~~followed by~~
   b. Typically provide clarification of the wastewater after aeration, and
   c. Convey the treated wastewater by pressure or gravity distribution to ~~a subsurface soil absorption field~~ the disposal works.
2. An applicant may use an aerobic system ~~with subsurface disposal~~ if:
   a. Enhanced ~~biochemical~~ biological processing is needed to treat wastewater with high organic content,
   b. A soil or site condition is not adequate ~~to allow~~ for installation of a standard septic tank and disposal ~~field~~ works ~~as prescribed in~~ under R18-9-E302,
   c. A highly treated ~~and disinfected~~ wastewater amenable to disinfection is needed, or
   d. Nitrogen removal from the wastewater is needed and ~~the design meets other requirements of this general permit~~ removal performance of the system is documented according to subsection (C)(6).

B. Performance.

1. An applicant shall ensure that ~~an~~ the aerobic system ~~with subsurface disposal~~ is designed ~~on the basis~~ so that the treated wastewater released to the native soil meets the following criteria:
   ~~1.~~ a. TSS of 30 milligrams per liter, 30-day arithmetic mean;
   ~~2.~~ b. BOD_5 of 30 milligrams per liter, 30-day arithmetic mean;
   ~~3.~~ c. Total nitrogen (as nitrogen) of 53 milligrams per liter, five-month arithmetic mean, or as low as 15 milligrams, five-month arithmetic mean per liter if documented under subsection ~~(C)~~ (C)(6); and
   ~~4.~~ d. Total coliform level of 300,000 (Log_{10} 5.5) colony forming units per 100 milliliters, 95th percentile~~.~~; or
2. An applicant may use an aerobic system that meets the following less stringent performance criteria if the aerobic technology is listed by the Department under R18-9-A309(E) and the Department bases its review and listing on the technology being comparatively cost-effective and simple to operate when compared to other aerobic technologies:
   a. TSS of 60 milligrams per liter, 30-day arithmetic mean;
   b. BOD_5 of 60 milligrams per liter, 30-day arithmetic mean;
   c. Total nitrogen (as nitrogen) of 53 milligrams per liter, five-month arithmetic mean, or as low as 15 milligrams, five month arithmetic mean per liter, if documented under subsection (C)(6); and
   d. Total coliform level of 1,000,000 (Log_{10} 6) colony forming units per 100 milliliters, 95th percentile.

C. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B) and R18-9-A309(B), an applicant shall submit:

1. The name and address of the aerobic system manufacturer;
2. The model number of the aerobic system;
~~1.~~3. Evidence of performance specified in subsection ~~(B)~~ (B)(1) or (B)(2), as applicable;

~~2.~~ ~~The name and address of the treatment unit manufacturer;~~
~~3.~~ ~~The model number;~~
4. A list of pretreatment components needed to meet performance requirements;
~~4.~~5. A copy of the manufacturer's ~~warrantee~~ warranty and operation and maintenance recommendations to achieve performance ~~for~~ over a 20-year operational life; and
~~5.~~6. If the aerobic system will be used for nitrogen removal ~~reduction to a level from 15 to less than 53 milligrams per liter is proposed,~~ from the wastewater, either:
   a. Evidence of a valid product listing under R18-9-E309(E) indicating nitrogen removal performance, or
   b. ~~specifications on system nitrogen reduction performance and corroborating~~ Specifications and third party test data corroborating nitrogen reduction to the intended level.

D. Design requirements. ~~An~~ In addition to the applicable requirements in R18-9-A312, an applicant shall ensure that:
1. ~~the~~ The wastewater is delivered to the aerobic treatment unit by gravity flow either directly or by a lift pump~~.~~;
2. ~~The Director shall require an~~ An interceptor or other pretreatment device is incorporated if ~~needed~~ necessary to meet the performance criteria specified in subsection ~~(B)~~ (B)(1) or (2), or if recommended by the manufacturer ~~recommends a device~~ for pretreatment if a garbage disposal appliance is used;
3. A clarifier is provided after aeration for any treatment technology that is equal to or better than the performance criteria specified in subsection (B)(1); and
4. Ports for inspection and monitoring are provided to verify performance.

E. Installation requirements. ~~An~~ In addition to the applicable requirements in R18-9-A313(A), an applicant shall ensure that:
1. The installation of the aerobic treatment components conforms to manufacturer's specifications that ~~are consistent~~ do not conflict with Articles 1 and 3 of this Chapter and to the design documents specified in the ~~Provisional Verification of General Permit Conformance~~ Construction Authorization; and
2. Excavation and foundation work, and backfill placement is performed to prevent differential settling and adverse drainage conditions.

F. Operation and maintenance requirements. The permittee shall:
1. ~~follow~~ Follow the applicable requirements in ~~R18-9-A313~~ R18-9-A313(B), and
2. Ensure that filters are cleaned and replaced as necessary.

G. Reference design.
1. An applicant may use an aerobic system that achieves the applicable performance requirements by following a reference design on file with the Department.
2. An applicant using a reference design shall submit, with the Notice of Intent to Discharge, supplemental information specific to the proposed installation on a form approved by the Department.

R18-9-E316. ~~4.16 General Permit: Aerobic System with Surface Disposal, Less Than 3000 Gallons Per Day Design Flow~~ Repealed

~~**A.** A 4.16 General Permit allows an aerobic system that consists of an aerator for treatment and surface absorption field for disposal of treated wastewater.~~
~~1. Definition. For purposes of this Section, an "aerobic system with surface disposal" means:~~
~~a. Mechanical introduction of oxygen to wastewater followed by clarification and disposal to the land surface, and~~
~~b. The wastewater is disinfected using a technology authorized in R18-9-E320 before disposal to the land surface.~~
~~2. An applicant may use an aerobic system with surface disposal if:~~
~~a. Enhanced biochemical processing is needed to treat wastewater with high organic content,~~
~~b. A soil condition is not adequate to allow installation of a standard septic tank and disposal field as prescribed in R18-9-E302, or~~
~~c. A highly treated and disinfected wastewater is needed.~~

~~**B.** Performance. An applicant shall ensure that an aerobic system with surface disposal is designed on the basis that the treated wastewater released to the native soil meets the following criteria:~~
~~1. TSS of 30 milligrams per liter, 30-day arithmetic mean;~~
~~2. BOD_5 of 30 milligrams per liter, 30-day arithmetic mean;~~
~~3. Total nitrogen (as nitrogen) of 53 milligrams per liter, five-month arithmetic mean;~~
~~4. A total coliform level of Log_{10} 0 colony forming units per 100 milliliters, 99th percentile. Disinfection is by a method established under R18-9-E320.~~

~~**C.** Additional requirements. An applicant shall:~~
~~1. Ensure that treated wastewater complies with any applicable National Pollution Discharge Elimination System permit limits;~~
~~2. Prevent discharge of inadequately treated wastewater to the environment by means of a fail-safe mechanism, included in the system design; and~~
~~3. Use sprinkler, bubbler heads, or other components that provide dispersal to optimize wastewater loading rates and prevent ponding on the land surface.~~

~~**D.** Reference design.~~
~~1. An applicant may design and install an aerobic system with surface disposal that achieves the performance requirements in subsection (B) by following a reference design on file with the Department.~~
~~2. 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.~~
~~**E.** Alternative design. An applicant may submit an alternative to the reference design for an aerobic system with surface disposal if, following the requirements in R18-9-A312(G), the design achieves the performance requirements in subsection (B).~~
~~1. The Department shall consider the submittal of an alternative design as one design change to establish the applicable fee under 18 A.A.C. 14.~~
~~2. 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.~~

R18-9-E316. 4.16 General Permit: Nitrate-Reactive Media Filter, Less Than 3000 Gallons Per Day Design Flow

A. A 4.16 General Permit allows for a nitrate-reactive media filter receiving pretreated wastewater.
1. Definition. "Nitrate-reactive media filter" means a treatment technology characterized by:
   a. The application of pretreated, nitrified wastewater to a packed bed filter in a containment structure. A packed bed filter consists of nitrate-reactive media that receives pretreated wastewater under specified design and operational conditions, and
   b. The ability of the nitrate-reactive filter to further treat the nitrified wastewater by removing total nitrogen by chemical and physical processes.
2. An applicant shall use a nitrate-reactive media filter with a treatment or disposal works to pretreat and dispose of the wastewater.
3. An applicant may use a nitrate-reactive media filter if nitrogen reduction is required.

