

**Testimony of**

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**In the Matter of Petition EIB 12-01(R)  
July 17, 2012**

NMED Exhibit 1 is a list of Exhibits that will be introduced during my testimony.

My resume is NMED Exhibit 2. I earned a Bachelor of Science degree in Geology, with my minor distributed in chemistry, mathematics and physics, from the University of New Mexico in December 1978. I was hired into what is now the New Mexico Environment Department (NMED) in March 1979. I have been involved with onsite liquid waste systems during virtually all of my 33+ year career. I have authored, or co-authored, 26 publications that address onsite wastewater systems.

**Constitutional Intent**

The New Mexico State Constitution, Article XX, Section 21 (“Pollution Control” added November 2, 1971) states,

“The protection of the state's beautiful and healthful environment is hereby declared to be of fundamental importance to the public interest, health, safety and the general welfare. The legislature shall provide for control of pollution and control of despoilment of the air, water and other natural resources of this state, consistent with the use and development of these resources for the maximum benefit of the people.”

Rural areas of New Mexico provide a good example of how this provision of the Constitution is applied. Residents pump groundwater from onsite supply wells for beneficial domestic use, and discharge household sewage into onsite liquid waste systems. The legislature enacted the Environmental Improvement Act, which created the Environmental Improvement Board (EIB) and authorized the EIB to promulgate rules and standards for liquid waste. The liquid waste regulations promulgated by EIB (20.7.3 NMAC) provide for the control of water pollution, and protect against potential hazards to public health and safety. Liquid waste systems that are properly sited, designed, installed, operated and maintained, are protective of water quality and public health and safety, and comply with the intent of Article XX, Section 21 of the New Mexico State Constitution.

## Statutory Rule-Making Considerations

The Environmental Improvement Act, NMSA §74-1-9.B states, in part,

“...In making its regulations, the board shall give the weight it deems appropriate to all relevant facts and circumstances presented at the public hearing, including but not limited to:

- (1) character and degree of injury to or interference with health, welfare, animal and plant life, property and the environment;
- (2) the public interest, including the social, economic and cultural value of the regulated activity and the social, economic and cultural effects of environmental degradation; and
- (3) technical practicability, necessity for and economic reasonableness of reducing, eliminating or otherwise taking action with respect to environmental degradation.”

NMED Exhibits 3-5 provide information on all three statutory criteria which is summarized as follows:

Criterion #1 - character and degree of injury to or interference with health, welfare, animal and plant life, property and the environment

Liquid waste systems that are not properly sited, designed, installed, operated and maintained can be hazardous to public health and safety and degrade ground and surface water quality. Cesspools, septic tanks without lids, and other open pits of raw sewage pose hazards of entrapment, asphyxiation and drowning, and several adults and children have fallen into these substandard systems and perished (NMED Exhibit 3). Substandard liquid waste systems have caused extensive contamination of groundwater in New Mexico with disease causing organisms, nitrate, anoxic conditions (iron, manganese, hydrogen sulfide gas), salt from water softeners, chemicals used to manufacture methamphetamine, and with dichlorobenzene, a constituent of household toilet deodorizer blocks (NMED Exhibits 4 and 5). Source-water assessments, conducted on approximately 1250 public water supply systems in New Mexico, identified septic systems as the single greatest threat to wellhead areas (NMED Exhibit 4). Substandard liquid waste systems also have contributed to contamination of surface water in some areas (NMED Exhibit 4). Twenty stream segments, totalling 355 river miles, in the state have been adversely impacted by nutrients originating from septic systems (NMED Exhibit 4).

Criterion #2 - the public interest, including the social, economic and cultural value of the regulated activity and the social, economic and cultural effects of environmental degradation

Approximately 29% of New Mexico's population utilizes onsite wastewater systems for the treatment and disposal of domestic sewage (NMED Exhibit 4), typically in areas where public sewer service is not available. Conventional septic systems are an appropriate means of wastewater treatment and disposal when site conditions (lot size, soil, setbacks to wells and streams and clearance to bedrock and ground water) are adequate for natural attenuation (NMED Exhibits 4 and 5). Unsuitable site conditions (small lot size, wells and streams too close, bedrock and ground water too shallow), however, can result in hazards to public health, welfare and to the environment. These hazards can include surfacing sewage, water quality degradation, and pollution of drinking water sources (NMED Exhibits 4 and 5). Contamination of a water well, for example, can result in costs to the well owner related to the installation of a drinking-water treatment system or to the drilling of a new well. Additionally, a contaminated well may negatively affect the value and marketability of a property. Nutrient contamination of streams, which liquid waste systems sometimes contribute to, can cause algae blooms which can be harmful to fish and negatively impact the economic and cultural values of the affected streams.

Criterion #3 - technical practicability, necessity for and economic reasonableness of reducing, eliminating or otherwise taking action with respect to environmental degradation

The necessity to reduce or eliminate environmental degradation from liquid waste disposal is documented in the discussion of Criteria #1 and #2 above, and the technology exists to do so. Many of these technologies, including secondary treatment, tertiary treatment, disinfection, and non-discharging systems, are specifically addressed in the existing liquid waste regulations and have been successfully utilized in the state.

### **Petition Development and Stakeholder Involvement**

Petition 12-01 (R) is the result of many years of work by NMED and other parties. Discussions on the proposed classification of Installer Specialist, for example, began in 2007. NMED held 10 public meetings around the state in October-November 2009 to obtain stakeholder input on possible regulation amendments (NMED Exhibits 6 and 7).

The Liquid Waste Regulations were reviewed by a Small-Business Friendly Task Force pursuant to Executive Order 2011-001 (NMED Exhibit 8). The Task Force made 14 specific recommendations regarding the Liquid Waste Program in its final report (NMED Exhibit 9, pages 9-11). The recommendations of the Task Force weighed heavily in the development of some of the amendments proposed in Petition EIB 12-01 (R).

Petitions for amendments to the body of 20.7.3 were proposed by NMED and by three other parties in 2011, and the EIB set a hearing date of September 1-3, 2011 to consider these petitions. Two of the four petitions were retracted, however, and the EIB

postponed the hearing “to allow more time for the parties and the department to work together” (see item #10 in the July 11-12, 2011 meeting minutes, NMED Exhibit 10).

During the intervening 8 months, NMED issued a news release (NMED Exhibit 11) and held 20 public meetings across the state. The slide presentation that was used at the public meetings (NMED Exhibit 12) was posted on the program website. Fliers announcing the public meetings were distributed at local NMED Field Offices. The public meetings coincided with a formal comment period on an official draft of the possible rule amendments. NMED prepared a written summary of, and response to, comments that had been received as of December 12, 2011 (NMED Exhibit 13). NMED continued to receive public comments and issued another official public draft of possible rule amendments with a second formal comment period.

NMED’s 22 Field Offices issue several thousands of Liquid Waste Permits each year throughout a state that has extremely diverse soil and groundwater conditions. Drafting one-size-fits-all statewide rules for a program of this nature is a challenge. In the past, and with good intentions by EIB, NMED and the industry, Liquid Waste Regulations were adopted that:

- were impractical or impossible to administer;
- were critical to protecting water quality and public health in shallow groundwater areas, but were unnecessary in deep groundwater areas;
- codified design criteria that were good practice, but were not critical to protecting public health and safety and water quality; and
- had unintended and undesirable consequences.

NMED’s critical self-evaluation pursuant to Executive Order 2011-001, coupled with the extensive public outreach initiative, illuminated these regulatory deficiencies with greater clarity than ever before. Petition EIB 12-01 (R) is designed to both correct these deficiencies and to implement new initiatives that would be beneficial to the citizens of New Mexico.

Petition EIB 12-01(R) was filed by NMED on March 2, 2012. After the petition was filed, NMED continued to work with stakeholders to resolve, or reach middle ground on, several unresolved issues. NMED filed an amended petition on May 2, 2012 that reflected the ongoing work with stakeholders.

NMED Exhibits 11-13 demonstrate that anyone in the state of New Mexico who wished to have input on how the Liquid Waste Regulations should be amended had multiple opportunities to attend public meetings, or to submit written comments to NMED. NMED Exhibit 10 and Petition EIB 12-01(R) also demonstrate that the EIB’s directive that the parties work together catalyzed a public outreach process that resulted in the identification and resolution of a number of very important issues.

