



Shawnee County
Health Agency

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Anne G. Freeze, Director

D3

December 14, 2004

To: Board of Commissioners
Shawnee County

From: Anne G. Freeze
Director *[Signature]*

Re: Shawnee County Environmental Code

BOARD OF CO. COMMISSIONERS
APPROVED AND PLD ACK
DATE 12-23-04
[Signature]
COUNTY CLERK

Action Requested: Board of Commissioners approval is requested by the Shawnee County Health Agency to approve the revised Shawnee County Environmental Code.

Through a series of meetings with the LEPP committee, the recommended changes were approved and were incorporated in the Shawnee County Environmental Code. The revised code has been reviewed and approved by the Kansas Department of Health and Environment in accordance with Kansas Statutes Annotated 19-3704.

The three major changes include:

Section 2-4.4.6 Instead of requiring a (1000) gallon tank for all three and four bedroom homes, a (1250) gallon tank will now be required for all three and four bedrooms homes.

Section 2-4.6.1(I) Expanded Polystyrene Systems (EPS) may be used in place of lateral rock & perforated pipe. Construction shall comply with section 2-4.6.1 (A), (B), (E), (F) and (G). This is a new type of system that could be used instead of a lateral field.

Section 2-4.6.4 B (1) If a lagoon is to be considered, a subsurface examination shall be completed at the location that the lagoon is to be installed in addition to the percolation test. Previously it read that a subsurface exam was to be used instead of a percolation test. Now both tests will be required.

Andy Graham and/or Gary Larson, Environmental Health, will be present at the meeting to answer any questions you may have. Prior to the meeting, Andy can be reached at 291-2450 and Gary at 291-2451. Upon approval, SCHA will notify the Conservation District, KSU Extension Office, contractors, and lending institutions informing them of the revisions to the code.

CC: Andy Graham, SCHA Environmental Health
Gary Larson, SCHA Environmental Health

ENVIRONMENTAL CODE
SHAWNEE COUNTY, KANSAS

Kansas Department of
Health and Environment

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**Kansas Department of
Health and Environment**

ENVIRONMENTAL CODE
SHAWNEE COUNTY, KANSAS
CHAPTER 1

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ADMINISTRATIVE PROCEDURES

Kansas Department of
Health and Environment

1-1.0 **AUTHORITY AND POLICY**

1-1.1 **Legal Authority.** This code is adopted under the authority granted to the Board of County Commissioners by K.S.A. 19-3701, et seq.; 12-3301, et seq.; and 19-101 a.

1-1.2 **Declaration of Finding and Policy.** An environmental code establishes a uniform system of rules, regulations, and standards to eliminate and/or prevent the development of environmental conditions that are hazardous to health and safety and promotes the economical and planned development of the land and water resources of the county. For these reasons and objectives, it will be the policy of the Board of County Commissioners to adopt, and amend when necessary, an environmental code for the regulation of practices that affect the environment and public health and safety. The provisions of the Shawnee County Wastewater Management Plan and Section 146-236 of the Code of The City of Topeka, Kansas, and all subsequent amendments shall apply.

1-1.3 **Purpose.** The purpose and intent of this chapter is to prescribe the procedures to be followed in administering this environmental code or any amendments thereto.

1-1.4 **Title.** This code shall be known and referred to as the Shawnee County Environmental Code.

1-1.5 **Applicability.** The procedures prescribed in this chapter shall be followed in administering this code and any amendments thereto.

1-1.6 **Effective Date.** This code shall become effective from and after the date of adoption by the Board of County Commissioners, or other appropriate jurisdiction, and publication of notice as required by law.

1-2.0 **DEFINITIONS**

The following words, terms, and phrases appear in more than one chapter of this code and thus have general application and usage. Words, terms, and phrases appropriate or applicable to specific chapters within this code may be found in that particular chapter.

1-2.1 **Administrative Agency.** Means the entity authorized to implement and enforce the provisions of this code. The Administrative Agency for Shawnee County is designated as Shawnee County Health Agency.

1-2.2 **Administrative Rules.** Means those rules contained in Chapter 1 of this environmental code, which prescribe general procedures to be followed in the administration of the environmental code adopted by the county.

- 1-2.3 Agricultural Purposes. Means a purpose related to the production of livestock or crops [K.S.A. 19-3706].
- 1-2.4 Approved Means acceptable to the Administrative Agency based on its review of information submitted and determination that minimum state and local environmental code standards have been met. [Cf. City Code 78-106 (food service)].
- 1-2.5 Authorized Representative. Means any person who is designated by the Administrative Agency to administer this code.
- 1-2.6 Board of County Commissioners. Means the Board of County Commissioners of Shawnee County, Kansas.
- 1-2.7 Board of Health. Means the Shawnee County Health Agency Board [K.S.A. 65-201]
- 1-2.8 CFR. Means the Code of Federal Regulations.
- 1-2.9 Code. Means the Shawnee County Environmental Code.
- 1-2.10 EPA. Means the United States Environmental Protection Agency.
- 1-2.11 Hearing Officer. Means an individual, appointed by the Administrative Agency, to hear appeals from decisions relating to the administration of this code. [K.S.A. 19-3701]
- 1-2.12 K.A.R. Means the Kansas Administrative Regulations.
- 1-2.13 KDHE. Means the Kansas Department of Health and Environment.
- 1-2.14 K.S.A. Means the Kansas Statutes Annotated.
- 1-2.15 Person. Means an individual, corporation, partnership, association, state or political subdivision thereof, federal or state agency, municipality, commission, interstate body, or other legal entity recognized by law as the subject of rights and duties.
- 1-2.16 Premises. Means any lot or tract of land and all buildings, structures, or facilities located thereon.
- 1-2.17 Structural. Means anything constructed or erected with a fixed location on the ground; including buildings, walls, signs, towers, mobile and manufactured homes and bins.
- 1-2.18 Zoned Site. Means any lot or tract of land zoned in accordance with the Shawnee County Comprehensive Zoning Regulations.

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- 1-3.0 ADMINISTRATIVE POWERS AND PROCEDURES
- 1-3.1 Right of Entry. Representatives of the Administrative Agency shall have the power and authority to inspect for compliance with the Shawnee County Environmental Code. If voluntary consent is not provided for entry, an administrative warrant may be sought from a court of appropriate jurisdiction.
- 1-3.2 Permits and Licenses. No person shall conduct, carry on, or perform any business or activity identified in this code without first having obtained a valid permit or license to the administrative agency. Homeowners are not required to be licensed to install their own system.
- 1-3.2.1 Applications for Permits and Licenses. Every person required by this code to obtain a permit or license shall make application for such permit or license to the Administrative Agency.
- 1-3.2.2 Issuance of Permit or License. After receipt of an application as required by this code, the Administrative Agency shall begin such investigation as deemed necessary to determine whether the permit or license should be issued or denied, and shall issue or deny the permit or license within 30 days of the date on which all information, equipment, fees, and/or access are made available to the Administrative Agency. Permits shall be valid for a period of twenty-four (24) months from the date of issuance. If the permit or license is denied, the Administrative Agency shall send the applicant a written notice and state the reasons for the rejection.
- 1-3.2.3 Non-transferability. No permit or license required by this code shall be transferable nor shall any fees required and paid therefore be refundable, unless approved by the administrator of the Administrative Agency.
- 1-3.2.4 Revocation. The Administrative Agency may, in writing, suspend or revoke a permit or license issued under this code whenever the permit or license is issued in error, contrary to law, or on the basis of incorrect information provided by the applicant or for noncompliance with this code.
- 1-3.2.5 Standard Fees. The Administrative Agency shall adopt a schedule of fees for all procedures, permits, and licenses required by this code, and said fees shall be paid to the Administrative Agency. The Administrative Agency shall not process any application for a procedure, permit, or license until the required fee has been paid. (K.S.A. 19-3702)
- 1-3.2.6 Double Fee for Unauthorized Practices. Any person who shall commence any activity for which a permit is required by this code without first having obtained the permit shall, if subsequently allowed to obtain a permit, pay double the permit fee fixed by this section for such activity, provided, however, that this provision shall not apply to emergency work when such work was urgently necessary to protect public health and safety and it was not practical to obtain a permit before commencement of such emergency work. For emergency repairs conducted during evening hours or on weekend or holidays, the Health Agency must be notified on the first business day following the repair and a permit shall be obtained; if not obtained, a double fee as herein provided shall be charged.