B. Restrictions. The applicant shall not use any product to supply pretreated wastewater to the nitrate-reactive media filter unless:
1. The product meets the pretreatment requirements for the filter based on product performance information in the product listing, and
2. The product is listed by the Department as a reviewed product under R18-9-A309(E).

C. Performance. An applicant shall ensure that a nitrate-reactive media filter is designed so that it produces treated wastewater that does not exceed the following criteria:
1. TSS of 30 milligrams per liter, 30-day arithmetic mean;
2. BOD_5 of 30 milligrams per liter, 30-day arithmetic mean;
3. Total nitrogen (as nitrogen) of 10 milligrams per liter, five-month arithmetic mean; and
4. Total coliform level of 1,000,000 (Log_{10} 6) colony forming units per 100 milliliters, 95th percentile.

D. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B) and R18-9-A309(B), an applicant shall submit:
1. The name and address of the filter manufacturer;
2. The filter model number;
3. The manufacturer's requirements for pretreated wastewater supplied to the nitrate-reactive media filter;
4. The manufacturer's specifications for design, installation, and operation for the nitrate-reactive media filter system and appurtenances;
5. The manufacturer's warranty for the nitrate-reactive media filter system and appurtenances;
6. The manufacturer's operation and maintenance recommendations to achieve a 20-year operational life for the nitrate-reactive media filter system and appurtenances; and
7. The manufacturer name and model number for all appurtenances that significantly contribute to achieving the performance required in subsection (C).

E. Design requirements. In addition to the applicable design requirements specified in R18-9-A312, an applicant shall ensure that:
1. The nitrate-reactive media and appurtenances conform with manufacturer's specifications,
2. The loading rate of pretreated wastewater to the nitrate-reactive media inlet surface meets the manufacturer's specification and does not exceed 5.00 gallons per day per square foot of media inlet surface area; and
3. The bed packed with nitrate reactive media is at least 24 inches thick.

F. Installation requirements. In addition to the applicable requirements in R18-9-A313(A), an applicant shall ensure that:
1. The nitrate-reactive media filter and appurtenances are installed according to manufacturer's specifications to achieve proper wastewater treatment, hydraulic performance, and operational life; and
2. Anti-buoyancy devices are installed when high water table or extreme soil saturation conditions are likely during operational life of the facility.

G. Operation and maintenance requirements. In addition to the applicable requirements in R18-9-A313(B) and the manufac-

turer's specifications for the nitrite-reactive media filter, the permittee shall not dispose of corrosives or other materials into the onsite wastewater treatment facility that are known to damage the nitrate-reactive media filter system.

R18-9-E317. 4.17 General Permit: Cap System, Less Than 3000 Gallons Per Day Design Flow

A. A 4.17 General Permit allows a cap fill cover over a conventional ~~shallow~~ trench disposal ~~field~~ works receiving wastewater treated to a level equal to or better than that ~~provided by a 4.02 General Permit septic tank~~ specified in R18-9-E302(B).

1. Definition. ~~For purposes of this Section, a~~ "~~cap~~ Cap system" means a disposal technology characterized by:
   a. 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-E302; and
   b. A design that compensates for reduced trench depth by maintaining and enhancing the infiltration of wastewater into native soil through the trench sidewalls.
2. An applicant may use a cap system if:
   a. ~~there~~ There is little native soil overlying fractured or excessively permeable rock, or
   b. ~~a~~ A high water table does not allow the minimum vertical separation to be met by a system authorized by R18-9-E302.

B. Performance. An applicant shall ensure that the design soil absorption rate~~, disposal density,~~ and vertical separation complies with this Chapter 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. BOD_5 of 150 milligrams per liter, 30-day arithmetic mean;
3. Total nitrogen (as nitrogen) of 53 milligrams per liter, five-month arithmetic mean; and
4. Total coliform level of 100,000,000 (Log_{10} 8) colony forming units per 100 milliliters, 95th percentile.

C. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements in R18-9-A301(B)~~,~~ and R18-9-A309(B), an applicant shall submit specifications for the proposed cap fill material.

D. Design requirements. In addition to the applicable requirements in R18-9-A312, an applicant shall ensure that:

1. ~~An applicant shall ensure that the~~ 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. ~~An applicant shall ensure that cap~~ Cap fill material used is free of debris, stones, frozen clods, or ice, and is the same as or one soil group finer than that of the disposal site material, except that the applicant shall not use fill material finer than clay loam ~~shall not be used~~ as an additive~~.~~;
3. Trench construction. ~~The applicant shall ensure that:~~
   a. The trench bottom is at least 12 inches below the bottom of the disposal pipe and not more than 24 inches below the natural grade, and the trench bottom and disposal pipe are level;
   b. The aggregate cover over the disposal pipe is ~~two~~ 2 inches thick and the top of the aggregate cover is level and not more than ~~nine~~ 9 inches above the natural grade;
   c. The cap fill cover above the top of the aggregate cover is at least ~~nine~~ 9 inches but not more than 18 inches thick ~~and has sloped sides not more than one vertical to three horizontal~~. The applicant shall ensure that:
      i. ~~The horizontal extent of the finished fill edges is at least 10 feet beyond the nearest trench sidewall or endwall~~ The cap surface is protected to prevent erosion and sloped to route surface drainage around the ends of the trench; and
      ii. ~~Intersecting fill surfaces are sloped to route surface drainage around the ends of the trench.~~ If the top of the aggregate is at or below the original ground surface, the cap surface has side slopes not more than one vertical to three horizontal; or
      iii. If the top of the aggregate is above the original ground surface, the horizontal extent of the finished fill edges is at least 10 feet beyond the nearest trench sidewall or endwall;
   d. The criteria for trench length, bottom width and spacing, and disposal pipe size is the same as that for the ~~shallow~~ trench system prescribed in R18-9-E302;
   e. Permeable geotextile fabric is placed on the aggregate top, 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 does not exceed a 12~~%~~ percent slope if the top of the aggregate cover extends above the natural grade at any location along the trench length. The applicant shall ensure that the slope within the disposal site and the adjacent downgradient area to a 50-foot horizontal distance does not exceed 20~~%~~ percent if the top of the aggregate cover does not extend above the natural grade;
   g. The fill material is compacted to a density of 90~~%~~ percent of the native soil if the invert elevation of the disposal pipe is at or above the natural grade at any location along the trench length;
   h. At least one observation port is installed to the bottom of each cap fill trench;
   i. The effective absorption area for each trench is the sum of the trench bottom area and the sidewall area. The height of the sidewall used for calculating the sidewall area is the vertical distance between the trench bottom

and the lowest point of the natural land surface along the trench length; and

j. ~~The~~ If the applicant ~~may apply the~~ uses correction factors for soil absorption rate under R18-9-A312(D)(3) and minimum vertical separation under R18-9-A312(E), ~~if~~ additional wastewater pretreatment is provided.

E. Installation requirements. ~~An~~ In addition to the applicable requirements in R18-9-A313(A), an applicant shall prepare the disposal site when high soil moisture is not present and equipment operations do not create platy soil conditions. The applicant shall:

1. Plow or scarify the fill area to disrupt the vegetative mat while avoiding smearing,
2. Construct trenches as specified in subsection (D)(3),
3. Scarify the site and apply part of the cap fill to the fill area and blend the fill with the scarified native soil within the contact layers, and
4. Follow the construction design specified in the ~~Provisional Verification of General Permit Conformance~~ Construction Authorization.