The rule amendments proposed in this petition represent the ideas, creative thinking and hard work of many people both within and outside of NMED. We are extremely grateful to all the individuals and organizations who contributed to the amendments proposed in

this petition. It is my privilege and honor to be the person who presents the results of all this hard work, by so many people, to the EIB today.

### **Proposed Amendments in Numerical Sequence of 20.7.3 NMAC Sections**

Specific changes to the liquid waste regulations, 20.7.3 NMAC are discussed as follows in numerical sequence of the administrative code, using the revised numbering in the petition rather than numbering in the existing regulations. Sections for which amendments are not proposed are not included, so the sequence of NMAC Sections will have gaps. Sections of the regulations for which NMED is aware of unresolved disagreement between NMED and stakeholders are **highlighted in yellow**, and a description of our understanding of the dispute is included. NMED is aware of unresolved disagreements on only three sections of the proposed regulation amendments:

- (1) Section 20.7.3.2, Scope of the Liquid Waste Regulations in terms of gallons per day of wastewater;**
- (2) Section 20.7.3.302.D, proposed prohibition of drain fields in areas subject to flood irrigation; and**
- (3) Section 20.7.3.703.J, proposed elimination of exclusion of 6 inches of trench sidewall below the pipe invert from absorption area credit.**

These unresolved issues will be discussed in more detail below, in numerical order of their NMAC Sections.

Discussions with stakeholders continued after the filing of the amended petition on May 2, 2012. These discussions led to the discovery of typos and proposed language that needed to be clarified or modified. NMED Exhibit 14 contains a list of these corrections, clarifications and modifications that were not contained in the amended Petition EIB 12-01(R).

#### **20.7.3.2 SCOPE**

This section of the liquid waste regulations defines which onsite wastewater systems qualify for a liquid waste permit, versus those systems for which a ground water discharge plan is required, versus those systems for which a national pollutant discharge elimination system (NPDES) permit is required. The regulated community almost always tries to stay under the authority of liquid waste permits since they are generally less costly and time consuming than N.M. Water Quality Control Commission (WQCC) groundwater discharge plans and National Pollutant Discharge Elimination System (NPDES) permits.

The proposed deletion of the term “are designed to receive and do” is proposed to clarify that the regulations apply to systems receiving 2,000 gallons per day (gpd) or less of liquid waste. A property owner who chose to oversize a system, for example, but still discharged less than 2,000 gpd would qualify for a liquid waste permit. Someone who bought an existing system that was designed for more than

2,000 gpd, but whose actual discharge is less than 2,000 gpd, also would qualify for a liquid waste permit.

NMED's original petition in 2011 proposed to raise the scope from 2,000 gpd to 5,000 gpd. The 2011 petition, however, was withdrawn, and NMED did not propose to increase the scope of the regulations in petition EIB 12-01(R). This is an issue, however, where consensus among stakeholders was not attained. Raising the limit from 2,000 gpd to 5,000 gpd would allow a larger number of wastewater systems, typically owned by small businesses, to be under the jurisdiction of the less expensive and less time consuming liquid waste permits. NMED recognizes the significant differences between the two sets of permit rules, and is sympathetic to the small businesses who want to avoid the more costly groundwater discharge plans. At the present time, a small mobile home park is subject to the same administrative WQCC permitting process that a large complicated mining operation, for example, would undergo. NMED, therefore, has proposed amendments to Sections 7.L(5), 7.L(6), 201.N and 302.C (discussed below) that would allow a greater number of small wastewater systems to be permitted under the authority of liquid waste regulations without raising the gpd in the scope.

Raising the scope of the liquid waste regulations from 2,000 gpd to 5,000 gpd would create the following issues:

- The 2,000 gpd limit is also contained in WQCC regulation 20.6.2.3105.B where sewerage systems that are designed to receive and do receive less than 2,000 gpd of liquid waste are exempt from groundwater discharge plans (NMED Exhibit 15). If the EIB were to raise the scope of 20.7.3.2, without a similar amendment by the WQCC to regulation 20.6.2.105.B, a situation would exist where both sets of regulations would apply to the same facility. There is no guarantee that the WQCC would make such an amendment if petitioned to do so.
- The primary focus of the liquid waste regulations, from 1973 to present, has been individual septic systems serving single family dwellings, where wastewater flows are relatively small and dispersed through multiple systems over large residential areas. A combination of treatment by the septic system, coupled with natural geologic attenuation processes in the soil and groundwater, are relied upon to decrease wastewater contaminants so as not to adversely affect drinking-water wells (NMED Exhibit 16). As wastewater flows get larger, from the 375 gpd design flow for a three bedroom house, the minimum lot size standard still applies, but the Liquid Waste Regulations do not require that larger flows be dispersed over the entire acreage. These larger flows are typically discharged into a relatively small area of an otherwise large lot, and the potential protection afforded natural geologic attenuation is diminished relative to that of smaller flows. Several examples of how the effectiveness of natural

attenuation can be influenced by onsite wastewater loading distribution are illustrated in NMED Exhibit 17. Examples 1 and 2 (NMED Exhibit 17) illustrate three bedroom homes on individual lots with onsite wells and septic systems. Example 2 illustrates how wastewater from multiple homes can be distributed over an area large enough so that natural attenuation effectively protects the water supply wells from contaminants discharged into groundwater from the onsite septic systems. Example 3 illustrates a group of homes on a single lot, with a shared well and shared septic system, where the wastewater is not dispersed throughout the lot, but the well is located far enough away from the septic system so as not to be adversely affected. Example 4, however, illustrates a combination of Examples 2 and 3 where larger wastewater flows can impact water supply wells on nearby lots. Increasing the scope of the Liquid Waste Regulations from 2,000 gpd to 5,000 gpd will allow even larger wastewater flows in relatively small areas, instead of being dispersed across the entire lot, and will further diminish the potential for natural attenuation to adequately do its job. If the EIB decides to raise the scope from 2,000 gpd to 5,000 gpd, NMED would strongly recommend that the EIB also adopt a rule requiring tertiary (nitrogen reducing) wastewater treatment, for systems with design flows greater than 2,000 gpd, unless exempted by variance. We would also request that disinfection be required if deemed necessary by NMED on a case-by-case basis.

- WQCC groundwater discharge plans often require groundwater monitoring to provide early detection of contamination so that corrective action can be taken to prevent pollution of water supply wells. Liquid waste permits have never required monitoring wells, and any groundwater contamination from permitted systems is typically detected in an onsite water supply well.
- When permitted liquid waste systems pollute groundwater in excess of allowable standards, the liquid waste regulations have no provisions for abatement of water pollution as do the WQCC regulations.
- The New Mexico Board of Licensure for Engineers and Surveyors has determined that the design and supporting calculations of wastewater systems with flows greater than 2,000 gpd is within the practice of engineering (NMED Exhibit 18). Raising the scope of liquid waste regulations to 5,000 gpd would not eliminate the requirement that systems with flows greater than 2,000 gpd be designed by a professional engineer.
- The Environmental Health Bureau, the NMED administrative unit that administers the Liquid Waste Program, had a 40% vacancy rate earlier in 2012. The vacancy rate has since decreased to 27%. Now is not a good time to increase the Liquid Waste Permit workload by transferring larger

and more complicated wastewater systems into the program from WQCC authority.

For all these reasons, NMED believes that the scope of the liquid waste regulations should not be increased to 5,000 gpd at this time. NMED has created a workgroup, however, to explore options and make recommendations for creating a permitting process that would be more rigorous than a liquid waste permit, but not as onerous as a groundwater discharge plan. The workgroup includes representatives of the Liquid Waste Program, Groundwater Bureau and industry.

#### 20.7.3.7 DEFINITIONS

A(2) A definition of “absorption bed” is proposed to clarify what an absorption bed is compared to a trench or a seepage pit. The issue is most relevant in cases where seepage pits are built so large that they become basically extremely deep beds. This definition is an acceptable industry definition.

A(4) The definition of “aggregate” is proposed to be clarified to read better, and to specify that aggregate not be detrimental to groundwater quality.

A(5) The examples of “alternative disposal” in the existing definition are proposed to be deleted as they are unnecessary and could be viewed as limiting design options.