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- 1-3.2.7 Supplemental to State and Federal Regulations. The permits or licenses, and all fees, conditions, and regulations imposed under this code shall be supplemental to and in addition to any permits, licenses, fees, or regulations imposed or required by any other law, including those administered by KDHE or EPA.
- 1-3.3 Inspections and Investigations. Physical site inspections shall be performed for all permitted or licensed activities under this code. A written inspection by the Administrative Agency shall be made for all inspections conducted under the authority of this code, stating the name of the inspector, the date and time of the inspection, the type of inspection, and the property inspected. The report shall enumerate all findings made during the inspection. The report is a public document.
- 1-3.3.1 Inspection Scheduling. Whenever inspections are required under this code to be scheduled for any installation, construction, initial activity, or for correction of any violation or other non-conforming condition, it shall be the duty of the holder of the permit or license or the operator of the establishment to notify the Administrative Agency and schedule the time and date for the inspection prior to construction.
- 1-3.4 Violations.
- 1-3.4.1 Notice of Violations. When the Administrative Agency determines that there has been a violation of any provision of this code, notice of such violation shall be issued to the person responsible. The notice shall:
- (A) be in writing;
 - (B) include a statement of why the notice is being issued;
 - (C) allow a reasonable period of time for performance of any work required by the notice; and
 - (D) be properly served upon the owner or agent. Such notice shall be deemed properly served when a copy has been sent by certified mail to the last known address of the owner or agent.
- 1-3.4.2 Administrative Hearing. Any person aggrieved by any notice or order issued by the Administrative Agency under the provisions of this code may request, and shall be granted, a hearing on the matter before the Hearing Officer, provided such person shall file with the Administrative Agency, within 10 working days after the date of issuance of the notice or order, a written petition requesting a hearing and setting forth the grounds upon which the request is made. The Hearing Officer shall be appointed by the Health Officer. The filing of the request for a hearing shall operate as a stay of the notice or order. Upon receipt of such petition, the Administrative Agency shall confer with the Hearing Officer and set a time and place for such hearing and shall give the petitioner written notice thereof. At such hearing, the petitioner shall be given an opportunity to show why such notice or order should be modified or withdrawn. The hearing shall be commenced no later than 10 working days after the date on which the petition was filed; provided, that upon request of the petitioner, the Administrative Agency may postpone the hearing for a reasonable time beyond such 10-day period, when in the Administrative Agency's judgment the petitioner has submitted justifiable reason for such postponement.

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1-3.4.3 Report of Hearing. Within 10 working days after such a hearing, the Hearing Officer shall submit the findings of the hearing in writing to the Administrative Agency. The findings shall include a recommendation that the order be sustained, modified, or withdrawn. Upon the receipt of the report of the Hearing Officer, the Administrative Agency shall consider the report and issue an order confirming, modifying, or withdrawing the notice or order, and shall notify the petitioner by certified mail to the last known address of the owner or agent. The decision of the Administrative Agency may be appealed to the Board of County Commissioners.

1-3.5 Records.

1-3.5.1 Permit/License Applications. Applications for permits or licenses required by this code shall be filed with the Administrative Agency.

1-3.5.2 Official Actions. A written record of all official actions taken on applications for permits and licenses required by this code shall be kept on file with the Administrative Agency for a period of 5 years.

1-3.5.3 Proceedings of Hearings. The proceedings of all hearings, including findings and decisions of the Hearing Officer, and a copy of every notice and order related thereto shall be filed with the Administrative Agency. Proceedings of hearings need not be transcribed unless a judicial review of the decision is sought.

1-3.6 General Provisions.

1-3.6.1 Enforcement Procedure.

The county counselor shall enforce all violations of this code. Actions of injunction, mandamus, and quo warranto may be utilized for enforcement of these codes and shall be governed by the provisions of the Kansas Code of Civil Procedure. [K.S.A. 19-3707; 60-160]

1-3.6.2 Penalties. In addition to, and independently of, the enforcement procedures provided in Section 1-3.6.1, any violation of any provision of this code shall be deemed to be a misdemeanor and upon conviction shall be punishable by a fine not to exceed \$500 for each offense. Each day's violation shall constitute a separate offense. [K.S.A. 19-3707 and 19-101d]

1-3.6.3 Disclaimer of Liability. This code and other environmental codes adopted shall not be construed or interpreted as imposing upon the county or its officials or employees

- any warranty that any system, installation, or portion thereof that is constructed or repaired under permits and inspections required by this code will function properly. Liability upon the county or its officials or employees is limited to that as imposed by the Kansas Tort Claims Act, KSA 75-6101, et seq.

1-3.6.4

Severability. If any clause, sentence, paragraph, section, or subsection of this code shall for any reason be adjudged by any court of competent jurisdiction to be unconstitutional and invalid, such judgment shall not affect, repeal, or invalidate the remainder thereof, but shall be confined in its operation to the

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clause, sentence, paragraph, section, or subsection found to be unconstitutional and invalid.

1-3.6.5 Amendments and Additions. This code may be supplemented or its provisions amended by resolution adopted by the Board of County Commissioners, after notice and hearing, as required by law, and any such amendments or additions shall be incorporated within and codified as a part of this code. Any changes, modifications, or additional provisions adopted and imposed by state or federal law, rule, or regulation which are applicable to and administered through the jurisdiction of Shawnee County, Kansas, shall be incorporated within and made a part of this code, with or without notice and hearing, as authorized or required by state or federal law.

1-3.6.6 Repeal and Supersede Effect. This code shall supersede any and all previously adopted resolutions or regulations, which are, in whole or in part, in conflict with any provision of this code, where applicable, and any rule, regulation, or resolution which is or was in effect upon the effective date of this code shall be repealed to the extent necessary to give this code full force and effect. In the case of any conflict of provisions, whether real or apparent, the provisions of this code shall govern wherever applicable.

1-3.7 Variances.

1-3.7.1 Variance Requests. The Board of County Commissioners and the Administrative Agency may grant variances from specific provisions of this code. Any person requesting such a variance shall make application to the Administrative Agency. Such application shall establish to the satisfaction of the Administrative Agency that compliance with any such provision is not feasible, either from an engineering or economic standpoint, and that the alternative proposal submitted by such person will attain the objectives of this code and will not adversely affect public health or safety or natural resources. Appeals to the Administrative Agency and determinations on variances may be reviewed by the Board of County Commissioners.