F. Operation and maintenance requirements. In addition to the applicable requirements ~~specified~~ in ~~R18-9-A313~~ R18-9-A313(B), the permittee shall inspect and repair the cap fill and other surface features as needed to ensure proper disposal function, proper drainage of surface water, and prevention of damaging loads on the cap.

R18-9-E318. 4.18 General Permit: Constructed Wetland, Less Than 3000 Gallons Per Day Design Flow

A. A 4.18 General Permit allows a constructed wetland receiving wastewater treated to a level equal to or better than that ~~provided by a 4.02 General Permit septic tank~~ specified in R18-9-E302(B).

1. Definition. ~~A constructed~~ "Constructed wetland" ~~is~~ means 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 in contact with the aquatic plants.
   ~~2.~~ a. As the wastewater flows through the wetland system, additional treatment is provided by filtering, settling, volatilization, and evapotranspiration.
   ~~3.~~ b. The wetland system allows microorganisms to break down organic material and plants to take up nutrients and other pollutants.
   ~~4.~~ c. The wastewater treated by a wetland system is discharged to a subsurface soil disposal system.

~~5.~~2. ~~A~~ An applicant may use a constructed wetland ~~is considered~~ if further wastewater treatment is needed before disposal.

B. Performance. An applicant shall ensure that a constructed wetland is designed ~~on the basis~~ so that it produces treated wastewater that meets the following criteria:

1. TSS of 20 milligrams per liter, 30-day arithmetic mean;
2. BOD_5 of 20 milligrams per liter, 30-day arithmetic mean;
3. Total nitrogen (as nitrogen) of 45 milligrams per liter, five-month arithmetic mean; and
4. Total coliform level of 100,000 (Log_{10} 5) colony forming units per 100 milliliters, 95th percentile.

C. Notice of Intent to Discharge. The applicant shall comply with the Notice of Intent to Discharge requirements specified in R18-9-A301(B) and R18-9-A309(B).

D. Design, installation, operation, and maintenance requirements. The permittee shall comply with the applicable design, installation, operation, and maintenance requirements in R18-9-A312, R18-9-A313(A), and R18-9-A313(B).

~~C.~~**E.** Reference design.

1. An applicant may ~~design and install~~ use a constructed wetland that achieves the performance requirements in subsection (B) by following a reference design on file with the Department.
2. The applicant shall file a form provided by the Department for supplemental information about the proposed constructed wetland with the applicant's submittal of the Notice of Intent to Discharge.

~~**D.** Alternative design. An applicant may submit an alternative to the reference design for a constructed wetland if, following the requirements under R18-9-A312(G), the design achieves the performance requirements in subsection (B).~~

~~1. The Department shall consider the submittal of an alternative design as one design change to establish the applicable fee under 18 A.A.C. 14.~~

~~2. The applicant shall file a form provided by the Department for supplemental information about the proposed constructed wetland with the applicant's submittal of the Notice of Intent to Discharge.~~

R18-9-E319. 4.19 General Permit: Sand Lined Trench, Less Than 3000 Gallons Per Day Design Flow

A. A 4.19 General Permit allows a sand lined trench receiving wastewater treated to a level equal to or better than that ~~provided by a 4.02 General Permit septic tank~~ specified in R18-9-E302(B).

1. Definition. ~~For purposes of this Section, a~~ "~~sand~~ Sand lined trench" means a disposal technology characterized by:
   a. Engineered placement of sand or equivalently graded glass in trenches excavated in native soil,
   b. Wastewater dispersed throughout the media by pressure distribution technology as specified in R18-9-E304 using a timer-controlled pump in periodic uniform doses that maintain unsaturated flow conditions, and
   c. Wastewater treated during travel through the media and absorbed into the native soil at the bottom of the trench.

2. An applicant may use a sand lined trench if:
   a. The native soil is excessively permeable,
   b. There is little native soil overlying fractured or excessively permeable rock, or
   c. Reduction in setback distances, or minimum vertical separation is desired.

B. Performance. An applicant shall ensure that a sand lined trench is designed ~~on the basis~~ so that treated wastewater released to the native soil meets the following criteria:
1. TSS of 20 milligrams per liter, 30-day arithmetic mean;
2. BOD_5 of 20 milligrams per liter, 30-day arithmetic mean;
3. Total nitrogen (as nitrogen) of 53 milligrams per liter, five-month arithmetic mean; and
4. Total coliform level of 100,000 (Log_{10} 5) colony forming units per 100 milliliters, 95th percentile.

C. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements in R18-9-A301(B) and R18-9-A309(B), an applicant shall submit specifications for the proposed media in the trench.

D. Design requirements. In addition to the applicable requirements in R18-9-A312, an applicant shall ensure that:
1. ~~An applicant shall ensure that media~~ Media used in the trench is mineral sand, crushed glass, or cinder sand and that:
   a. The media conforms to "Standard Specifications for Concrete Aggregates, C33-03," ~~(C 33-99a[E1]),~~ which is incorporated by reference in R18-9-E308(D)(2)(a), "Standard Test Method for Materials Finer than 75-µm (No. 200) Sieve in Mineral Aggregates by Washing, C117-04," ~~(C 117-95), approved March 15, 1995,~~ or an equivalent approved method. This information is incorporated by reference and does not include any later amendments or editions of the incorporated ~~matter~~ material. Copies of the incorporated material are available for inspection at the Arizona Department of Environmental Quality, 1110 W. Washington, Phoenix, AZ 85007 ~~and the Office of the Secretary of State,~~ or may be obtained from the American Society for Testing and Materials International, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959; and
   b. Sieve analysis complies with the "Standard Test Method for Materials Finer than 75-m (No. 200) Sieve in Mineral Aggregates by Washing, C11704," ~~(C 117-95),~~ which is incorporated by reference in subsection (D)(1)(a), or an equivalent approved method.
2. Trenches. ~~The applicant shall ensure that:~~
   a. Distribution pipes are capped on the end;
   ~~a.~~b. The spacing between trenches is at least two times the ~~depth of the trench bottom below finished grade~~ distance between the bottom of the distribution pipe and the bottom of the trench or 5 feet, whichever is greater;
   ~~b.~~c. The inlet filter media surface, wastewater distribution pipe, and bottom of the trench is level and the maximum effluent loading rate is not more than 1.0 gallon per day per square foot of sand media inlet surface;
   ~~c.~~d. The depth of sand below the gravel layer containing the distribution system is at least 24 inches;
   ~~d.~~e. The gravel layer containing the distribution system is ~~five~~ 5 to 12 inches thick, at least 36 inches wide, and level;
   ~~e.~~f. Permeable geotextile fabric is placed at the base of and along the sides of the gravel layer, as necessary. The applicant shall ensure that:
      i. Geotextile fabric is placed on top of the gravel layer, and
      ii. Any cover soil placed on top of the geotextile fabric is capable of maintaining vegetative growth while allowing passage of air~~.~~;
   ~~f.~~g. At least one observation port is installed to the bottom of each sand lined trench;
   ~~g.~~h. If the trench is installed in excessively permeable soil or rock, at least ~~one~~ 1 foot of loamy sand is placed in the trench below the filter media. The minimum vertical separation distance is measured from the bottom of the loamy sand; and
   ~~h.~~i. The trench design is based on the design flow, native soil absorption area ~~of~~ at the trench bottom, minimum vertical separation below the trench bottom, design effluent infiltration rate at the top of the sand fill, and the adjusted soil absorption rate for the final effluent quality.
3. The ~~applicant shall ensure that the~~ dosing system consists of a timer-controlled pump, electrical components, and distribution network and that:
   a. Orifice spacing on the distribution piping does not exceed ~~four~~ 4 square feet of media infiltrative surface area per orifice, and
   b. The dosing rate is at least four doses per day and not more than 24 doses per day.