A(6) In the definition of “amendment of permit”, the term “contractor”, which is presently undefined in the liquid waste regulations, is proposed to be replaced with the term “installer”. The reason for this proposed amendment is to be consistent with the proposed new definition of “installer”.

A(7) A new definition of “applicant” is proposed to clarify that only the owner of the property can apply for a liquid waste permit. Section 401.E.3 would still allow an authorized representative to sign a permit application on the owner’s behalf.

A(8) The definition of “approved” is proposed to be modified to include the requirement that systems have been given final operating approval by NMED.

A(9) The definition of “arroyo” is proposed to be clarified to mean that the occasional water flow would be in response to precipitation, as opposed to anthropogenic water sources.

B(1) The acronym USDA is spelled out as the United States Department of Agriculture in the definition of “bedrock.”

B(2) The existing definition of “bedroom” contains the ambiguous term “that may reasonably be used as a sleeping room” which has caused problems for both NMED and the regulated community. This ambiguous language is proposed to be replaced with an unambiguous requirement for drawings showing bedrooms.

C(10) A new definition of “conditional approval” is being proposed to be consistent with guidelines adopted by the Wastewater Technical Advisory Committee.

C(11) The definition of “conventional treatment system” is proposed to be clarified so that the applicability of this term will include privies, holding tanks and vaults, and not just for fee purposes.

D(4) In the definition of “disinfected” the reference to “fecal coliform” is proposed to be replaced with “E. coli” to reflect modern laboratory procedures.

E(8) The definition of “experimental system” is proposed to be replaced with “experimental approval” to be consistent with guidelines adopted by the Wastewater Technical Advisory Committee.

F(2) The reference to “UPC” uniform plumbing code, in the definition of “fixture units” is proposed to be replaced with “New Mexico plumbing code” since the latter is what contractors licensed by the Construction Industries Division (CID) must comply with in the State of New Mexico.

H(1) The term “but is not limited to” is proposed to be added to the definition of “hazard to public health” so as not to exclude situations that are not specifically described in the definition.

I(5) A new definition of “installer” is proposed to clarify that installers must possess a valid and appropriate CID license.

I(8) A new definition of “irrigation” is proposed since that term is used in the body of the regulations. We propose to amend the language in the petition to exclude “food plants” because only “fruit and nut trees” are allowed to be irrigated with gray water in Section 809.N.

L(5) Language is proposed to clarify the definition of “liquid waste” to mean the wastewater received by a system, rather than the wastewater discharged on a lot. The purpose for this amendment is, along with the amendments proposed in Sections 7.L(6) and 302.C, to eliminate the single lot policy and allow liquid waste permits to be issued for multiple liquid waste systems on a single lot under certain conditions. The proposed language would make the definition consistent with the language in Section 20.7.3.2 Scope.

L(6) The proposed amendment to the definition of “liquid waste system” is one of several amendments that would allow liquid waste permits to be issued for multiple liquid waste systems on a single lot, with total design flow exceeding 2,000 gpd, provided that design flow for each individual system is 2,000 gpd or less, and provided that the systems are sufficiently setback from each other.

L(9) The exclusion of roadways and roadway easements from the acreage that can be applied in a liquid waste permit is proposed to be deleted from the definition of a “lot” and from Section 301.C. This historical provision of the regulations creates hardships for some homeowners, and provides little if any additional protection of groundwater quality in terms of regional nitrogen loading rates.

N(1) The New Mexico Plumbing Code is proposed to be defined as 14.8.2 NMAC, which it is.

N(2) A new definition of “non-discharging system” is proposed since that term is used in the body of the regulations.

O(6) Language is proposed to clarify the definition of “owner” to be the buyer for the purpose of liquid waste system ownership in real estate contracts. This proposed language was developed in cooperation with the Realtor’s Association of New Mexico (RANM).

P(6) Language is proposed to clarify the definition of “primary treatment” in the context of the concentrations of specific wastewater parameters. The proposed concentrations are consistent with industry standards.

R(1) A new definition of “real estate contract” is proposed to help clarify liquid waste system ownership in real estate contracts. This proposed language was developed in cooperation with the Realtor’s Association of New Mexico (RANM).

R(2) A new definition of “registration” is proposed since that term is used in the body of the regulations.

R(3) The definition of “replacement area” is proposed to be deleted because the requirement of Section 201.H that liquid waste systems be designed with a 50% replacement or reserve area also is proposed to be deleted.

R(5) The definition of “roadway” is proposed to be deleted because the exclusion of roadways and roadway easements from qualifying acreage is proposed to be deleted from the definition of “lot” as discussed above.

S(2) A new definition of “sand-lined trench” is proposed since that term is used in the body of the regulations.

S(5) The definition of “secondary treatment” is proposed to be modified to remove unnecessary language.

S(7) The definition of “seepage pit” is proposed to be modified to allow non-cylindrical receptacles, and to clarify that the receptacle is deeper than it is wide.

S(14) A new definition of “soil replacement” is proposed since that term is used in the body of the regulations.

S(15) A new definition of “split flow” is proposed since that term is the subject of a proposed new Section 811.

T(±) The definition of “Technical Advisory Committee” is proposed to be deleted and replaced with a definition of “Wastewater Technical Advisory Committee” to be consistent with the statute.

T(6) A new definition of “transfer” is proposed since that term is used in the body of the regulations. This proposed language was developed in cooperation with the Realtor’s Association of New Mexico (RANM).

U(±) The definition of “Uniform Plumbing Code” is proposed to be deleted since that term is proposed to be replaced by reference to the “New Mexico Plumbing Code”.

W(2) A new definition of “Wastewater Technical Advisory Committee” is proposed to replace the definition of “Technical Advisory Committee” to be consistent with the statute. This change will also be made in the body of the regulations when reference is made to the Committee.

W(3) The term “canyon” is proposed to be added to the definition of “watercourse” to reduce the possibility that a watercourse named as a canyon might be inadvertently excluded from qualification under the definition.

W(4) The definition of “water(s) of the state” is proposed to be amended to be consistent with the definition in 20.6.4.7S(5) NMAC.

#### 20.7.3.8 GENERAL PROVISIONS

B. The term “other technical publications” is proposed to be added to the list of “Alternative Resources” so the list will not be exclusive.

#### 20.7.3.201 PROCEDURES; GENERAL REQUIREMENTS

- A. Language is proposed to make owners explicitly responsible for making sure that liquid waste systems and excavations for systems do not pose a public safety hazard.
- B. Language is proposed to address the distinction between liquid waste systems that have been permitted for construction versus those that have also been constructed and given final operating approval by NMED. A number of existing permitted systems were never given final operating approval for reasons that include no request for inspection and unavailability of NMED inspectors at the time requested. The language proposes to grant final approval to all liquid waste systems that were installed in accordance with a permit approved by NMED prior to July 1, 2012. Improvements in permit data automation and tracking should result in all new systems either being inspected by NMED, by a licensed contractor with prior NMED authorization, or by an installer specialist.
- C. Language is proposed to address the distinction between liquid waste systems that have been permitted for construction versus those that have also been constructed and given final operational approval by NMED, to clarify “public” sewer systems, and to correct a typographical error.
- D. Language is proposed to require that all systems be installed, operated and maintained in accordance with the liquid waste permit and applicable regulations.
- E. Language is proposed to clarify when connections to public sewer must be made, and to require that liquid waste systems be properly abandoned within 30 days of connection to public sewer.
- H. The requirement that liquid waste systems be designed with a 50% replacement or reserve area is proposed to be deleted. The reasons for this proposed deletion are that many homeowners are unaware of such designated areas, there is no practical way to prevent local officials from issuing building permits for the designated area, and that it is difficult if not impossible for NMED to enforce this requirement after a liquid waste system receives final operational approval.
- I. A number of changes are proposed to this section that deals with recreational vehicle (RV) waste. RV waste test data within the State of New Mexico (NMED Exhibit 19) show that not all RV waste exceeds the parameter concentrations that define “domestic liquid waste” in Section 20.7.3.7.D.6 NMAC. Therefore, language is proposed to require treatment to primary levels only “if necessary”. The term “pretreatment is proposed to be replaced with “treatment” since a single system might be used to meet the primary treatment standard. With regard to effluent monitoring, we propose to amend the language in our petition to read, “Monitoring of the effluent may be required in accordance with 20.7.3.901

- NMAC.” Homeowners who occasionally empty waste from one personal RV that is not used as permanent living quarters would be exempt.
- K. The requirement that existing liquid waste systems comply with previous regulations is being clarified to be consistent with amendments proposed in Sections 202.D, 401.J and 902.F.
  - L. Condition # 5 for the potential imposition of more stringent requirements is proposed to be expanded so that a gaining stream “or other body of water” impacted by nutrients from liquid waste systems can be protected. The amended language would allow lakes, for example, to also be protected.
  - M. Language is proposed to clarify that NMED’s letter of determination for stricter standards would be issued within 10 days of receipt of the written request, and that the determination, if granted, would not waive other regulatory requirements.
  - O. The current Scope of the Liquid Waste Regulations includes systems that are designed to receive and do receive 2,000 gpd or less. Systems with flows greater than 2,000 gpd fall under the authority of the groundwater discharge permit program. Design flows are used to size treatment and disposal systems, and typically include a safety factor to accommodate peak flows. Average daily flows are typically less than design flows. It has been the experience of the Ground Water Quality Bureau personnel that some systems permitted under their program have measured wastewater flow considerably less than 2,000 gpd even though the system may have been designed for greater than 2,000 gpd.