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ENVIRONMENTAL CODE
SHAWNEE COUNTY, KANSAS
CHAPTER 2

ONSITE WASTEWATER SYSTEM MANAGEMENT

2-1.0 **PURPOSE AND INTENT**

Sewage is a potential source of disease, water pollution, and a hazard to the health, safety, and welfare of the public. It is the purpose of this chapter to provide minimum standards for the location, design, construction, maintenance, and use of onsite wastewater systems, and the removal and disposal of materials from such facilities within Shawnee County, Kansas.

2-2.0 **DEFINITIONS**

2-2.1 **Adjacent.** Means to be adjoining, bordering, or sharing a common boundary.

2-2.2 **Absorption Field.** Means a configuration of on-site trenches installed to absorb sewage effluent from a septic tank or other sewage solid removal device.

2-2.3 **Absorption or Seepage Pit.** Means a pit or hole in which gravel is placed to absorb sewage effluent.

2-2.4 **Absorption Trench.** Means a trench in which perforated drainpipe is laid to convey and distribute septic tank effluent.

2-2.5 **Alteration.** Means to make different, change, or adjust for a better fit.

2-2.6 **Alternative Onsite Wastewater Management System.** Means any onsite wastewater management system which has proven reliability and performance in field use, but differs in design or operation from approved septic tank and absorption systems. These alternative systems shall be limited to evaporation transpiration beds, intermittent sand filter systems, and lagoons.

2-2.7 **Available Sewer.** Means any public sewer that is within two-hundred (200) feet of the property line.

2-2.8 **Bedroom.** Means any room one-hundred (100) square feet in area or larger containing a closet which is suitable to be used regularly as a bedroom, excluding living, kitchen, dining, bath, utility, and sun rooms. Studies, libraries, sitting rooms, playrooms or dens having closets shall be considered as bedrooms for the purpose of septic system design.

2-2.9 **Building Sewer.** Means that part of the piping of a drainage system beyond the building, which receives and conveys liquid waste to a public

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sewer, private sewer, onsite sewage management system or other disposal.

- 2-2.10 Building Space. Means the entire area of the lot, tract or parcel on which an individual septic tank or other onsite wastewater system is to be located, exclusive of all established road right-of-ways.
- 2-2.11 Cesspool. Means a subsurface vertical shaft, lined with un-mortared stone or other material, which receives untreated sewage.
- 2-2.12 Chemical Toilet. Means a self-contained portable unit used for the sanitary storage of sewage on a temporary basis with treatment by chemical agents prior to disposal
- 2-2.13 Conventional Systems. An onsite wastewater system that includes a septic tank, absorption field and all other elements intended to be used for management of sewage onsite.
- 2-2.14 Distribution Box. Means a watertight structure which receives sewage from a septic tank or other sewage retention device and equally distributes it to two or more absorption trenches.
- 2-2.15 Domestic Septage. Means the liquid or solid material removed from a septic tank, vault, holding tank, portable toilet, temporary privy, Type III marine sanitation device, or a similar system that receives only domestic (household, noncommercial, non-industrial) sewage. It does not include commercial or industrial septage or grease from restaurant grease traps.
- 2-2.16. Domestic Wastewater. Means the spent water originating from all aspects of human sanitary water usage.
- 2-2.17 Evaporation. Means to convert from a liquid to a vapor.
- 2-2.18 Evaporation Transpiration Bed. Means an alternative system that uses the scientific principals of evaporation and transpiration to aid in treating sewage effluent in the soil.
- 2-2.19 Experimental or Innovative Onsite Wastewater System. Means any onsite wastewater system installed for testing and observation.
- 2-2.20 Grade. Means the ratio of a vertical drop of a pipe invert, trench bottom, or ground surface to the horizontal distance transversed.
- 2-2.21 Greasetrap. Means a device in which the grease content of sewage is intercepted and congealed and from which the grease may be removed for proper disposal.
- 2-2.22 Graywater. Means wastewater discharges from kitchen, bathroom, laundry sinks, tubs, showers, washers, whirlpools, and saunas. Gray water does not include toilet discharge.

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- 2-2.23 Intermittent Sand Filtration System. Means an alternative system that consists of several layers of sand sunk in the ground. The wastewater flows evenly over the filter, is purified by the bacteria present, and then discharged.
- 2-2.24 Industrial or Commercial Sewage. Means wastewater other than domestic waste produced from shops, manufacturing, car washes, etc.
- 2-2.25 Lagoon or Sewage Lagoon. Means an artificial pond designed to exclude surface water and receive raw sewage and gray water through a submerged sewer for biological decomposition.
- 2-2.26 Lot. Means an area of land delineated on a subdivision plat as a separate and distinct parcel of land intended for the purpose of transfer of ownership, or establishment of individual building or use.
- 2-2.27 Lateral Rock. Means washed gravel or washed crushed stone ranging in size from three-quarter inch (3/4") to two inches (2").
- 2-2.28 Modification. Means a small alteration, adjustment or limitation.
- 2-2.29 Onsite Wastewater System. Means a system that is intended to be used for management and disposal of onsite sewage. A septic tank-lateral system and a lagoon are examples of onsite wastewater systems.
- 2-2.30 Percolation Test. Means a method of testing to determine a soil's ability to accept water over a period of time.
- 2-2.31 Private Wastewater System. Means any system which does not discharge sewage into waters of the state, as defined in K.S.A. 65-161 (a), and is not required to hold a Kansas Water Pollution Control Permit pursuant to K.S.A. 65-165. This term includes wastewater disposal systems, whether domestic, industrial, or commercial, which function by soil absorption, evaporation, transpiration, filtration, or any combination of the above; a temporary holding tank; a portable toilet; a chemical toilet; or a privy.
- 2-2.32 Privy. Means a permanent or temporary facility designed for the containment of non-water-carried wastes from the human body, which uses a watertight vault for the retention of wastes.
- 2-2.33 Professional Engineer. Means a person who is qualified to practice engineering because of special knowledge and use of the mathematical, physical and engineering sciences and the principles and methods of engineering analysis and design, acquired by engineering education and engineering experience, who is qualified as provided in this act to engage in the practice of engineering and who is licensed by the state board of technical professions and licensed to practice in the State of Kansas.

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- 2-2.34 Public or Community Sewage System. Means any sewage collection, treatment and disposal system, including sewers, treatment plants, pumping stations, force mains and all other elements owned, operated or managed by a private or public entity (including agents thereof) and serving more than one residential premises.
- 2-2.35 Regulatory Flood. Means the flood having a 1 percent chance of being equaled or exceeded in any given year.
- 2-2.36 Regulatory Floodway. Means an area designated by the Federal Insurance Administration, which shall include the channel of a river or other watercourse and the adjacent land areas that must be reserved to discharge the regulatory flood without cumulatively increasing the water surface elevation of more than one foot on the adjacent land.
- 2-2.37 Sanitary Service. Means the pumping out and/or removal of sewage, septage, sludge, or human excreta from privies, vaults, septic tanks, or private wastewater disposal systems; and the transportation of such material to a point of disposal.
- 2-2.38 Sewage/Wastewater. Means any substance that contains any of the waste products or excrement or other discharges from the bodies of human beings or animals, or graywater or chemical or other wastes from domestic wastewater.
- 2-2.39 Sewage Sludge/Biosolids. Means solid, semi-solid, or a liquid residue generated during the treatment of domestic sewage/wastewater in publicly-owned treatment works (POTW) or community treatment lagoons. Sewage sludge includes, but is not limited to domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment processes; and material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screenings generated during preliminary treatment of domestic sewage in a mechanical wastewater treatment plant.
- 2-2.40 Subdivision. Means any tract of land that is or has been subdivided into two or more lots for the purpose of sale or building development, whether immediate or future, including the streets, alleys or other portions thereof intended to be dedicated for public use, and any redivision of lands.
- 2-2.41 Subsurface Examination. A five-foot deep trench that allows for a visible observation of the soil conditions of the area of the proposed septic system.
- 2-2.42 Structure. Means a home, residence or other type of building constructed of many parts put together in a specific way.
- 2-2.43 Toilet. Means a sanitary fixture meeting the Administrative Agency and plumbing code requirements for receipt and conveyance of human body waste.