E. Installation requirements. ~~An~~ In addition to the applicable requirements in R18-9-A313(A), an applicant shall ensure that the filter media ~~shall~~ is 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. In addition to the applicable requirements ~~specified~~ in ~~R18-9-A313~~ R18-9-A313(B), the permittee shall ensure that:
1. The septic tank filter and pump tank are inspected and cleaned;
2. The dosing tank pump screen, pump switches, and floats are cleaned yearly and any residue is disposed of according to local, state, or federal requirements; and
3. Lateral lines are flushed and the liquid waste discharged into the treatment system headworks.

R18-9-E320. 4.20 General Permit: Disinfection Devices, Less Than 3000 Gallons Per Day Design Flow

A. A 4.20 General Permit allows a disinfection device that receives wastewater from ~~a septic tank or other treatment device of~~ an onsite wastewater treatment facility~~,~~ that provides treatment equal to or better than the performance criteria in R18-9-E315(B)(1)(a) authorized by a general permit, and reduces the level of harmful microorganisms in the wastewater during passage through the disinfection device.

1. The disinfection device kills the microorganisms by exposing the wastewater to heat, radiation, or a chemical disinfectant.
2. Some means of disinfection require detention before discharge.
3. ~~A~~ An applicant may use a disinfection device ~~is considered~~ if a reduction in harmful microorganisms, as ~~measured~~ represented by the total coliform level, is needed for surface or near surface disposal of the wastewater or if reduction of the minimum vertical separation distance specified in R18-9-A312(E) is desired.

B. Restrictions.

1. Unless the disinfection device is designed to operate without electricity, an applicant shall not install ~~a disinfection~~ the device 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 causes a violation of an Aquifer Water Quality Standard.

C. Performance. An applicant shall ensure that:

1. A fail-safe wastewater control or operational process is incorporated to prevent a release of inadequately treated wastewater;
~~1.~~2. The ~~required~~ performance of a disinfection device ~~is dependent on~~ meets the level of disinfection needed for ~~a particular~~ the type of disposal~~;~~ and produces effluent that:
   a. Is nominally free of coliform bacteria;
   b. Is clear and odorless, and
   c. Has a dissolved oxygen content of at least 6 milligrams per liter;

D. ~~2. For~~ Design requirements. An applicant shall ensure that an onsite ~~device~~ wastewater treatment facility with a disposal works designed to discharge to the land surface~~, the disinfection device in conjunction with all preceding treatment processes produces treated wastewater that meets the following criteria~~ includes disinfection technology that conforms with the following requirements:

~~a. A total coliform level of Log_{10} 0 colony forming units per 100 milliliters, 99th percentile.~~
~~b. Dissolved oxygen content of at least six milligrams per liter;~~
~~c. Clear and odorless appearance.~~

1. Chlorine disinfection.
   a. Available chlorine is maintained as indicated in the following table:

pH of Wastewater (s.u.)	Required Concentration of Available Chlorine in Wastewater (mg/L)	
	Wastewater to the Disinfection Device Meets a TSS of 30 mg/L and BOD_5 of 30 mg/L	Wastewater to the Disinfection Device Meets a TSS of 20 mg/L and BOD_5 of 20 mg/L
6	15 – 30	6 – 10
7	20 – 35	10 – 20
8	30 – 45	20 – 35

   b. The minimum chlorine contact time is 15 minutes for wastewater at 70°F and 30 minutes for wastewater at 50°F, based on a flow equal to four times the daily design flow;
2. Contact chambers are watertight and made of plastic, fiberglass, or other durable material and are configured to prevent short-circuiting; and
3. For a device that disinfects by another method other than chlorine disinfection, dose and contact time are determined to reliably produce treated wastewater that is nominally free of coliform bacteria, based on a flow equal to four times the daily design flow.

~~D.~~E. Operation and maintenance. A permittee shall ensure that:

1. If the disinfection device relies on the addition of chemicals for disinfection, ~~ensure that~~ the device is operated to minimize the discharge of disinfection chemicals while achieving the required level of disinfection; and
2. ~~Incorporate a fail-safe mechanism to prevent inadequately treated wastewater from being discharged.~~ The disinfection device is inspected and maintained at least once every 3 months by a qualified person.

~~**E.** Reference design.~~
~~1. An applicant may design and install a disinfection device that achieves the performance requirements in subsection (C) by following a reference design on file with the Department.~~
~~2. 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.~~
~~**F.** Alternative design. A permittee may submit an alternative to the reference design for a disinfection device if, following the requirements in R18-9-A312(G), the design achieves the performance requirements in subsection (C).~~
~~1. The Department shall consider the submittal of an alternative design as one design change to establish the applicable fee under 18 A.A.C. 14.~~
~~2. 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.~~

R18-9-E321. ~~4.21 General Permit: Sequencing Batch Reactor, Less Than 3000 Gallons Per Day Design Flow~~ Repealed

~~**A.** A 4.21 General Permit allows a sequencing batch reactor that consists of at least two 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.~~
~~1. The treatment process is similar to that which occurs in aerobic systems described in other general permits except that in an aerobic system, separate vessels or partitions of the vessel are used for each unit treatment step.~~
~~2. Sequencing batch reactors are considered for use if:~~
~~a. Enhanced biochemical processing is needed to treat wastewater with high organic content,~~
~~b. A soil condition is not adequate to allow installation of a standard septic tank and disposal field as prescribed in R18-9-E302, or~~
~~c. A more highly treated and disinfected wastewater is needed.~~
~~**B.** Performance. An applicant shall ensure that a sequencing batch reactor is designed on the basis that it produces treated wastewater that meets the following criteria:~~
~~1. TSS of 30 milligrams per liter, 30-day arithmetic mean;~~
~~2. BOD_5 of 30 milligrams per liter, 30-day arithmetic mean;~~
~~3. Total nitrogen (as nitrogen) of 53 milligrams per liter, five-month arithmetic mean. If a total nitrogen level from 15 to 53 milligrams per liter is proposed, the applicant shall submit the specifications on system nitrogen reduction performance and corroborating third party test data with the Notice of Intent; and~~
~~4. Total coliform level of 300,000 (Log_{10} 5.5) colony forming units per 100 milliliters, 95th percentile.~~
~~**C.** Reference design.~~
~~1. An applicant may design and install~~ use a sequencing batch reactor that achieves the performance requirements in ~~subsection (B) by following a reference design on file with the Department.~~
~~2. 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.~~
~~**D.** Alternative design.~~
~~1. An applicant may submit an alternative to the reference design for a sequencing batch reactor that achieves equal or better performance than that specified in subsection (B), by following the requirements in R18-9-A312(G).~~
~~2. The Department shall consider the submittal of an alternative design as one design change to establish the applicable fee under 18 A.A.C. 14.~~
~~3. The applicant shall file a form provided by the Department for supplemental information about the~~

R18-9-E321. 4.21 General Permit: Surface Disposal, Less Than 3000 Gallons Per Day Design Flow

A. A 4.21 General Permit allows for surface application of treated wastewater that is nominally free of coliform bacteria produced by the treatment works of an onsite wastewater treatment facility.
B. Performance. An applicant shall ensure that the treated wastewater distributed for surface application meets the following criteria:
1. TSS of 30 milligrams per liter, 30-day arithmetic mean;
2. BOD_5 of 30 milligrams per liter, 30-day arithmetic mean;
3. Total nitrogen (as nitrogen) of 53 milligrams per liter, five-month arithmetic mean;
4. Nominally free of total coliform bacteria as indicated by a total coliform level of Log_{10} 0 colony forming units per 100 milliliters, 95th percentile.