For these reasons, Section 201.O(1) is proposed to be amended so that estimated actual flow, rather than design flow, may be used to determine permitting jurisdiction. The eligibility for permitting under the liquid waste regulations is proposed to be 80% of design flow, rather than 100% of design flow. Systems with design flows up to 2,500 gpd could be permitted under the liquid waste program, rather than the groundwater discharge plan program, and this would provide a less burdensome permitting process to the mostly small businesses that are in the 2,000 to 2,500 gpd range. Liquid waste systems would still be sized, however, to handle the design (peak) flow.

Proposed Section 201.O(2) contains language cut and pasted from existing Section 201.P(2), and would allow estimated flows in the New Mexico Plumbing Code or in the U.S. EPA Design Manual to be used for determining permitting jurisdiction.

There is a typo in the petition for proposed Section 201.O(3). This section should read, “Wastewater flows for residential and nonresidential sources also may be based on:” The proposed language would expand the use of professional engineering (PE) design calculations or actual meter records beyond non-residential systems to include residential systems with five or more units.

Requirements for the quality and verification of metered flow data also are proposed.

- P. Section 201.P addresses design flow calculations. These calculations are used to size and design the liquid waste system, rather than to determine which program, Liquid Waste or Ground Water Quality, has jurisdiction for permitting.
- (1) Presently the design flow for a 5-bedroom home is 525 gpd, which exceeds the standard of 500 gpd/acre by 25 gpd (5%). This creates a hardship for property owners of 1 acre lots. Therefore, design flow for a 5-bedroom house is proposed to be reduced to 500 gpd to allow 5-bedroom homes on 1 acre lots.
  - (2) Table 201.1 values are recognized in the industry as relatively conservative and therefore no additional safety factor is normally necessary.
  - (3) Highly variable flows may occur, and need a design to accommodate them. The normal safety factor of 1.5 may not be enough. Other methods may be used to manage peak flows, such as flow equalization which uses extra storage of effluent during peak flows which is then fed to the system during non-peak flow periods.
  - (4) Design flows certified by a professional engineer are assumed to be based on the engineer's assessment of the system, including the need for a safety factor.
  - (5) Designs based on meter data are required to include a safety factor of 1.5 to accommodate peak flows that may occur occasionally, such as on holiday weekends, that would overload a design based on a quarterly average. The safety factor of 1.5 is in the existing regulations and is proposed to be relocated into this section.
  - (6) If a facility is expected to grow in size or occupancy, the department may require that space be available to increase the size of the liquid waste system. In some cases, advanced treatment may be required for nitrogen removal, and if so, the design would need to be able to accommodate an additional treatment unit.

The note at the bottom of Table 201.1 is proposed to be modified to clarify what additional treatment may be required in cases where the facility discharges liquid waste in excess of the defined characteristics of domestic strength waste.

- Q. Language is proposed to clarify how septic tank size is calculated when using Table 201.1 for design flow.

#### 20.7.3.202 PROCEDURES; MODIFICATION OF EXISTING SYSTEMS

- A. Language is proposed to make this section consistent with the definition of "established on-site liquid waste system" in Section 20.7.3.7.E(6).
- D. Language is proposed to replace the provision that existing septic tanks fully meet the requirements of the regulations with language that existing septic tanks be watertight and functioning properly. This change would provide relief to

homeowners, who often are not the original system owners, whose septic tanks do not fully comply with whatever prescriptive code was in place when the tank was installed, when the tanks are structurally sound, watertight, functioning properly.

- E. Language is proposed to clarify the existing requirement that an effluent filter and risers be installed whenever any part of a liquid waste system is modified.

#### 20.7.3.203; PROCEDURES; CONSTRUCTION, INSPECTIONS AND TESTING

- B. (1) The term “contractor” is proposed to be replaced with the term “installer” for purposes of internal consistency in the regulations.
  - (4) Language is proposed to allow the proposed new classification of “installer specialist” the privileges of:
    - notifying NMED of the time of construction completion, but not requiring coordination with NMED of an inspection time; and
    - being pre-authorized to conduct a self-inspection unless NMED arrives at the site within one hour of the notified inspection time.

#### 20.7.3.301 STANDARDS; LOT SIZE REQUIREMENTS

- C. The exclusion of roadways and roadway easements from the acreage that can be applied in a liquid waste permit is proposed to be deleted from the definition of a “lot” and from Section 301.C. This historical provision of the regulations creates hardships for some homeowners, and provides little if any additional protection of groundwater quality in terms of regional nitrogen loading rates.
- F. (old language) The existing language of Section 301.F is obsolete since the sunset dates for previous lot size requirements have all passed. This language should be deleted.
- F. (proposed new language) There are areas in New Mexico where groundwater either does not exist, contains excessive salinity, or has little vulnerability to contamination (NMED Exhibit 20). In these areas, nitrogen loading from onsite liquid waste systems is not a factor in the protection of water quality and public health, and the lot size requirements of regulation 20.7.3.301 should not be administered. A new provision is proposed as 301.F that would allow NMED to begin moving away from a one-size-fits-all lot-size regulation. NMED would map areas of the state where groundwater is not at risk from nitrogen loading from onsite wastewater systems, and where the lot size regulation would not be administered. While the statewide map in NMED Exhibit 20 is not of sufficient detail to be used for regional and local mapping purposes, hydrogeologic conditions that may be considered in mapping risk to groundwater are proposed in the rule.

#### 20.7.3.302 STANDARDS; SETBACK REQUIREMENTS

- A. (4) The proposed language in the petition for this footnote to Table 302.1 should be further amended to read, “\*\*\*\* Plus 2 feet for each additional foot of depth below point of discharge.” The reason for this change is that the provision of existing regulation 20.7.3.703.J, that excludes the six inches of trench sidewall below the pipe invert from absorption area credit, is proposed to be deleted.
- B. The term “seasonal high water flow” is proposed to be replaced with “defined bank” for the purposes of field identification. There may not be visible site evidence of seasonal high water flow, while a defined bank should be readily apparent in the field.
- C. A new Section 302.C is proposed to eliminate the single lot policy which has had burdensome consequences on some property owners.

In 2002, appeal hearings were held before the NMED Secretary (NMED 21) and WQCC (NMED Exhibit 22) regarding sites where the combined total wastewater discharge flow on a single lot exceeded 2,000 gpd, even though each individual wastewater system had a design flow less than 2,000 gpd. The essence of these disputes was whether these facilities could be permitted under liquid waste program authority, or should be required to obtain a groundwater discharge permit. A concern in both cases was that groundwater contamination might occur if multiple systems discharging slightly less than 2,000 gpd were installed in relatively close proximity to each other on an otherwise large lot. The ruling in both cases was that the facility was required to obtain a groundwater discharge permit.

The single lot policy (NMED Exhibit 23) was established in 2004 to codify the rulings in these appeal hearings. While the single lot policy eliminated the option to avoid a groundwater discharge permit by splitting up flow into several smaller flows no greater than 2,000 gpd on the same lot, the policy did allow lots to be split so that no more than 2,000 gpd would be on any single lot. Some land owners did undergo the expense of subdividing lots so that the total combined flow on any single lot did not exceed 2,000 gpd. Subdividing lots is a paper exercise that provides no additional groundwater protection whatsoever. Additionally, there are some very large lots with a number of widely dispersed small flow systems, and the groundwater discharge permit process is inappropriate for these facilities.