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- 2-2.44 Transpiration. Means to give off as a gaseous vapor containing waste products through the pores of plants and vegetation.
- 2-2.45 Wastewater System. Means any system along with attendant pipes and accessories designed and constructed to collect, store, treat, and dispose of domestic, industrial, or commercial wastewater.
- 2-2.46 Watercourse. Means a stream or reach of stream that generally flows only during a part of the year. It continues to flow after the cessation of surface runoff, but effluent ground water will not sustain flows through moderate periods of little or no precipitation. It may contain reaches of constant flowing water.
- 2-2.47 Vault/Holding Tank/Septic Tank. Means a watertight receptacle for the retention of sewage either before, during, or after treatment.
- 2-3.0 PROHIBITED PRACTICES
- 2-3.1 Use of Existing Wastewater Systems. Onsite wastewater systems existing before the adoption of this code are exempt from meeting the requirements of this code unless the existing wastewater system poses a threat to waters of the state or to public health.
- 2-3.2 Use of Non-approved Private Systems. No person shall use, or cause to be used, an onsite wastewater system or privy constructed after adoption of this code until it has been inspected and approved by the Administrative Agency or if it:
- (A) has been declared a public health nuisance by the Administrative Agency,
 - (B) fails to comply with the provisions of this code and written notice thereof has been given by the Administrative Agency,
 - (C) discharges onto the surface of the ground or into waters of the state as defined in K.S.A. 65-161 (a),
 - (D) receives non-domestic wastewater, promotes vector breeding, produces offensive odors or any condition detrimental to public health or the environment,
 - (E) uses a receptacle which is not watertight.
- 2-3.3 Public Sewer. New or renovated onsite wastewater systems shall not be approved where a public sewer is available for connection. A public sewer is available for connection when it is within two-hundred (200) feet of the property unless a physical barrier or local regulation exists which prevents connection to public sewer.
- 2-3.4 Industrial Wastewater Discharge. Industrial wastewater is not permitted to be discharged to an onsite wastewater system.
- 2-3.5 Location of Onsite Wastewater Systems Within a 100-Year-Floodway. No portion of an onsite wastewater system shall be constructed within the

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100-year-floodway of any stream, river, or watercourse (as established by the Federal Emergency Management Agency). This does not preclude repair of existing systems, provided other requirements of this code are met.

2-3.6 Use of Cesspools and Seepage Pits. Cesspools, seepage pits, and other wastewater disposal methods not described as acceptable in this code or by the references adopted by this code, are illegal and shall be removed from operation immediately upon Administrative Agency notification to the owner. Any replacement onsite wastewater system shall be constructed in accordance with this code.

2-4.0 REQUIREMENTS FOR ONSITE WASTEWATER SYSTEMS

2-4.1 Approval of Plans. No person shall construct or modify any onsite wastewater system until the plans and specifications for such system have been approved by the Administrative Agency. The drawing shall be signed by the property owner (unless it is to repair an existing system) References utilizing technology currently approved by the EPA or other subsequent requirements as mandated by KDHE may be used as guidelines by the Administrative Agency in reviewing and approving plans for private wastewater disposal systems.

2-4.2 Permit to Construct. Except as allowed for emergency repairs under Section 2-6.2, no person shall construct or modify, or allow to be constructed or modified, any onsite wastewater system until a permit has been issued by the Administrative Agency.

2-4.3 Field Data Requirements

2-4.3.1 Percolation Testing: Percolation testing must be performed according to The Ryan's Percolation Test method before any new construction septic permit can be issued by the Administrative Agency. The percolation test shall be performed where the onsite wastewater system will be installed. Appendix (A) describes this procedure in detail.

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RESIDENTIAL LATERAL FIELD SIZING

Minimum Sizes for 3-Bedroom Home

<u>PERCOLATION RATE</u>	<u>LOT SIZE</u>	<u>FIELD SIZE</u>	
		<u>Conventional</u>	<u>Sand Filter</u>
0 inch/hr. or negative	3.0 acres	Lagoon, ¹ Sand Filter or E.I. System	1625 sq. ft.
1/8 inch/hr	3.0 acre	3250 sq. ft.	1625 sq. ft.
1/4 inch/hr.	1.5	2750 sq.ft.	1375 sq. ft.
1/2 inch/hr.	1.0 acre	1850 sq. ft.	925 sq. ft.
1 inch/hr. to 12 in.	0.5 acre	1250 sq. ft.	625 sq. ft.
12 inch/hr. or greater	0.5 acre	Lagoon, ¹ Sand Filter or E.I system	625 sq. ft.

- NOTE:
1. Lagoons must be fitted on minimum lot sizes of (5) acres
 2. The above figures for field size should be incremented a minimum of 500 square feet for each additional bedroom using a conventional system.
 3. Calculations of Lot Size shall be exclusive of designated drainage easement area.
 4. One and two bedrooms (lumped together) will be allowed a 250 sq. ft. reduction.

(A) Authorized to do Testing

At the request of an applicant, the Administrative Agency may conduct the percolation test for a prescribed fee set by the Administrative Agency. The applicant may however obtain the services of a professional engineer registered in the State of Kansas to perform such tests in accordance with The Ryan's Percolation Test. The results of percolation testing shall be certified by the engineer seal as to its accuracy.

(B) Percolation Retesting

A minimum separation distance of 300 feet from the original percolation test holes shall be required before a new percolation test can be accepted.

(C) Non-Residential Lateral Field Requirements

Where a subsurface lateral field is installed, the lateral field area provided shall be in accordance with Appendix (D) and the loading rates listed in this part. A minimum of two-hundred (200) square feet of lateral field area shall be provided.

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Non-Residential Lateral Field Sizing

<u>PERCOLATION RATE</u>	<u>LOT SIZE</u>	<u>LOADING RATE (GPD/ft)*1</u>
0 inch/hr. or negative	3.0 acres	Sand Filter ² or Exper. / Innovative (E.I) system
1/8 inch/hr.	3.0 acre	0.12
1/4 inch/hr.	1.5 acre	0.14
1/2 inch /hr.	1.0 acre	0.20
1 inch/hour to < 12 inches/hr	0.5 acre	0.30
12 inch/hour or greater	0.5 acre	Sand Filter ² or Exper. / Innovative (E.I) system

NOTE: 1. Divide the required total gallons per day (gpd) from Appendix D by this number to get the size of the lateral field required in square feet.
 2. Sand Filter field size can be one-half the size of a conventional lateral field.

2-4.3.2

Soil Profile. A soil profile analysis may be conducted where the onsite wastewater system is to be located. The soil profile analysis shall be conducted by an individual who has completed a prescribed course of training set forth by the Administrative Agency. The applicant may obtain the services of a soils engineer or a soils scientist to analyze the soil profile.

(A) High Water Table. A soil profile analysis shall be required by the Administrative Agency when a high water table is suspected. Evidence of the presence of groundwater shall negate the use of conventional onsite wastewater systems in that area. Other records of the water table elevation, including seasonal peaks, may be submitted or required.