C. Restrictions. The applicant shall not install this technology if weather records indicate that:
1. Average minimum temperature in any month is 20°F or less, or
2. Over 1/3 of the average annual precipitation falls in a 30-day period.

D. Design requirements. An applicant shall ensure that:
1. The land surface application rate does not exceed the most conservative application rate as determined under R18-9-

A312(D) minus no greater than 50 percent of the evapotranspiration that may occur during the month with the least evapotranspiration in any soil zone within the top 5 feet of soil;

2. The design incorporates sprinklers, bubbler heads, or other dispersal components that optimize wastewater loading rates and prevent ponding on the land surface;
3. The design specifies containment berms:
   a. Compacted to a minimum of 95 percent Proctor;
   b. Designed to contain the runoff of the 10-year, 24-hour storm event in addition to the daily design flow; and
   c. Designed to remain intact in the event of a more severe rainfall event; and
4. The design incorporates placement of signage on hose bibs, human ingress points to the surface disposal area, and at intervals around the perimeter of the surface disposal area providing notification of use of treated wastewater and warning against ingestion.

E. Installation requirements. An applicant shall ensure that installation of the wastewater dispersal components conforms to manufacturer's specifications that do not conflict with this Article and to the design documents specified in the Construction Authorization.

F. Operation and maintenance. In addition to the requirements specified in R18-9-A313, the permittee shall operate and maintain the surface disposal works to:
1. Prevent treated wastewater from coming into contact with drinking fountains, water coolers, or eating areas,
2. Contain all treated wastewater within the bermed area; and
3. Ensure that hose bibs discharging treated wastewater are secured to prevent use by the public.

R18-9-E322. 4.22 General Permit: Subsurface Drip Irrigation Disposal, Less Than 3000 Gallons Per Day Design Flow

A. A 4.22 General Permit allows a subsurface drip irrigation disposal ~~system~~ works that receives high quality wastewater from an ~~advanced~~ onsite wastewater treatment facility ~~and dispenses it~~ to dispense the wastewater to an irrigation system that is buried at a shallow depth in native soil. A 4.22 General Permit includes a pressure distribution system under R18-9-E304. ~~The Director may require a thin layer of soil or engineered fill cover on the surface of the native soil, depending on wastewater quality delivered to the drip emitters.~~
1. The subsurface drip irrigation disposal ~~system~~ works is designed to disperse the treated wastewater into the soil under unsaturated conditions by pressure distribution and timed dosing. The pressure distribution system shall meet the requirements specified in R18-9-E304, which are considered part of this general permit for the purpose of processing the application under R18-9-A301 by the Department.
2. A subsurface drip irrigation disposal ~~system~~ works reduces the downward percolation of wastewater by enhancing evapotranspiration to the atmosphere.
3. ~~Drip~~ An applicant may use a subsurface drip irrigation disposal ~~systems are considered if~~ works to overcome site constraints, such as high groundwater, shallow soils, slowly permeable soils, or highly permeable soils, ~~are present at the site~~ or if water conservation is needed.
4. The subsurface drip irrigation disposal works includes pipe, pressurization and dosing components, controls, and appurtenances to reliably deliver treated wastewater to driplines using supply and return manifold lines.

B. Performance. An applicant shall ensure that:
1. ~~A drip irrigation system is delivered treated wastewater that meets the following criteria~~ Treated wastewater that meets the following criteria is delivered to a subsurface drip irrigation disposal works:
   a. ~~A category~~ Performance Category "A~~." drip irrigation system requires wastewater delivered to the system that meets the following minimum water quality criteria:~~
      i. TSS of ~~10~~ 20 milligrams per liter, 30-day arithmetic mean;
      ii. BOD_5 of ~~10~~ 20 milligrams per liter, 30-day arithmetic mean;
      iii. Total nitrogen (as nitrogen) of 53 milligrams per liter, five-month arithmetic mean; and
      iv. Total coliform level of ~~10 (Log_{10} 1)~~ one colony forming units per 100 milliliters, 95th percentile~~.~~; or
   b. ~~A category~~ Performance Category "B~~." drip irrigation system requires wastewater delivered to the system that meets the following minimum water quality criteria:~~
      i. TSS of ~~20~~ 30 milligrams per liter, 30-day arithmetic mean;
      ii. BOD_5 of ~~20~~ 30 milligrams per liter, 30-day arithmetic mean;
      iii. Total nitrogen (as nitrogen) of 53 milligrams per liter, five-month arithmetic mean; and
      iv. Total coliform level of ~~100 (Log_{10} 2)~~ 300,000 colony forming units per 100 milliliters, 95th percentile~~.~~ (Log_{10} 300,000 = 5.5); and
2. ~~A~~ The subsurface drip irrigation ~~system of category "A" or category "B" shall be~~ works is designed to meet the following performance criteria:
   a. ~~No~~ Prevention of ponding on the land surface, and
   ~~b. Evapotranspiration of at least 50% of the emitted wastewater to the atmosphere, and~~
   ~~c.~~b. Incorporation of a fail-safe wastewater control ~~mechanism~~ or operational process to prevent inadequately treated

wastewater from being discharged.

C. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements in R18-9-A301(B), ~~and~~ R18-9-A309(B), and R18-9-E304, the applicant shall submit:

1. Documentation of the pretreatment method proposed to achieve the wastewater criteria specified in subsection (B)(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~~ Site evapotranspiration calculations if used to reduce the size of the disposal works; and
4. ~~Design calculations, showing the number of perennial plants needed to achieve the required evapotranspiration rate; and~~
5.4. If supplemental irrigation water is introduced to the subsurface drip ~~system~~ irrigation disposal works, ~~the volume and volume percent of~~ an identification of the cross connection controls, backflow controls, and supplemental water sources.

D. Design requirements. ~~An~~ In addition to the applicable design requirements specified in R18-9-A312, an applicant shall ensure that:

1. The design requirements of R18-9-E304 are followed, except that:
   a. The requirement for quick disconnects in R18-9-E304(D)(1)(c) is not applicable, and
   b. The applicant may provide the reserve volume specified in R18-9-E304(D)(3)(a)(iv) in an oversized treatment tank or a supplemental storage tank;

~~1.~~2. Drip irrigation ~~lines and emitters~~ components and appurtenances are properly placed.

   a. ~~Category~~ Performance category ~~"~~A~~"~~ subsurface drip ~~system~~ irrigation disposal works. The applicant shall ensure that:
      i. ~~Unless the manufacturer specifies deeper placement, lines and emitters are placed from six to 12 inches below the surface of the native soil~~ Driplines and emitters are placed to prevent ponding on the land surface; and
      ii. ~~Soil is replaced over the top of the drip system components.~~ Cover material and placement depth follow manufacturer's requirements to prevent physical damage or ultraviolet degradation of components and appurtenances; or
   b. ~~Category~~ Performance category ~~"~~B~~"~~ subsurface drip ~~system~~ irrigation disposal works. The applicant shall ensure that:
      i. ~~Unless the manufacturer specifies otherwise, lines~~ Driplines and emitters are placed ~~more than six~~ at least 6 inches below the surface of the native soil; ~~and~~
      ii. A cover of soil or engineered fill is placed on the surface of the native soil to achieve a total emitter burial depth of at least 12 inches;
      iii. Cover material and placement depth follow manufacturer's requirements to prevent physical damage or ultraviolet degradation of components and appurtenances; and
      iv. The drip irrigation disposal works is not used for irrigating food crops;

~~2.~~3. Wastewater is filtered upstream of the dripline emitters to remove particles 100 microns in size and larger upstream of the dripline emitters;

~~3. Applicable requirements under R18-9-E304 for pressure distribution systems are followed;~~