The proposed new Section 302.C would establish setback distances between multiple liquid waste systems totaling greater than 2,000 gpd on a single lot such that the overall wastewater loading rate would not exceed 500 gpd/acre, the loading rate for 3 bedroom homes developed on  $\frac{3}{4}$  acre lots. The proposed regulation contains a table listing number of bedrooms, design flow gpd, minimum lot size and radius to determine minimum separation distance for that system. A more detailed description of how this proposed regulation would work, along with an illustrated example, is contained in NMED Exhibit 24. If proposed

Section 302.C is adopted, NMED could rescind the single lot policy without reopening the regulatory loophole that led to the single lot policy in the first place.

D. A new Section 302.D is proposed to prohibit disposal systems in areas subject to flood irrigation, and to establish a 15 foot setback to flood irrigation areas. The purpose of a drainfield is to provide an area for effluent to percolate. If the drainfield is installed in a flood irrigation area, percolating irrigation water could reduce the capacity of the soil to percolate effluent and could lead to drainfield failure. Comments received by NMED from industry suggest that installing disposal systems in flood irrigation areas, while not a desirable practice, sometimes cannot be avoided due to severe site limitations. NMED agrees with the industry, but believes that permits for drainfields in flood irrigation areas should be granted by variance only. This is an issue where consensus among the parties was not attained.

#### 20.7.3.304 STANDARDS; PROHIBITIONS

- A. Section A is proposed to be amended to prohibit the introduction of vehicle and equipment wash water into a liquid waste system. These wash waters can have high concentrations of sediment as well as oil and grease, which can be harmful to the liquid waste system.
- C. Language is proposed to prohibit mixing and storage of effluent with any other source of water. The purpose of this proposed rule is to prevent some of the problems that have occurred when homeowners have stored effluent with rooftop rainwater, for example, and the entire water tank has become septic and noxious.

#### 20.7.3.305 STANDARDS; WASTE INTERCEPTORS

- B. The requirement that waste interceptors be installed in compliance with local code authority is proposed to be clarified.
- C. The reference to interceptor requirements is proposed to be deleted because this is an area of CID/plumbing code jurisdiction.

#### 20.7.3.306 SEPTAGE

New language is proposed to require that septage be disposed of only at permitted facilities, and that septage pumps retain customer invoices and disposal records for three years.

#### 20.7.3.307 STANDARDS; ABANDONED SEWERS AND ON-SITE LIQUID WASTE SYSTEMS

- A. The reference to uniform plumbing code should be replaced with reference to New Mexico plumbing code.

### 20.7.3.401 PERMITTING; GENERAL REQUIREMENTS

- A. Language is proposed to require that permit fees be paid before construction under an approved permit can proceed.
- C. The reference to Section 904 is unnecessary and should be deleted.
- E. The term “applicant” is proposed to replace the term “any person” to be consistent with the proposed new definition of “applicant” in Section 20.7.3.7.A(7).
- J. Language is proposed to allow unpermitted systems installed or modified prior to February 1, 2002 (the date when Liquid Waste Fee regulations became effective) to be issued a certificate of registration for continued operation, even if the system does not fully comply with whatever prescriptive regulations existed at the time of installation, provided that certain critical requirements are met. These requirements include a watertight tank with liquid capacity within one tank size of what was required, compliance with setback, clearance and lot size requirements at the time of installation, that the system appears to be functioning properly, and that the system does not constitute a public health or safety hazard.

A good example of why this rule is needed would be a single-chamber septic tank, that was installed shortly after the requirement for two chambers became effective, but is still holding water and delivering effluent to the drain field. Requiring homeowners, who are often not the original homeowner and who are in the process of selling the home, to spend money to upgrade properly functioning systems that are not creating a threat to public health and safety or to water quality is an unreasonable burden.

It is important to note that this proposed rule would only apply to unpermitted system installed prior to February 1, 2002, so there would be no incentive for anyone to install an unpermitted or otherwise non-compliant system today.

- K. Language is proposed so that Section 401.K also would apply to liquid waste systems that were illegally modified without a permit on or after February 1, 2002, the effective date of the Liquid Waste Fee regulations.
- M. The term “contractor” is proposed to be replaced with the term “installer” to be consistent with the proposed new definition of “installer”.
- P. A new Section 401.P is proposed to allow that only a permittee may request a permit cancellation, and that the request must be made in writing.
- Q. A proposed new Section 401.Q would allow an installer, upon written notice to both the permittee and to NMED, to withdraw from an approved permit.

#### 20.7.3.402 PERMITTING; CONVENTIONAL TREATMENT AND DISPOSAL SYSTEMS

Changes are proposed in this section to differentiate, for purposes of consistency among the 22 NMED Field Offices and the staff who review liquid waste permits in those offices, what information shall be required in a liquid waste permit application, versus what information may be required.

#### 20.7.3.403 PERMITTING; ADVANCED TREATMENT OR ALTERNATIVE DISPOSAL

- B. (c), (d) and (e) Language is proposed to clarify that both maintenance and sampling contracts are required in a permit application, and that the effective dates of these contracts shall be the day of final permit approval.
- C. Language is proposed to create a process and deadline for determination of administrative completeness of a permit application. This process already exists for conventional systems in Section 402.B, and needs to be added to Section 403 for advanced treatment or alternative disposal systems.

#### 20.7.3.404 PERMITTING; EXPERIMENTAL AND CONDITIONAL APPROVED SYSTEMS

References to “conditional approved” systems are proposed in multiple locations in Section 404 to reflect this approval status used by the WTAC.

- C. (1) A proposed new provision that experimental systems may only be installed on lots where a conventional system would be allowed would allow experimental technology to be installed and tested in the field without putting groundwater quality at risk.
- (2) The term “specified” should be replaced with “recommended” because the WTAC is an advisory committee that only makes recommendations to the NMED Secretary.
- (4) Consistent with the amendments proposed for Section 403.B, the requirement for a sampling contract should be added to Section 404.C(4).

#### 20.7.3.405 PERMITTING; VARIANCES

- B. Language is proposed to require that notification of a proposed variance also be provided to parties who share a public water supply source. The existing language requires notification only to parties who share a private domestic well.

#### 20.7.3.501 DESIGN; LIQUID WASTE TREATMENT UNITS; GENERAL

- A. Language is proposed to include all treatment units, not just septic tanks. The Liquid Waste Disposal Regulations, 20.7.3 NMAC, issued in 1997 by the EIB, were the first such regulations that contained specific design criteria for septic

- tanks. Those regulations included a requirement for certification by IAPMO or testing and certification by a licensed PE demonstrating that the design met IAPMO standards. The requirement for certification by a licensed PE was dropped from the 2005 Liquid Waste Disposal and Treatment Regulations for unknown reasons. The Engineering and Surveying Practices Act, 61-23 NMSA, includes design requiring special knowledge of engineering practices in the definition of engineering. The practice of engineering appears to encompass the structural and environmental characteristics of septic tank design and so a licensed engineer must certify this work. Therefore, the requirement that plans and structural calculations be stamped by a professional engineer is proposed.
- (1) Language is proposed to reflect the annual recertification process required by 20.7.11.9 NMAC, and to provide that tank approval may be suspended for failure to recertify.
  - (2) Language is proposed to authorize suspension of approval of advanced treatment units if the manufacturer fails to comply with their approval conditions.
- B. (2) Current Section 501.B(2) includes a requirement for a 300 pound per square foot live load-bearing capacity of septic tanks with 12 inches of soil. Section 501.H includes a requirement for a 300 pound per square foot earth load-bearing capacity of septic tanks with three feet of soil. Tanks are often buried up to three feet below the surface. For realistic live load-bearing capacity combined with current earth load-bearing capacity, it is proposed to combine these requirements into Section 501.B(2).
- (9) Language is proposed to require that a professional engineer certify that all requirements are met.
  - (10) Language is proposed to require that access risers be attached to the treatment unit and be water tight.
- H. Current Section 501.H includes a requirement for septic tank top load-bearing capacity, but no requirement for the load-bearing capacity of riser lids, which are required to be installed up to the earth surface. The proposed language includes that the live load-bearing capacity of riser lids be equal to the live load-bearing capacity of septic tanks.
- J. Current concrete strength for septic tank construction is 3500 psi at 28 days. An industry representative recommended increasing the strength to 4500 psi at 28 days in order to make tanks stronger and more resistant to corrosion from hydrogen sulfide gas (NMED Exhibit 25). NMED felt that increasing the strength to 4000 psi was less burdensome on concrete tank manufacturers, but would increase the quality of the concrete used in septic tank construction.