(B) Rock Outcropping. Where surface outcroppings or subsurface rock exists or are suspected, a soil profile shall be required by the Administrative Agency to determine if such conditions may interfere with installation, or the performance of an onsite wastewater system. Evidence of rock in the soil profile may negate the use of a conventional onsite wastewater system in that area.

(C) Lagoon Construction. A subsurface examination consisting of a trench dug to the depth of the proposed lagoon and a Ryan's Percolation test shall be required before construction of a lagoon will be approved by the Administrative Agency.

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Other Tests. Soil profile analysis and other field tests may be required. The number, depth, and location shall be determined by the Administrative Agency.

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2-4.4 Septic Tanks

2-4.4.1 Minimum Design and Construction.

Septic tanks shall be watertight, constructed of solid concrete, and must have the sides and bottom all in one piece. Pre-cast tanks shall have a minimum wall thickness of 2 1/2 Sep Septic tanks shall be water tight, constructed of solid concrete, and must have the sides and bottom all in one piece. Precast tanks shall have a minimum wall thickness of 2 1/2 inches, and must be adequately reinforced to facilitate handling. When precast slabs are used as covers, they shall have a clean out that is at the level of grade. The clean out shall be at least six (6) inches in diameter and have thickness of at least three (3) inches and be adequately reinforced. All tanks shall have a tight fitting cap using a material approved by the Administrative Agency. The distance from the top of the tank to the liquid line shall be at least twenty percent (20%) of the liquid depth. Septic tanks shall meet the standards set forth by KDHE (engineers approval) in Bulletin 4-2 or other subsequent requirements as mandated by KDHE.

2-4.4.2 Inlet Pipe. The inlet invert shall be located at least three (3) inches above the liquid level in the tank. A vented plastic inlet tee or elbow shall be used to divert the incoming sewage downward, no concrete baffle will be allowed. The inlet pipe shall be a minimum of four (4) inches in diameter. It shall extend at least twelve (12) inches below the liquid level, but the penetration must not be greater than that provided by the outlet device. The pipe that is from the house to the septic tank shall be PVC DWV Schedule 40, cast iron or an approved material from the Uniform Plumbing Code.

2-4.4.3 Outlet Pipe. The outlet device shall extend below the liquid surface a distance equal to forty percent (40%) of the liquid depth. A vented plastic outlet tee or elbow is required, no concrete baffle will be allowed. The outlet pipe shall extend a minimum of five (5) feet from the tank and be made of PVC DWV Schedule 40, cast iron or an approved material from the Uniform Plumbing Code.

2-4.4.4 Sealed. A watertight seal shall be made around the inlet and outlet pipes with a bonding compound that will adhere both to the concrete septic tank and the exterior surfaces of the inlet and outlet pipes.

2-4.4.5 Compartments. A single compartment septic tank is acceptable. A two (2)- compartment septic tank shall meet the following criteria:

(A) The inlet compartment shall have not less than one-half to two-thirds of the total capacity of the tank nor less than 750 gallons liquid capacity. The second compartment shall have a capacity of not less than 250 gallons or more than one-half the total capacity.

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(B) Partitions between compartments shall be a minimum of four (4) inches above the liquid level. An inverted fitting equivalent in size to the tank inlet, but not less than four (4) inches in size, shall be installed in the inlet compartment side of the baffles with the bottom of the fitting placed midway in the depth of the clear liquid.

(C) Venting between compartments shall be provided to allow free passage of gas.

2-4.4.6 Capacity. The liquid capacity of the septic tank shall be a minimum of:

(A) One-thousand (1000) gallons for a 1 to 2-bedroom structure.

(B) One-thousand two hundred fifty (1250) gallons for a 3 or 4 bedroom structure.

(C) One-thousand five hundred (1500) gallons for a 5 bedroom or larger structure.

(D) One-thousand (1000) gallons minimum for a commercial structure.

2-4.4.7 Approval Procedures. Any person seeking approval of septic tanks to be used in onsite wastewater systems other than those of standard size and configuration made with reinforced concrete, shall submit detailed plans and specifications, test and performance data and quality control procedures as may be required by the Administrative Agency for complete understanding and evaluation of the product. No other septic tanks shall be installed unless specific written approval is granted by the Administrative Agency.

2-4.4.8 Location No septic tank shall be installed within:

(A) Five (5) feet of a driveway or absorption trench;

(B) Ten (10) feet of a structure or foundation drain;

(C) Twenty-five (25) feet of a property line, public potable water line and meter pits.

(D) Fifty (50) feet of any stream, pond, watercourse, cellar, cistern, or storm shelter;

(E) One-hundred (100) feet of a public water supply well, private water well or suction line;

(F) Regulatory floodway.

The Administrative Agency, after site inspection, may stipulate greater separation distances than cited herein, due to adverse on-site conditions such as, site characteristics and/or groundwater interference.

2-4.4.9 Foundation and Backfill. Septic tanks shall be constructed or installed level on a foundation that will prevent settling. Backfill shall be free of voids, stumps, broken masonry or other materials.

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Distribution Boxes

2-4.5.1 Minimum Design and Construction. Distribution boxes shall be watertight, with the sides and bottom all in one piece. Distribution boxes shall be designed and constructed in accordance with minimum design and construction criteria and with the approval procedures set forth under Septic Tanks (Sec. 2-4.4).

2-4.6 Absorption Field Location Restrictions. No part of an absorption field shall be located within:

- (A) Five (5) feet from any septic tank, or driveway.
- (B) Twenty-five (25) feet of the structure, building foundation, property lines, water lines, foundation drains, water mains, basements, cellars, drainage easements and drop-offs.
- (C) One-hundred (100) feet of cisterns, ponds, creek banks, watercourse streams, or water wells.
- (D) Absorption fields shall not be installed in areas subject to excessive surface water, ponding or runoff, including but not limited to storm water and discharge from building gutters.
- (E) Absorption fields shall not be installed in the regulatory floodway or where groundwater or adverse geological formations may interfere with the absorption of treated sewage or result in the contamination of groundwater by sewage.
- (F) The Administrative Agency, after site inspection, may require variations of these distances due to adverse conditions relative to topography, subsurface soil characteristics, and/or groundwater sources.
- (G) No part of the absorption field shall be covered by swimming pools, structures, pavement or be used for vehicular traffic or parking.
- (H) There shall be a minimum of four (4) feet between the bottom of the absorption trench and any high water table.
- (I) There shall be a minimum of four (4) feet between the bottom of the absorption trench and any rock ledge.

2-4.6.1 Minimum Design and Construction

- (A) An absorption trench shall not exceed one-hundred (100) feet in length from where it is fed unless specific approval is given by the Administrative Agency. Absorption trenches shall be between eighteen (18) inches and twenty-four (24) inches in depth. The absorption trench shall be a minimum twenty-four (24) inches wide. The absorption trench shall not exceed thirty-six (36) inches in width.