4. A pressure regulator ~~assures that excessive operating pressure or surges do not damage~~ is provided to limit the pressure of wastewater in the drip irrigation ~~system~~ disposal works;
5. Wastewater ~~distribution~~ pipe ~~is Schedule 40 PVC or better, sized for a flow velocity during flushing of at least two feet per second~~ meets the approved pressure rating in "Standard Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120, D1785-04a," or "Standard Specification for Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe, Schedules 40 and 80, F441/F441M-02," published by the American Society for Testing and Materials. This information is incorporated by reference and does not include any later amendments or editions of the incorporated material. Copies of the incorporated material are available for inspection at the Arizona Department of Environmental Quality, 1110 W. Washington, Phoenix, AZ 85007 or may be obtained from the American Society for Testing and Materials International, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959;
6. The system ~~is designed to flush~~ design flushes the subsurface drip irrigation disposal works components with wastewater at a minimum velocity of 2 feet per second, unless the manufacturer's manual and warranty specifies another flushing practice. The applicant shall ensure that piping and ~~valves~~ appurtenances 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 are installed to prevent water and soil drawback into the ~~emitter~~ emitters;
8. Driplines. ~~Emitters are spaced no more than two feet apart. The applicant shall ensure that:~~
   a. ~~Drip lines~~ Driplines are placed from 12 to 24 inches apart unless ~~variations in spacing allow preservation of existing trees and shrubs or enhance performance to overcome site limitations~~ other configurations are allowed by the manufacturer's specifications;

b. Dripline installation and design requirements, including the allowable deflection, follow manufacturer's requirements;
c. The maximum length of a single dripline follows manufacturer's specifications to provide even distribution;
d. The dripline incorporates a herbicide to prevent root intrusion for at least 10 years;
e. The dripline incorporates a bactericide to reduce bacterial slime buildup;
f. Disinfection does not reduce the life of the bactericide or herbicide in the dripline;
g. Any return flow from a drip irrigation disposal works to the treatment works does not impair the treatment performance; and
h. When dripline installation is under subsection (E)(1)(b) or (c), backfill consists of the excavated soil or similar soil obtained from the site that is screened for removal of debris and rock larger than 1/2-inch;

9. Emitters.
a. Emitters are spaced no more than 2 feet apart, and
b. Emitters ~~shall be~~ are designed to discharge from 0.5 to 1.5 gallons per hour~~.~~;

~~9.~~10. A suitable backflow prevention system is installed if supplemental water for irrigation is introduced to the pumping system. The applicant shall not introduce supplemental water to the treatment ~~system~~ works;

~~10. Plants are selected with regard to the ability of each species to maintain evapotranspiration rates and absorb nutrients;~~

11. ~~Drip irrigation is used~~ The drip irrigation disposal works is installed in soils ~~graded~~ classified as:
a. Sandy clay loam, clay loam, silty clay loam, or finer with weak platy structure or in soil with a percolation rate from 45 to 120 minutes per inch; ~~and~~
b. Sandy clay loam, clay loam, silty clay loam, or silt loam with massive structure or in soil with a percolation rate from 31 to 120 minutes per inch~~.~~; and
c. Other soils if an appropriate site-specific SAR is determined;

12. The minimum vertical separation distances are 1/2 of those specified in R18-9-A312(E)(2) if the design evapotranspiration rate during the wettest 30-day period is 50~~%~~ percent or more of design flow, except that the applicant shall not use a minimum vertical separation distance ~~shall not be~~ less than ~~one~~ 1 foot~~.~~;

13. In areas where freezing occurs, the irrigation system is protected as recommended by the manufacturer;

14. If drip irrigation components are used for a disposal works using a shaded trench constructed in native soil, the following requirements are met:
a. The trench is between 18 and 24 inches wide;
b. The trench is between 18 and 20 inches deep with the bottom and top surfaces level to ±2 inches per 100 feet length;
c. The trench is filled with a mixture of decomposed granite and C-33 sand, and composition and placement of the mix are specified on the construction drawing;
d. Two driplines are placed in the fill mix, 1 to 3 inches below the top surface of the fill mix and position 2 to 6 inches from each sidewall;
e. Six to 8 inches of back fill is placed over the fill mix to an elevation of 1 to 3 inches above the native soil finished grade; and
f. Observation ports are placed at both ends of each shaded trench to confirm the saturated wastewater level during operation; and
g. A separation distance of 24 inches or more is maintained between each trench; and

15. The soil absorption area used for design of a drip irrigation works is calculated using:
a. For a design that uses the shaded trench method described in subsection (D)(14), the bottom and sidewall area of the shaded trench not more than 4 square feet per linear foot of trench; or
b. For all other designs, the enclosed horizontal area resulting by drawing a perimeter that extends two feet beyond all emitters and connecting driplines, less any interior area that is more than 2 feet form an emitter or dripline.

E. Installation requirements. ~~An~~ In addition to the applicable requirements in R18-9-A313(A) and R18-9-E304, applicant shall ensure that:

1. The ~~irrigation pipe~~ dripline is installed by:
a. ~~a~~ A plow mechanism that cuts a furrow, dispenses pipe, and covers the ~~irrigation pipe~~ dripline in one operation~~.~~;
b. ~~or a~~ A trencher ~~and hand tools~~ that ~~dig~~ digs a trench ~~not more than four~~ 4 inches wide or less;
c. Digging the trench with hand tools to minimize trench width and disruption to the native soil; or
d. Without trenching, removing surface vegetation, scarifying the soil parallel with the contours of the land surface, placing the pipe grid, and covering with fill material, unless prohibited in subsection (D)(2)(b)(ii);

2. ~~Drip irrigation pipe has an incorporated herbicide to prevent root intrusion for at least 10 years and an incorporated bactericide to reduce bacterial slime build-up. The applicant shall store drip~~ Drip irrigation pipe is stored to preserve the herbicidal and bactericidal characteristics of the pipe~~.~~;

3. Pipe deflection conforms to the manufacturer's requirements and installation is completed without kinking to prevent flow restriction;

4. A shaded trench drip irrigation disposal works is installed as specified in the design documents used for the construc-

tion authorization; and

5. The pressure piping and electrical equipment is installed according to the Construction Authorization in R18-9-A301(D)(1)(c) and any applicable codes.

F. Operation and maintenance requirements. In addition to the applicable requirements in ~~R18-9-A313~~ R18-9-A313 (B) and R18-9-E304, the permittee shall:

1. ~~test the~~ Test any fail-safe wastewater control ~~mechanism~~ or operational process quarterly to ensure proper operation to prevent discharge of inadequately treated wastewater~~.~~, and
2. Maintain the herbicidal and bacteriological capability of the drip irrigation disposal works.

R18-9-E323. 4.23 General Permit: 3000 to less than 24,000 Gallons Per Day Design Flow

A. A 4.23 General Permit allows an onsite wastewater treatment ~~facilities~~ facility with a design flow from 3000 gallons per day to less than 24,000 gallons per day or more than one onsite wastewater treatment facility on a property or on adjacent properties under common ownership with an accumulative design flow from 3000 to less than 24,000 gallons per day if all of the following apply:

1. Except as specified in subsection (A)(3), the treatment and disposal works consists of technologies or designs that are covered under other general permits, but are sized larger to accommodate increased flows~~.~~;
2. The onsite wastewater treatment facility complies with all applicable requirements of Articles 1, 2, and 3 of this Chapter~~.~~;
3. The facility is not a system or a technology covered by one of the following general permits available for a design flow of less than 3000 gallons per day:
   a. An aerobic system with subsurface or surface disposal, described in R18-9-E315;
   ~~b. An aerobic system with surface disposal, described in R18-9-E316;~~
   ~~c.~~b. A disinfection device, described in R18-9-E320; or
   ~~d. A sequencing batch reactor, described in R18-9-E321; or~~
   ~~e.~~c. A seepage pit or pits, described in R18-9-E302~~.~~; and
4. The discharge of total nitrogen to groundwater is controlled.
   a. An applicant shall:
      i. Demonstrate that the nitrogen loading calculated over the property served by the onsite wastewater treatment facility, including streets, common areas, and other non-contributing areas, is not more than 0.088 pounds (39.9 grams) of total nitrogen per day per acre calculated at a horizontal plane immediately beneath the zone active disposal field treatment; or
      ii. Justify a nitrogen loading that is equally protective of aquifer water quality than the nitrogen loading specified in subsection (A)(4)(a)(i) based on site-specific hydrogeological or other factors.
   b. For purposes of the demonstration in subsection (A)(4)(a)(i), the applicant may assume that 0.0333 pounds (15.0 grams) of total nitrogen per day per person is contributed to raw sewage and may determine the nitrogen concentration in the treated wastewater at a horizontal plane immediately beneath the zone of active treatment of the onsite wastewater treatment facility including its disposal field.

B. Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B) and R18-9-A309(B), an 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~~ operational life;
2. Design documents and the performance assurance plan, signed, dated, and sealed by an Arizona-registered professional engineer;
3. Any documentation submitted under the alternative design procedure in R18-9-A312(G) 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~~.~~; and
4. A demonstration of total nitrogen discharge control specified in subsection (A)(4).

C. Design requirements. The applicant shall comply with the applicable requirements in R18-9-A312 and the applicable general permits for the treatment works or disposal works used in the design of the onsite wastewater treatment facility.

D. Installation requirements. The applicant shall comply with the applicable requirements in R18-9-A313(A) and the applicable general permits for the treatment works or disposal works used in the design of the onsite wastewater treatment facility.

E. Operation and maintenance requirements. The applicant shall comply with the applicable requirements in R18-9-A313(B) and the applicable general permits for the treatment and disposal works used in the design of the onsite wastewater treatment facility.

~~C.~~F. Additional ~~Verification of General Permit Conformance~~ Discharge Authorization requirements. In addition to any other requirements, the applicant shall submit the following information before the ~~Verification of General Permit Conformance~~ Discharge Authorization is issued.

1. A signed, dated, and sealed Engineer's Certificate of Completion in a format approved by the Department affirming that:
   a. The project was completed in compliance with the requirements of this Section and as described in the plans and specifications, or
   b. Any changes are reflected in as-built plans submitted with the Engineer's Certificate of Completion.
2. The name of a certified operator or service ~~company~~ provider that is responsible for implementing the performance assurance plan.

~~D.~~**G.** Reporting requirement. The permittee shall annually provide the Department with:

1. A form signed by the certified operator or service ~~company~~ provider that:
   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~~ facility during the year that increased flows and certifies that the flow did not exceed 24,000 gallons per day during any day~~.~~; and
2. Any applicable fee required by 18 A.A.C. 14.

H. Facility expansion. If an expansion of an onsite wastewater treatment facility operating under this Section involves the installation of a separate onsite wastewater treatment facility on the property with a design flow of less than 3000 gallons per day, the applicant shall submit the applicable Notice of Intent to Discharge and fee required under 18 A.A.C. 14 for the separate onsite wastewater treatment facility.

1. The applicant shall indicate in the Notice of Intent to Discharge the Department's file number and the issuance date of the Discharge Authorization previously issued by the Director under R18-9-E323 for the property.
2. Upon satisfactory review, the Director shall reissue the Discharge Authorization for R18-9-E323, with the new issuance date and updated information reflecting the expansion.
3. If the expansion causes the accumulative design flow from onsite wastewater treatment facilities on the property to equal or exceed 24,000 gallons per day, the Director shall not reissue the Discharge Authorization, but shall require the applicant to submit an application for an individual permit addressing all proposed and operating facilities on the property.

Table 1. Unit ~~Daily~~ Design Flows

~~Type of Facility Served~~ Wastewater Source	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, if consistent with this Chapter
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
Dwelling For determining design flow for sewage treatment facilities under R18-9-B202(A)(9)(a) and sewage collection systems under R18-9-E301(D) and R18-9-B301(K), excluding peaking factor.	Person	80
Dwelling For onsite wastewater treatment facilities per R18-9-E302 through R18-9-E323: Apartment Building 1 bedroom 2 bedroom 3 bedroom 4 bedroom Seasonal or summer dwelling with recorded seasonal occupancy restriction. For single family dwellings For other than single family dwellings, the greater of: Flow based on bedroom count 1-2 bedrooms Each bedroom over 2 Flow based on fixture count	 Apartment Apartment Apartment Apartment Resident Other Dwelling Type Bedroom Fixture unit	 200 300 400 500 100 see R18-9-A314(D)(1) 300 150 25
Fire Station	Employee	45
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 Nursing home Rest home	 Person Person Person	 75 125 125

Laundry Self service Commercial	Wash cycle Washing machine	50 Per manufacturer, if consistent with this Chapter
Office Building	Employee	20
Park (temporary use) Picnic, with showers, flush toilets Picnic, with flush toilets only Recreational vehicle, no water or sewer connections Recreational vehicle, with water and sewer connections Mobile home/Trailer	 Parking space Parking space Vehicle space Vehicle space Space	 40 20 75 100 250
~~Residence~~ ~~Dwelling, per person (for sewer collection system design only)~~ ~~Dwelling, single family~~ ~~Dwelling, per bedroom if count available~~ ~~Dwelling, per fixture if count available~~ ~~Mobile home, family~~ ~~Mobile home, adults only~~ ~~Seasonal and summer~~	 ~~Person~~ ~~Dwelling (3 bedrooms assumed)~~ ~~Bedroom~~ ~~Fixture unit~~ ~~Home lot~~ ~~Home lot~~ ~~Resident~~	 ~~100~~ ~~450~~ ~~150~~ ~~25~~ ~~250~~ ~~150~~ ~~100~~
Restaurant/Cafeteria With toilet, add Kitchen waste, add Garbage disposal, add Cocktail lounge, add Kitchen waste disposal service, add	Employee Customer Meal Meal Customer Meal	20 7 6 1 2 2
Restroom, public	Toilet	200
School Staff and office Elementary, add Middle and High, add with gym & showers, add with cafeteria, add Boarding, total flow	 Person Student Student Student Student Person	 20 15 20 5 3 100
Service Station with toilets	First bay Each additional bay	1000 500
Shopping Center, no food or laundry	Square foot of retail space	0.1
Store Public restroom, add	Employee Square foot of retail space	20 0.1
Swimming Pool, Public	Person	10
Theater Indoor Drive-in	 Seat Car space	 5 10

Note: Unit flow rates published in standard texts, literature sources or relevant area or regional studies ~~shall be~~ are considered by the Department, if appropriate to the project.

ARTICLE 4. ~~AGRICULTURAL~~ NITROGEN MANAGEMENT GENERAL PERMITS

R18-9-401. Definitions

In addition to the definitions established in A.R.S. §§ 49-101 and 49-201 and A.A.C. R18-9-101, the following terms apply to this Article:

1. "Application of nitrogen fertilizer" means any use of a substance containing nitrogen for the commercial production

of a crop ~~plants~~ or plant. The commercial production of a crop ~~plants~~ or plant includes commercial sod farms and nurseries.

2. "Contact stormwater" means stormwater that comes in contact with animals or animal wastes within a concentration animal feeding operation.

~~2.~~3. "Crop or plant needs" means the amount of water and nitrogen required to meet the physiological demands of the crop or plant to achieve a defined yield.

~~3.~~ 4. "Crop or plant uptake" means the amount of water and nitrogen that can be physiologically absorbed by the roots and vegetative parts of a crop or plant following the application of water.

5. "Impoundment" means any structure, other than a tank or a sump, designed and maintained to contain liquids. An impoundment that stores or impounds only non-contact stormwater is not subject to the requirements in this Article.