#### 20.7.3.502 DESIGN; CONVENTIONAL TREATMENT UNITS; CONSTRUCTION STANDARDS

- D. Language is proposed to substitute the term “extensions” with the term “risers” to reflect industry terminology. The proposed language to increase riser diameter from 30 inches to 36 inches for depths greater than 3 feet appears to have resulted from a miscommunication and is withdrawn from Petition EIB 12-01(R).

- Language is proposed to prohibit risers from being made with inappropriate material.
- F. The sentence requiring that pipe be SDR 35 or better is proposed to be deleted. The reason for this change is because SDR 35 pipe is of lesser quality than 40 PVC, and the previous sentence requires a minimum pipe quality of schedule 40 PCV.
  - H. Language is proposed to require a handle on effluent filters extending to within six inches of the top of the riser to allow for easy removal and cleaning.
  - J. Language is proposed to require certification to “current” IAPMO standards.

#### 20.7.3.503 DESIGN; PUMP STATIONS AND EQUIPMENT

This section is being relocated from the existing location in Section 812 because it belongs in the design sections, and amended. Current regulations contain very general information on how pump stations and equipment are to be used in onsite wastewater systems. Various additional requirements and clarification of requirements are included in the proposed changes to the regulations, such as tank structural requirements, access port size similar to septic tanks, secure access lids to prevent unauthorized entry, proper pump types, proper pump sizing, minimum tank volume, pump clearance from the tank floor, a requirement for a separate chamber for septic tank effluent pumping, pump control parameters, freeze protection requirement, anti-siphoning requirement, and inclusion of flow equalization tanks in the requirements of this section. These changes will result in better functioning systems to protect property from sewage backups and standards for construction that will level the playing field for contractors that install pump systems.

#### 20.7.3.504 DESIGN; BUILDING SEWER

This section is being cut and pasted from the existing location in Section 813 because it belongs in the design sections.

#### 20.7.3.601 DESIGN; ADVANCED TREATMENT SYSTEMS; GENERAL

- B. Language is proposed to assure consistency with the statutory and regulatory requirements for WTAC review and NMED approval.

#### 20.7.3.602 DESIGN; SECONDARY TREATMENT STANDARDS

- A. The reference to a 6 month rolling average (of effluent test data) is proposed to be deleted because the 6 month rolling average is proposed to be deleted from the monitoring requirements of Section 901.
- B. Language is proposed to clarify the site conditions that secondary treatment may be used to overcome.
- C. Language is proposed to require that the treatment unit be operated in accordance with the manufacturer’s specifications and NMED approval conditions.

### 20.7.3.603 DESIGN; TERTIARY TREATMENT STANDARDS

After further consideration and discussion, Section 20.7.3.603 is proposed to be revised from the amended petition to read as follows:

A. Tertiary treatment systems shall provide ~~[nutrient]~~total nitrogen (TN) removal in addition to secondary treatment.

B. For lots that exceed the allowable hydraulic loading pursuant to Subsection C of 20.7.3.301 NMAC, a department approved tertiary treatment unit may be installed. The treatment unit must be capable of removing TN to a concentration equal to or less than the concentration limit calculated pursuant to 20.7.3.603.C NMAC.

C. Utilizing the standard loading equation, (flow (gpd) X conc. (mg/l) X 8.34 lbs./gal. X 365 days/yr)/ 1,000,000 = lbs./yr/ac., and assuming an average of 60 mg/l of TN in the septic tank effluent and a maximum flow of 500 gpd/ac, the following simplified equation shall be used for determining the required TN concentration limit allowed for a specific lot size: total nitrogen concentration (in mg/l) = [lot size (in acres) / design flow (in gpd)] x 30,000. ~~The concentration limit shall be based on a 6-sample rolling average with no single sample exceeding twice the concentration limit.~~

D. ~~[Tertiary treatment systems and the disposal from tertiary treatment systems shall meet the specific site conditions set forth in 20.7.3.605 NMAC.]~~

The treatment unit shall be operated in accordance with manufacturer's specifications and department approval conditions.

E. TN Effluent testing, when required pursuant to 20.7.3.901.C NMAC, shall meet the concentration limit calculated pursuant to 20.7.3.603.C NMAC as approved by the department. The concentration limit shall be based on a 6-sample rolling average with no single sample exceeding twice the concentration limit.

Language is proposed in Subsection A to replace the term “nutrients” with the term “total nitrogen” because nitrogen is the only nutrient addressed by the regulations.

A new Subsection B is proposed to clarify that a department-approved tertiary treatment system may be installed to overcome the limitation of a small lot, and that the system must be capable of removing total nitrogen to the concentration limit calculated by Subsection C.

Subsection C contains the existing equation for calculating a total nitrogen concentration limit based on design flow and lot size. The proposal to delete the equation that calculates an effluent limit based on design flow and lot size is retracted. The existing language requiring a 6-sample rolling average is proposed to be cut and pasted into a new Subsection E.

The existing language of Subsection D is no longer necessary with the proposed amendment to Subsection B, discussed above. The proposed new Subsection D would require that the treatment unit be operated in accordance with the manufacturer's specifications and with NMED approval conditions.

The proposed new Subsection E addresses situations when effluent monitoring is required, and incorporates existing language regarding compliance with a 6-sample rolling average.

#### 20.7.3.604 DESIGN; DISINFECTION TREATMENT STANDARDS

- A. The standard laboratory practice is now to test for E. Coli rather than for fecal coliform bacteria. Language is proposed to make the bacteriological test parameter, and allowable concentration, consistent with modern laboratory practices.

#### 20.7.3.605 DESIGN; MINIMUM REQUIRED TREATMENT LEVELS FOR SITE CONDITIONS

- B. Language is proposed to be consistent with the proposed removal of gravel from Section 703.F.
- D. (3) The term “naturally occurring” is proposed to be deleted as it applies to anoxic groundwater conditions because such a determination is difficult, if not impossible, to make, and because the existing groundwater redox conditions are the most important variable in how wastewater effluent will impact groundwater quality.
- E. The proposed amendment needs to be clarified that this section refers to the setback between the drainfield and water well. Approval of permits where the setback to the water well is less than the required 100 feet is a very serious matter, and the existing regulations are silent on what technology is appropriate to overcome this inadequacy. A proposed new Section 605.E sets out specific treatment requirements for greater than and less than 50 feet and requires a variance for all applications where the setback is less than 50 feet.
- G. Language is proposed to add elevated systems, sand-lined trenches and bottomless sand filters to the options that may be used to overcome insufficient clearance.
- H. Language is proposed to provide more flexibility in situations where the existing groundwater nitrate-N level exceeds 5 mg/L. The existing regulation needs to be clarified that the 5 mg/L applies to nitrate measured as nitrogen (nitrate-N) rather than to nitrate measured as nitrate, and this proposed amendment was not in petition EIB 12-01(R).

#### 20.7.3.701 DESIGN; CONVENTIONAL DISPOSAL FIELD; DESIGN AND CONSTRUCTION

A and B. These two new Sections are proposed to summarize design standards for disposal trenches and disposal beds in one location. Some of these standards have been cut and pasted from other Sections.

- C. The term “systems” is proposed to be replaced with the term “disposal trenches and absorption beds” to be more specific about the technology subject to this rule.