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- (B) Installations of laterals must be along contour lines so that level trenches of uniform depth can be constructed. The bottom of the lateral trench is to be level.
- (C) A twelve (12) inch depth of 3/4 to 2 inch (washed) lateral rock shall be placed in the bottom of the trench. All rock to be used shall be of the same size and approved by the Administrative Agency. Pipe perforations shall be oriented toward the bottom of the trench. Lateral rock shall be placed under the perforated pipe to a minimum depth of six (6) inches and shall extend the full width of the trench and two (2) inches of lateral rock shall cover the perforated pipe. All pipe shall be rigid PVC or corrugated polyethylene plastic pipe meeting American Society for Testing and Materials (ASTM) standards. ASTM D2665-95 and ASTM F405-93 respectively are acceptable material for use as soil or perforated distribution lines. In no circumstance is slotted pipe acceptable as the narrow slot openings plug easily.
- (D) A continuous layer of permeable material shall be placed over the lateral rock before backfilling with the earth cover. The permeable material shall consist of:
1. Filter fabric
 2. Untreated craft paper. If untreated craft paper is used, then all seams must overlap two (2) inches and any tears must be covered.
 3. Two inches of hay or straw.
 4. Another material approved by the Administrative Agency.
- (E) Six (6)-inch minimum to twelve (12)-inch maximum earth cover shall be placed over the lateral rock.
- (F) Excavation for absorption trenches in wet clay soils and smearing of trench walls and bottoms shall be avoided since reduced permeability may result and approvals may be voided thereby.
- (G) The ground surface of the lateral field area shall be so graded as to prevent the accumulation of surface water and to minimize the flow of surface water over the lateral field. Test holes, diverter ditches or flow control devices will be required under some circumstances. It may be necessary to prepare the ground for the lateral field, such as removal of rocks, trees, replacement of soil.
- (H) Chamber systems may be used in lateral field installations as an alternative to lateral rock and perforated pipe. Chamber system construction shall comply with Section 2-4.6.1 (A), (B), (E), (F) and (G) of this code. For the purpose of sizing and installation, chamber systems shall provide the equivalent open chamber bottom area dimensions required for lateral rock systems.

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- (I) Expanded Polystyrene Systems (EPS) may be used in place of lateral rock & perforated pipe. Construction shall comply with section 2-4.6.1 (A), (B), (E), (F) and (G).
- (J) A minimum of 1/8 inch per foot slope on the tight line from the structure to the septic tank shall be required.

Trench Separation Distances

<u>Trench Width</u> (In Inches)	<u>Distance Between Trench Centerlines</u> (In Feet)
18-24	8.0
24-30	8.5
30-36	9.0

2- 4.6.2 Field Layout Methods

- (A) Sequential Step-down or "Overhead" Systems. This method is well suited to terrain with a slope. In this system, effluent is not distributed equally to all the lateral lines. Instead, the lines are filled sequentially, and diversions to the next line do not occur until the fluid level in the preceding trench reaches slightly above the top of the rock fill. The installation of laterals must be along contour lines so that level trenches of uniform depth can be constructed. The bottom of the lateral trench is to be level. The overhead distribution line must be connected at the lateral line, and at any elevation so that the bottom of the overhead line is two (2) inches above the lateral rock in the absorption trench. The overhead distribution line must be set on a firm foundation of undisturbed earth. A sanitary tee shall be required from the overhead line to the lateral field.
- (B) Level Field Method. On flat terrain the level field method may be used. When this method is used, all distribution trenches shall be installed level and at the same elevation, shall not exceed one hundred (100) feet in length. A standard tee fitting shall be used to distribute treated sewage. A standard tee fitting should be used to affect a juncture of the ends of any three distribution lines.
- (C) Distribution Box Method. When a distribution box is to be used, extreme care must be exercised in backfilling around and over the distribution box. Influent lines from the septic tank shall terminate inside the distribution box. When this method is used, absorption trenches of equal lengths, not exceeding one hundred (100) feet shall be used. All lines leading from the distribution box to absorption trenches must be installed level and at the same elevation, shall be watertight and, for the remainder of their sealed length, the grade of such lines shall not be less than one eighth (1/8) inch per foot. All perforated distribution lines shall be laid on a level grade. The absorption trench shall meet all the minimum design and construction criteria as set forth under Absorption Fields, Section 2-4.6.1

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2-4.6.3

Evaporation Transpiration Beds (See Appendix B)

(A) Evaporation Transpiration Beds (ET Beds). Are an alternative system that shall be installed to the following specifications.

(B) ET Bed Requirements

(1) No part of the absorption bed area shall be located within:

(a) Five (5) feet from any septic tank or driveway;

(b) Twenty-five (25) feet of the house, building foundation, property lines, water lines, foundation drains, water mains, basements, cellars, and drop-offs;

(c) One hundred (100) feet of cisterns, ponds, creek banks, watercourse streams, water wells or drainage easements.

(2) All requirements for inlet and outlet piping from the septic tank to the absorption bed shall coincide with Sections (2-4.4.2 and 2-4.4.3) of Chapter 2 of this code.

(3) All two (2) and three (3) bedroom homes shall have a minimum of twenty-six hundred (2600) square feet of bed absorption area.

(4) Each additional bedroom added above three (3) bedrooms shall require a twenty-five (25) percent increase in bed absorption surface area.

(5) A minimum of four (4) inch perforated drain tile shall be placed in the absorption bed.

(6) Uniformly crushed rock [one half (1/2) to two (2) inches in size] shall extend six (6) inches below and two (2) inches above the tile.

(7) There shall be two (2) inches of pea gravel between the rock base and the ten (10) inches of river run sand.

(8) There shall be six (6) inches of river silt soil covering the bed area to allow grass vegetation to be established and maintained.

(9) The total depth of the absorption bed shall not exceed thirty (30) inches.

(10) The distance from the ground level to the top of the drain tile shall not exceed twenty (20) inches.

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(11) A minimum slope of three (3) percent shall extend from the center of the absorption bed to the outer sides of the absorption bed.

2-4.6.4

Lagoons (See Appendix C)

(A) Lagoons. The construction of a lagoon will be considered only if the property site is a minimum of 5 acres.

(B) Lagoon Requirements.

- (1) If a lagoon is to be considered, a subsurface examination shall be completed at the location that the lagoon is to be installed in addition to a percolation test.
- (2) If the subsurface examination characteristics are suitable the area will be considered for the construction of a lagoon, provided a public health problem would not arise.
- (3) The completed construction of the lagoon shall conform to the plans and specifications approved by the Administrative Agency.
- (4) The lagoon shall be operated in a manner that a public health nuisance or water pollution problem will not arise.
- (5) The normal ground water elevation shall be four (4) feet below the bottom of the lagoon.
- (6) When the lagoon excavation penetrates or terminates in either rock strata or a porous (sand or gravel) strata the excavation shall be extended a minimum depth of at least two (2) feet on both the bottom and the side slopes. The area of supplemental excavation shall be filled with a non-permeable earthen material to limit seepage from the lagoon to a maximum value of ¼ inch per day (0.01 inch per hour). This may be accomplished by using a clay soil, which is free of rocks. If a clay soil is not available, the fill soil should be mixed with bentonite clay at the manufacturer's recommended rate and then compacted.

(C) Lagoon Design

- (1) Appendix C gives the design specifications for the sizing of lagoons in Shawnee County. A M-50 lagoon shall be used in the case of 3 or less bedrooms in the structure that the lagoon is serving. A M-55 lagoon shall be used in the case of four (4) or more bedrooms in the structure that the lagoon is serving.
- (2) Surface runoff from the surrounding area must be prevented from entering the lagoon. This is accomplished by building the dike above the soil level to carry water away from the site.