6. "Liner" or "lining system" means any natural, amendment, or synthetic material used to reduce seepage of impounded liquids into the vadose zone or aquifer.

7. "NRCS guidelines" means the United States Department of Agriculture, Natural Resources Conservation Service, National Engineering Handbook, Part 651 Agricultural Waste Management Field Handbook, Chapter 10, 651.1080, Appendix 10D – Geotechnical, Design, and Construction. This material is incorporated by reference and does not include any later amendments or editions of the incorporated material. Copies of the incorporated material are available for inspection at the Arizona Department of Environmental Quality, 1110 W. Washington, Phoenix, AZ 85007 or may be obtained from the United States Department of Agriculture, Natural Resources Conservation Service at ftp://ftp.wcc.nrcs.usda.gov/downloads/wastemgmt/AWMFH/awmfh-chap10-app10d.pdf.

R18-9-402. ~~Agricultural~~ Nitrogen Management General Permits: Nitrogen Fertilizers

~~A person who engages in the application of~~ An owner or operator may apply a nitrogen fertilizer ~~and is issued an agricultural general permit shall comply~~ under this general permit without submitting a notice to the Director, if the owner or operator complies with the following ~~agricultural~~ best management practices:

1. Limit application of the fertilizer so that it meets projected crop or plant needs;
2. Time application of the fertilizer to coincide to maximum crop or plant uptake;
3. Apply the fertilizer by a method designed to deliver nitrogen to the area of maximum crop or plant uptake;
4. Manage and time application of irrigation water to minimize nitrogen loss by leaching and runoff; and
5. Use tillage practices that maximize water and nitrogen uptake by a crop ~~plants~~ or plant.

R18-9-403. ~~Agricultural~~ Nitrogen Management General Permits: Concentrated Animal Feeding Operations

A. ~~A person who engages in or operates a~~ An owner or operator may discharge from a concentrated animal feeding operation ~~and is issued an agricultural general permit shall comply with~~ without submitting a notice to the Director, if the owner or operator complies with the following ~~agricultural~~ best management practices:

1. Harvest, stockpile, and dispose of animal manure from a concentrated animal feeding operation to minimize discharge of any nitrogen pollutant by leaching and runoff;
2. Control and dispose of nitrogen contaminated water resulting from an activity associated with a concentrated animal feeding operation, up to a 25-year, 24-hour storm event equivalent, to minimize the discharge of any nitrogen pollutant; ~~and~~
3. Construct and maintain a lining for an impoundment, following the requirements in subsection (B), used to contain process wastewater or contact stormwater from a concentrated animal feeding operation to minimize the discharge of any nitrogen pollutant; and

~~3.~~4. Close ~~facilities~~ a facility in a manner that will minimize the discharge of any nitrogen pollutant. If a liner was used in an impoundment:

   a. Remove liquids and any solid residue on the liner and dispose appropriately;
   b. Inspect any synthetic liner for evidence of holes, tears, or defective seams that could have leaked. If evidence of leakage is discovered:
      i. Remove the liner in the area of suspected leakage,
      ii. Sample potentially impacted soil, and
      iii. Properly dispose of impacted soil or restore to background nitrogen levels;
   c. Cover the liner in place or remove it for disposal or reuse if the impoundment is an excavated impoundment,
   d. Remove and dispose of the liner elsewhere if the impoundment is bermed,
   e. Grade the facility to prevent the impoundment of water; and
   f. Notify the Department within 60 days following closure.

B. Lining requirements for concentrated animal feeding operation impoundments.

1. New Impoundments. The owner or operator shall:
   a. Follow the NRCS guidelines for any newly constructed impoundment or an impoundment put into use after [effective date of the rule], and
   b. Use a coefficient of permeability of 1 X 10^{-7} centimeters per second or less as acceptable liner performance. The

designer may include up to 1 order of magnitude reduction in permeability from manure sealing in impoundments that hold wastes having manure as a significant component.

2. Impoundments already in use.
   a. The owner or operator shall maintain the existing seal for any impoundment constructed before [the effective date of the rule].
   b. If any of the following conditions exist at a concentrated animal feeding operation, the Director shall send a notice requiring the owner or operator to reassess the performance of the lining system and submit a report demonstrating consistency with NRCS guidelines and the acceptable liner performance criteria established in subsection (B)(1)(b):
      i. The concentrated animal feeding operation is located within a Nitrogen Management Area designated under A.A.C. R18-9-A317, or
      ii. Existing conditions or trends in nitrogen loading to an aquifer will cause or contribute to an exceedance of an Aquifer Water Quality Standard for a nitrogen pollutant at the point of compliance determined under A.R.S. § 49-244, based on the following information:
         (1) Existing contamination of groundwater by nitrogen species;
         (2) Existing and potential impact to groundwater by sources of nitrogen other than the concentrated animal feeding operation;
         (3) Characteristics of the soil surface, vadose zone, and aquifer;
         (4) Depth to groundwater;
         (5) The estimated operational life of the impoundment;
         (6) Location and characteristics of existing and potential drinking water supplies;
         (7) Construction material and design of existing impoundment structure; and
         (8) Any other information relevant to determining the severity of actual or potential nitrogen impact on the aquifer.
   c. The owner or operator shall, within 90 days, either submit the report required in subsection (B)(2)(b) to the Department, or submit plans and a schedule to upgrade the liner for the impoundment to meet the NRCS guidelines and the acceptable liner performance criteria in subsection (B)(1)(b).
   d. Preliminary decision.
      i. Within 90 days from the date of receipt, the Director shall review the report submitted under subsection (B)(2)(b) or the plans and schedule submitted under subsection (B)(2)(c) and provide to the owner or operator a preliminary decision on the demonstration.
      ii. The owner or operator may, within 30 days, submit written comments and supporting information to the Director on the preliminary decision.
      iii. The Director shall evaluate any comments on the preliminary decision and supporting information and, within 90 days, determine whether the impoundment liner system is consistent with NRCS guidelines and the acceptable liner performance criteria in subsection (B)(1)(b).
   e. Final decision.
      i. If the Director determines that the lining system is not adequate, the owner or operator shall upgrade the lining system to meet NRCS guidelines and the acceptable liner performance criteria in subsection (B)(1)(b).
      ii. If the owner or operator submitted comments on the preliminary decision, the person may appeal the Directors decision under A.R.S. Title 41, Chapter 6, Article 10.
3. Notification requirement. The owner or operator of a lined impoundment shall notify the Department of the type of liner that the owner or operator used to line each impoundment and include this information in the next annual report submitted for the AZPDES concentrated animal feeding operation general permit:
   a. After an impoundment not used before [effective date of the rule] is first put into use, or
   b. Upon completion of a liner upgrade required under this Section for an impoundment used before [effective date of the rule].

R18-9-404. Revocation of Coverage under a Nitrogen Management General Permit

A. The Director may revoke coverage under a nitrogen management general permit and require the permittee to obtain an individual permit under 18 A.A.C. 9, Article 2, if the Director determines that the permittee failed to comply with the applicable best management practices.

B. Notification.
1. If coverage under the nitrogen management general permit is revoked under subsection (A), the Director shall notify the permittee by certified mail of the decision according to the notification and hearing procedures in A.R.S. Title 41, Chapter 6, Article 10. The notification shall include:
   a. A brief statement of the reason for the decision,
   b. The effective revocation date of the general permit coverage, and
   c. A statement of whether the discharge shall cease or whether the discharge may continue under the terms of revo-

cation, and

2. If the Director requires a person to obtain an individual permit, the notification shall include:
   a. An individual permit application form, and
   b. A deadline between 90 and 180 days after receipt of the notification for filing the application.

C. When the Director issues an individual permit to an owner or operator of a facility covered under a nitrogen management general permit, the coverage under the nitrogen management general permit is superseded by the individual permit allowing the discharge.