- H. Language requiring access to the distribution box at the ground surface is proposed to make it easier for homeowners and contractors to locate the box.  
(3) Cleanup language is proposed to provide for direct connections between a septic tank and drainfield, without a distribution box, and to allow appropriate bedding material instead of just compacted fill.
- J. The maximum length of a disposal field is proposed to be increased from 155 feet to 160 feet because many of the proprietary drainfield products are manufactured in 10-foot lengths. The maximum trench depth of 6 feet is proposed to be deleted because, while this maximum depth is a desirable target to enhance natural attenuation and the evapotranspiration of effluent, it is not critical to protecting groundwater quality. If conditions at any site are such were a maximum trench depth must be prescribed, NMED can do so by imposing more stringent requirements pursuant to Section 201.L. The provision allowing up to 3 feet of aggregate under the drain line is being relocated from Section 703.J.3 to Table 701.J where other such drainfield standards are located.
- K. The term “leaching” is proposed to be replaced with the term “absorption” to reflect standard industry terminology.
- M. A new Section M is proposed to set standards for soil replacement situations.
- N. A new Section N is proposed to protect drainfields from being covered with material that may inhibit evaporation of effluent, and from being subject to compaction from being driven over. Driving over a drainfield can compact the soil and reduce percolation and oxygen transfer.

The 701 footnote is being amended to update the citations to ASTM standards.

#### 20.7.3.702 DESIGN; SEEPAGE PIT; DESIGN AND CONSTRUCTION

- C. Language is proposed to clarify that seepage pits are deeper than they are wide, so as not to be confused with trenches and beds.
- G. (3) Seepage pits, by nature of being deep, narrow underground structures, can pose serious public safety hazards if the arch, dome or cover is compromised. Therefore, language is proposed to require that the arch, dome or cover of any seepage pit shall have a minimum compressive strength of 3500 pounds per square inch, and be certified by a professional engineer.
- K. Language is proposed to require a 6 inch layer of bentonite clay, or alternative material approved by NMED, at the bottom of the seepage pit to restrict vertical flow through the bottom area. Forcing the effluent to percolate through the sidewall and then downward into the soil will enhance the potential for natural attenuation. Seepage pits are sized on 100% of the sidewall area, with the bottom area excluded.

### 20.7.3.703 DESIGN; AREA OF DISPOSAL FIELD AND SEEPAGE PITS

- F. As explained in detail in NMED Exhibit 26, constructing a drainfield in gravel soil does not necessarily pose a threat of groundwater contamination. Section 302 requires a minimum clearance of 4 feet of suitable soil from the bottom of the disposal system to seasonal high water table, in order for natural attenuation to treat the effluent. Many gravels in the state are underlain by suitable soils far in excess of 4 feet in thickness, and most gravels contain finer grained material in the interstices between the gravel that will provide some treatment of percolating effluent. Therefore, the prohibition against constructing drainfields in gravel is proposed to be deleted in Section 703.F and soil with up to 30% gravel is proposed to be added to Table 703.1.
- I. Section 703.I now prohibits installation of drainfields in soil with more than 30% gravel. Language is proposed for inclusion in Section 703.I that would allow NMED to map areas where soils that contain more than 30% gravel do not pose a threat of groundwater contamination and to allow drainfields in those areas. Hydrogeologic conditions that may be considered in determining risk to groundwater are proposed in the rule.
- J. Some of the material in this existing Section is proposed to be cut and pasted into the new Section 701.A.

Additionally, the requirement that 6 inches of aggregate be placed below the invert of the distribution pipe, and the exclusion of this 6 inches from calculated absorption area are proposed to be deleted, and this is an issue of unresolved dispute. The issue of how much of the lower trench sidewall, if any, should be excluded from the calculation of absorption area has been a disputed issue for many years. The rationale for such exclusion is that this reserve area provides a safety factor so the drainfield will be able to infiltrate peak flows without having sewage back up into the building. Seven EIB rule making petitions filed by the industry in New Mexico from 2004 to 2011 have proposed to repeal the requirement that any of the lower trench sidewall be excluded from calculated absorption area. The EIB hearings in December 2004 and in April 2005 resulted in the reduction of the excluded area from 12 inches to 6 inches of sidewall below the invert of the distribution pipe. This amendment was made after national experts were brought to New Mexico for a special WTAC meeting to advise industry and regulators in the State. It should be noted, however, that other regulation amendments in 2005 resulted in an overall increase in drainfield sizing, despite the reduction of reserve area from 12 inches to 6 inches of sidewall below the distribution pipe invert. Subsequent industry petitions in 2006, 2009, 2010 and, most recently, EIB 11-09(R) and EIB 2011-12(R), have proposed to repeal the exclusion of the 6 inches of sidewall below the distribution pipe invert. Repeal of the 6 inches of sidewall exclusion was recommended by the Small-Business Friendly Task Force (see NMED Exhibit 9, page 10, recommended

repeal of 20.7.3.703.J.2), and this recommendation is hereby proposed as a rule amendment by NMED. NMED believes that eliminating this 6 inches of reserve will make drainfields slightly less expensive, for those homeowners who wish to install the minimum size of drainfield, and it also may slightly shorten the life of the drainfield and slightly increase the risk of drainfield failure during peak flows. This proposed amendment, however, will not prevent any homeowner from oversizing the drainfield as many installers will recommend.

While some members of industry support the repeal of sidewall exclusion, namely, those who have been advocating for such repeal for the last 8 years, at least one other industry member is expected to oppose it. We understand that the opponent has taken the position that eliminating the 6 inch exclusion may result in premature drainfield failure in some cases.

- K. For the same reasons as explained in Section 701.J above, the requirement that drainfields for secondary and tertiary treated effluent be no deeper than 10 feet is proposed to be removed.

#### ~~20.7.3.801—DESIGN; ALTERNATIVE DISPOSAL~~

This existing section is proposed to be deleted because alternative disposal methods are recognized in individual sections of the regulations.

#### 20.7.3.801 PRIVIES AND VAULTS

The primary purpose of the proposed amendments to this section is to add reference to vaults, which are defined in Section 20.7.3.7.V(1). Additionally, the prohibition against installing privies on lots less than 0.75 acre is proposed to be deleted. Privies do not receive water-carried waste and therefore pose far less of a hazard to groundwater quality than do septic systems. NMED is unaware of any documented cases of groundwater contamination from privies in the State of New Mexico. Privies would still have to meet setback and clearance standards, but there is no scientific basis for imposing a lot size requirement for privies and Section 801.A(5) should be deleted.

#### 20.7.3.803 COMPOSTING AND INCINERATING TOILETS

- A. The reference to ANSI and NSF Standards is proposed to be deleted since the New Mexico plumbing code is what contractors must comply with.
- C. The prohibition against installing composting/incinerating toilets on lots less than 0.75 acre is proposed to be deleted for the same reasons as with privies discussed above in Section 801.

#### 20.7.3.804 IRRIGATION/REUSE SYSTEMS

- K. A new section is proposed to require that proprietary drip systems be designed and installed according to manufacturers' specifications.

- L. A new section is proposed to require that a permitted and approved disposal system be in place for times (such as winter) when irrigation is not performed.

#### 20.7.3.805 EVAPOTRANSPIRATION SYSTEMS

- A. The requirement that effluent discharged to an ET bed shall not exceed 200 mg/L BOD is proposed to be deleted, because field experience demonstrates that ET beds can function properly when receiving higher strength waste. Additionally, the requirement for a leak detection method is proposed to be deleted because engineered leak detection systems are cost prohibitive and have never been installed on ET systems permitted under the authority of the Liquid Waste Regulations.
- G. A requirement for a grain size analysis is proposed to ensure that the soil used is properly sized. A number of systems did not work, and had to be replaced, because the clay content was too high.

#### 20.7.3.806 MOUND AND ELEVATED SYSTEMS

- H. A requirement for a grain size analysis is proposed to ensure that the soil used is properly sized. A number did not work, and had to be replaced, because the clay content was too high.

#### 20.7.3.807 LOW PRESSURE DISPOSAL SYSTEMS

Amendments to this section are proposed to reflect the guidelines that were established by the Wastewater Technical Advisory Committee. Section 807.A sets out general requirements for all systems including what design parameters must be considered. Section 807.B provides very specific design requirements for low pressure pipe, a subset of low pressure disposal systems. Section 807.C would allow installers to design their own system not conforming to the specifications of Section 807.B on a case-by-case basis. As far as we know, all the potential disagreements with the language proposed for Section 807 have been worked out.

#### 20.7.3.808 HOLDING TANK REQUIREMENTS

Language is proposed in Sections 808.B, C and E(4) to remove permitting of holding tanks receiving RV waste from the variance process. Clarifying language, that does not affect the substance of the regulation is proposed for Sections 808.I and O.