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- (3) The sewer pipe must be four (4) inch PVC DWV Schedule (40) with a minimum slope of 1/8 inch per foot. A clean out wye must be installed near the house and located at the nearest point above maximum pond level. A clean out wye must also be installed a minimum of every 100 feet.
- (4) The entire lagoon area shall be fenced (see Appendix C). The fence material shall be no smaller than 12.5 gauge wire. The fence will have a minimum height of four feet. Openings in the mesh of the fencing will be no larger than two (2) inch by four (4) inch. The fence shall be installed no closer than four feet from the inside edge of the top of the embankment. Each fence post shall be placed at least 2½ feet deep and backfill shall be tightly compacted to secure the post. Posts placed two feet deep and cemented are acceptable. The fence shall be placed at the outside toe of the embankment to facilitate maintenance. In addition, a double strand of barbwire or electric fence shall be installed if the facility will be accessible to livestock.
- (5) A gate of a minimum of four (4) foot width shall be located to accommodate the entrance of a mower. This gate must provide the same degree of resistance to entry as the fence and shall be locked to restrict unauthorized entry to the lagoon.
- (6) Topsoil should be removed from the lagoon area before beginning the embankment construction. Topsoil should be replaced on the embankment surface once the lagoon is completed. Perennial ground cover is necessary to reduce the erosion of the embankment. Ground cover shall be seeded at the completion of the lagoon construction following recommendations of the Shawnee County Natural Resource Conservation Service. A protective straw or hay cover is encouraged to hold the soil and seed in place until the cover is established. Additional seedlings of ground cover may be necessary until a solid stand of ground cover is established.
- (7) Trees and water vegetation shall be controlled at their first appearance. All trees and weeds (e.g., cattails and duckweed) should be removed as soon as the first ones develop in the water. Mosquito production is directly related to the amount of vegetation in the water. The ground cover shall be cut if it reaches over six inches in height. All attempts shall be made to keep the cut ground cover out of the water of the lagoon.
- (8) After construction of the lagoon, the builder shall smooth the dike so that no clods, rocks or ruts will interfere with a mower.
- (9) Construction of the lagoon must be approved by an official inspector of the Administrative Agency before a final occupancy permit will be issued.

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(D) Lagoon Separation Distances.

The lagoon will be the following minimum horizontal distances:

- (1) Twenty-five (25) feet of a private water line.
- (2) Fifty (50) feet of cistern or water mains.
- (3) One hundred (100) feet of a house or structure, water wells, ponds, creeks or property lines, including right of way.

(E) Connection to the public sewer system

If a public or community sewage system becomes available to a premise served by a lagoon, the owner, lessee or agent shall connect the properties affected to the public or community sewage system within 90 days. The lagoon shall be abandoned by dewatering and pushing in the dykes and returning the area to the contours it had before construction of the lagoon.

2-4.6.5

Intermittent Sand Filter (See Appendix E)

(A) Intermittent Sand Filters (ISF).

An intermittent sand filter treatment system is an allowable alternative to conventional wastewater treatment (septic tank and lateral).

(B) Intermittent Sand Filter Requirements.

- (1) The intermittent sand filter shall be operated in such a manner that a public health nuisance or water pollution problem will not arise.
- (2) No part of the sand filter or the absorption field shall be located within:
 - (a) five (5) feet from any septic tank or driveway.
 - (b) twenty-five (25) feet of the house, building foundation, property lines, water lines, foundation drains, water mains, basements, cellars, drainage easement and dropoffs.
 - (c) one- hundred (100) feet of cisterns, ponds, creek banks, watercourse streams or water wells.

(C) Intermittent Sand Filter Design.

- (1) A minimum of three hundred and sixty square (360) feet of surface area shall be required for a sand filter.
- (2) The area in which the sand filter is to be placed will be excavated with a flat bottom and a depression if there is to be a pump installed to move the water from the sand filter to the lateral field. Any over excavation should be filled and well compacted. A two (2) inch layer of sand in the bottom of the hole protects the liner from penetration by sharp objects.

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- (3) A perimeter support frame of plywood and 2 x 4 construction is used to hold the liner in place during the installation. During construction of the sand filter (placement of the media), it is important that sand be placed between the excavated soil and the support frame. This keeps the support frame and liner vertical during construction and results in a sand cushion around the outside perimeter of the liner. All nails or staples used must have their sharp ends pointed away from the liner.
- (4) The thirty (30) mil PVC liner is unfolded from the center of the excavation and draped over the top edges of the perimeter support frame. Care shall be taken to ensure that the liner is in full contact with the bottom and sides and that no bridging occurs. Pleats or wrinkles in the liner are not a concern.
- (5) If a PVC plumb basin is installed in the depression located in the center of the sand filter, then the basin shall have a PVC or fiberglass bottom to prevent damage to the liner. The pump basin shall have four (4) inch grommets installed opposite one another to accommodate the four (4) inch diameter slotted PVC under drain pipes.
- (6) The four (4) inch diameter slotted PVC under drain pipes shall be Class 125 (or higher) pressure rated. Slots are cut half way through the pipes, 1/4 inch wide, four (4) inches on center. The pipes are laid flat with the slots pointed upward and capped with four (4) inch end caps. The under drain pipe shall penetrate the plumb basin one to two inches.
- (7) Care should be taken not to introduce soil or other foreign material into the filter when placing pea gravel, rock or filter sand during the construction.
- (8) Clean rock 1/2 to 3/4 inch in diameter, shall be mounded at least two (2) inches over the under drain pipes to prevent finer material from entering the slots.
- (9) A level course of 1/4 to 3/8 inch clean pea gravel, six (6) inches deep, shall be placed in the bottom of the sand filter. Water will pond two to three inches deep in the bottom of the sand filter and the pea gravel will prevent unwanted capillary action from occurring and will allow the treated effluent to move freely toward the under drain pipe.
- (10) Filter sand shall be placed and compacted while it is damp. If the sand is not damp, it will not compact well and settlement may cause dislocation and breakage of the distribution laterals. The sand surface shall be flat.

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- (11) Two inches of 1/4 to 3/8 inch pea gravel shall be placed on top of the compacted sand, disturbing the sand as little as possible. The pea gravel serves to support the distribution system and to keep the sand from eroding under the action of the effluent being applied. After the distribution laterals are installed a distribution system function test shall be performed. Upon the request of the Administrative Agency, the test shall be witnessed by the Administrative Agency. Water pumped through the entire distribution system and consistently passed out of all lateral field distribution orifices to a minimum height of twenty-four (24) inches with no water leakage from the effluent discharge line or the distribution manifold line shall constitute a successful distribution system function test. Following the test and any required inspection, three (3) inches of pea gravel shall be added.
- (12) The liner's PVC boot permits a watertight penetration of the liner or the transport pipe delivering effluent to the sand filter's distribution system. In the event ground water reaches that elevation, the boot will prevent infiltration. The boot is oriented so the clamp is outside the sand filter.
- (13) Orifice shields shall be placed on the laterals to prevent the pea gravel from blocking the flow out of the orifices and to obtain better effluent distribution over the sand. On sand filters with distributing valves, orifice shields prevent the high pressure from eroding the pea gravel and soil cover.
- (14) Filter fabric shall be placed over the final course of pea gravel. The purpose of the filter fabric is to keep soil, silts, and fine-grained material from moving down into the sand filter, and, at the same time, allow air and water to pass freely.
- (15) The pumps used in moving the effluent shall have an adjustable and removable float assembly, which is attached to the side of the pump basin. The floats shall be either mercury or mechanical and must be UL or CSA listed unless otherwise approved. The on, off, and alarm settings depend on the volume of filtered effluent to be dosed. The high-water alarm float shall be connected to the pump control panel in such a manner that a high-water alarm in the sand filter will disable the pump in the dosing septic tank until the high-water alarm is canceled.
- (16) The electrical splice box shall be UL or CSA listed and non-corrosive with the proper number of cord grips installed. Heat shrink and/or watertight wire nuts shall be used on the individual wire splices within the box to ensure the integrity of the splices if the box becomes flooded. Sufficient length of wires shall be provided in the box to allow for future repairs.
- (17) The conduit seal shall be UL or CSA listed and shall be installed using the proper conduit sealant as recommended by the

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manufacturer. Bubble gum or silicone is not allowed. The seal prevents water from draining into the splice box and gases from escaping the tank.