#### 20.7.3.810 GRAYWATER SYSTEMS

For clarification, the term “liquid waste” is proposed to be added to Sections 810.C(1) and C(2).

#### ~~20.7.3.812 PUMP STATIONS AND EQUIPMENT~~

This section is being cut and pasted into a new Section 503.

#### ~~20.7.3.811 BUILDING SEWER~~

This section is being cut and pasted into a new Section 504.

#### 20.7.3.811 SPLIT FLOW SYSTEMS (Need to correct typo on FLOW)

“Split flow” is one of the new definitions proposed as Section 20.7.3.7.S(15).

The former Environmental Improvement Division of the former N.M. Health and Environment Department, the predecessor agency of NMED, published a manual on how to design and construct split flow systems in February 1981. This manual described split flow systems as a means of decreasing wastewater flow to a septic tank and drainfield system, and of reducing nitrogen loading to groundwater (NMED Exhibit 27). The existing regulations contain only one sentence about using non-discharging systems in lieu of advanced treatment (existing Section 605.E). The proposed new Section 811 would codify long-standing NMED practices on how split flow systems are designed.

#### 20.7.3.812 SAND-LINED TRENCHES AND BOTTOMLESS SAND FILTERS

“Sand-lined trench” is one of the new definitions proposed as Section 20.7.3.7.S(2). The proposed new Section 812 would establish design criteria for these systems.

#### 20.7.3.901 MONITORING

- A. Amendments are proposed to require owners to allow maintenance personnel right of entry to allow for maintenance, system monitoring, effluent sampling or system evaluation.
- B-I. Amendments are proposed to make the effluent monitoring requirements less burdensome by allowing greater use of field instruments.
- B. Subsection 901.B(2) is proposed to be modified from the amended petition to read as follows:  
“Parameters should be measured at locations within the treatment unit that will demonstrate the effectiveness of treatment.”
- C. Subsection 901.C is proposed to be modified from the amended petition to read as follows, while keeping subsections 1-4 the same as proposed:  
“Effluent sampling shall be required for on-site liquid waste systems that do not conform to manufacturer guidelines for field parameters pursuant to 20.7.3.901.B NMAC, for systems where the manufacturer has not established guidelines for field parameters, or for systems that the department has determined are not operating properly. Sampling shall be conducted annually, or as otherwise required by the department.”

### 20.7.3.902 OPERATION AND MAINTENANCE REQUIREMENTS AND EVALUATION AND INSPECTION REQUIREMENTS AT TIME OF TRANSFER

The terms “inspection” and “inspected” are proposed to be replaced with “evaluation” and “evaluated” in the context of property transfers throughout Section 902. The reason for this change is that the term evaluation more accurately describes the set of non-invasive procedures, as opposed to an inspection of the entire system, designed to determine if a liquid waste system is properly functioning. Additionally, more specific criteria are proposed for what would pass an evaluation (Section 902.F). These same criteria are proposed in Section 401.J where unpermitted systems could be registered for continued operation, even if the system does not fully comply with whatever prescriptive regulations existed at the time of installation, provided that these criteria are met.

- C. The existing language of this section prohibits the introduction of high strength waste into a system. Language is proposed to provide for advanced treatment of high strength waste.
- E. Language is proposed so that all established liquid waste systems would be subject to property transfer evaluations, not just permitted systems.
- F. This proposed new section lists the criteria, identical to the criteria in Section 401.J for registering unpermitted systems, whereby established liquid waste systems would pass a property transfer evaluation.
- G. (3) Language is proposed to require that property transfer evaluators provide prior notice to maintenance service providers of advanced treatments systems in order to prevent disruption or damage to the system during the evaluation.
- H. Language is proposed to clarify who is required to submit an application, if necessary, after an evaluation identifies the need for a permit or variance. Additionally, the term “tank” is proposed to be replaced with the broader and more appropriate term “treatment unit”.
- I. This new section proposes to codify existing NMED policy that a property transfer evaluation is not required if a final permit inspection of new or modified system has been conducted within 180 days.
- J. Language is proposed to clarify that, if transfer of property with an existing permitted failed system takes place without remediation, the transferee becomes responsible for remedying the system.

### 20.7.3.903 MAINTENANCE SERVICE PROVIDERS (MSP) FOR CONVENTIONAL AND ADVANCED ON-SITE LIQUID WASTE SYSTEMS

- A. The requirement for NAWT certification is proposed to be deleted because this training and certification is not very relevant to maintenance of advanced treatment systems.
  - (1) Language is proposed that would require that the system be inspected, operated and maintained in accordance with the liquid waste permit.
- B. Language is proposed to codify the existing requirement that MSP personnel have a valid and appropriate CID license when required for specific activities, such as installing hard-wired electrical components. In addition to the CID license, MSP

personnel must have one of four additional qualifications including manufacturer certification, N.M. small wastewater advance operator (or higher) certification, wastewater operator certification at an acceptable level from another state, or other credentials approved by NMED. The latter three of these four qualifications were cut, pasted and edited from Section 904.C.3. These changes are necessary to provide owners of advanced treatment systems with more options for selecting a MSP contractor.

- H. The existing MSP requirements for reasonable response time, appropriate equipment, and parts inventory have proven difficult if not impossible for NMED to measure and enforce, and are proposed to be deleted. The requirement for a quality assurance/quality control plan is not proposed for deletion.

#### 20.7.3.904 REQUIREMENTS FOR QUALIFICATION

- B. (1) Language is proposed to allow third parties to evaluate unpermitted systems installed prior to February 1, 2002, the effective date of the Liquid Waste Fee Regulations. Inspections of systems installed after February 1, 2002 would be conducted only by NMED.
  - (2) (b) Language is proposed to eliminate the reference to the professional engineer specialty sub discipline of on-site wastewater engineering since no PE's have been certified as such. The language is proposed to be replaced with PE disciplines of civil or environmental engineering.
    - (e) Certification as a registered environmental health specialist is proposed to be added to the list of qualifying options for third party inspectors.
- C. (3) This section dealing with MSP's is proposed to be cut, pasted and edited into the specific MSP regulation, Section 903, as discussed above.
- D. Two additional requirements for septage pumpers are proposed: spill contingency plan, equipment and supplies; and notification to NMED of disposal facilities used along with copies of permits or licenses issued by the disposal facility.
- E. A new classification of "Installer Specialist" is proposed with the goal of raising the quality of the industry workforce by creating an elite, but voluntary, certification for installers who have significant experience, an excellent compliance history, and who complete approved training. NMED believes that the eight qualification requirements proposed in Section 904.E(1) are meaningful, but not too difficult to attain.

Since this qualification is voluntary, it would not conflict with the dual licensing prohibition in the Construction Industries Licensing Act. Any installer who did not qualify for this classification, or who chose not to pursue it, would still be able to install, repair and modify liquid waste systems under a valid and appropriate contractor's license issued by CID.

The primary incentive for attaining qualification as an Installer Specialist would be authorization to simply notify NMED of the day and time of construction completion, rather than having to schedule an inspection to be performed by NMED on NMED's schedule. Installer Specialists, however, would have to provide NMED with 2 working days advance notice of the time of completion, and NMED would still have the option to inspect the work completed

under the Liquid Waste Permit. Installer Specialists also would be listed on the NMED internet website, and could advertise that they have attained such qualification.

In the event that abuses of the self-inspection privilege occur, or if the Installer Specialist classification does not otherwise prove to be beneficial to the citizens of New Mexico, the Installer Specialist regulation shall cease to be effective 3 years after the effective date, unless NMED provides a report to the EIB documenting successful implementation.

### **Conclusions**

The proposed amendments to the Liquid Waste Regulations are the product of an extensive public outreach and involvement process that identified solutions to a number of problems within the existing rules, and that generated ideas for how to improve the program. The proposed amendments, if adopted by the EIB, would:

- Eliminate the requirement to install expensive technology in areas where such technology would not improve protection of public health and environment;
- Reduce costs to homeowners and small businesses;
- Improve the quality of the industry workforce;
- Improve the quality of onsite wastewater systems being installed or modified; and
- Provide greater protection of public health and the environment.

For these reasons, NMED respectfully asks the EIB to adopt the regulation amendments proposed in petition EIB 2012-01(R).