- (18) Electrical conduit shall be UL or CSA listed for the purpose. Three-quarters (3/4) inch diameter is most common. There are electrical code rules restricting the number of bends between panels and junction boxes. Refer to NEC 1993 section 347-14.
- (19) The pump shall be UL or CSA listed and specifically selected for effluent pumping.
- (20) The pump basin lid shall be constructed of corrosion resistant material such as fiberglass and have tamper-proof mechanical fasteners.
- (21) The soil cover shall be sand loam. This provides insulation against cold winter temperatures; allows free movement of air into the sand filter; prevents odors from escaping; and protects the sand filter from physical damage. A grass cover over the sand filter shall be established to prevent soil erosion, and facilitate runoff of surface water.

(D) Standards for Lateral Field Sizing (ISF)

<u>PERCOLATION</u>	<u>FIELD SIZE</u>
1 inch/hour or greater	625 sq.ft.
1/2 inch/hour or greater	925 sq.ft.
1/4 inch/hour or greater	1375 sq.ft.
1/8 inch/hour or greater	1625 sq.ft.
0 inch/hour or less	1625 sq.ft.

These standards are for a three-bedroom house. Each additional bedroom will require an additional two-hundred fifty (250) square feet of lateral field size. Refer to the Residential Lateral Field sizing chart on page 15.

2-4.7 Alternative On-site Sewage Management Systems.

2-4.7.1 Conventional systems. Will continue to be encouraged by the Administrative Agency where soil type, lot size, and topography allow these systems to succeed.

2-4.7.2 Consideration of Alternative Systems. Where appropriate, and after thorough assessment of alternatives, the Administrative Agency will consider alternative onsite wastewater systems and/or site modifications for conventional or alternative systems in areas of marginal suitability.

2-4.7.3 Priorities. Priority consideration will be given to those proposals for alternative onsite wastewater systems whose implementation may resolve existing sewage management problems.

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2-4.7.4

Review and Approval of Alternative Onsite Wastewater Systems.

Those desiring to install an alternative onsite wastewater system shall submit the following information to the Administrative Agency:

- (A) Plans and specifications including type and location of site modifications, along with any engineering, laboratory, or field data required;
- (B) Provisions for a backup system, including reservation of undisturbed space;
- (C) Any additional information required for complete understanding and decision formulation by the Administrative Agency;
- (D) If the proposal for the system is approved, the person applying will be informed by the Administrative Agency of any responsibilities for maintenance and of any monitoring procedures deemed appropriate by the Administrative Agency.
- (E) Reduction of water usage by installation of water-conserving fixtures and devices may be required.
- (F) The specifications shall meet the minimum criteria set forth in this code.

2-4.7.5

Experimental and Innovative Onsite Wastewater Systems

The Administrative Agency may consider proposals for the use of experimental and innovative onsite wastewater systems. The Administrative Agency shall require the experimental or innovative onsite wastewater systems to be designed by a professional engineer and include the State of Kansas professional engineering seal on the plans. The Administrative Agency may request review of the proposal and plans by KDHE. If the proposal for the system is approved, the person applying will be informed by the Administrative Agency of any responsibilities for maintenance and of any monitoring procedures deemed appropriate by the Administrative Agency.

2-5.0

SUITABLE SITE FOR ONSITE WASTEWATER SYSTEMS

No site shall be approved if:

- (A) Connection to an approved public wastewater disposal system is available or the site violates the provisions of this code.
- (B) The soil, topography, or geology do not meet the requirements set forth. The minimum separation requirements for septic tank/lateral systems and wastewater stabilization ponds cannot be met.
- (C) The minimum separation requirements for alternative onsite wastewater systems, as specified by the Administrative Agency, are not met.

2-5.1

Construction Approval for New Construction on Existing Lots.

Construction of onsite wastewater systems on lots without existing homes, which were platted prior to the adoption of this code, shall be

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permitted only when the construction of the onsite wastewater system meets the requirements of this code.

2-5.2 Construction Approval for Existing Homes with Onsite Wastewater Systems.

Alterations and extensions of existing onsite wastewater systems shall be permitted only when such action will not compromise the beneficial uses of the waters of the state, as defined in KSA 65-161 (a), or otherwise create or have the potential to create a nuisance.

2-5.2.1 Permit Required.

Each site shall be evaluated by the Administrative Agency and a permit to construct issued if the Administrative Agency ascertains that use of the lot for onsite wastewater systems would not create environmental degradation, constitute a potential source of pollution, or cause a public health nuisance.

2-5.3 Nonconformities.

An onsite wastewater system to serve a dwelling may be constructed upon a lot that does not meet the minimum separation requirements of this code, provided that:

- (A) The lot of record is shown to have been created before the effective date of this code, was in compliance with the size requirement at the time recorded, and all other applicable requirements were met and;
- (B) The lot, tract, or parcel is shown, by a recorded deed or affidavit of equitable interest, to have been transferred before the effective date of this code, was in compliance with the size requirement at the time the tract was originally recorded, and all other applicable requirements were met and;
- (C) The lot meets all other requirements set forth by the Metropolitan Planning Commission and;
- (D) The lot meets the minimum standards of KDHE Bulletin 4-2 Minimum Design Standards for Onsite Wastewater Systems.

2-5.4 Limitations. Any lawful onsite wastewater system in existence prior to the effective date of this code which is located on a lot which does not comply with the applicable separation requirements, may continue in otherwise lawful use, provided that:

- (A) The system functions properly;
- (B) In no case shall such a structure served by the onsite wastewater system be extended or enlarged, without the approval of the Administrative Agency;

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- (C) System repairs, maintenance, or reconstruction shall be limited to those items necessary to keep the system in proper working condition; and
- (D) No lawful non-conforming use of any structure or facility served by an onsite wastewater system shall be changed to a more intense use or in a way that results in an increase of the volume of wastewater produced.

2-6.0 INSPECTIONS REQUIRED

2-6.1 Private Onsite Wastewater Systems. Private onsite wastewater systems shall be inspected by the Health Agency prior to being placed in operation to ensure compliance with this code. Such systems shall be inspected thereafter as often as necessary to ensure continuing compliance with this code.

2-6.2 Repairs and Replacements. Any private onsite wastewater system, which, for any reason, does not function properly as designed and permitted, shall be replaced or repaired. No alteration or modification shall be performed without an inspection and a permit as required under this code. When repair work is done on a septic tank, a clean out of least six (6) inches in diameter with a tight fitting cap using a material approved by the Administrative Agency is required. The clean out shall be installed at the level of grade. Repairs, which are conducted during normal business hours, require prior notification to the Administrative Agency. Emergency repairs conducted during evening hours or on weekends or holidays require notification to the Administrative Agency on the first business day following the repair. In any event, plans and specifications for the alteration or modification or replacement or repairs shall be submitted to the Administrative Agency.

2-6.3 Inspection Reports. Whenever an onsite wastewater system is inspected after a permit is issued, the findings of the inspector shall be recorded, and the inspection report shall describe any violation(s), the code section(s) violated, and the correction(s) to be made. A copy of the completed report shall be issued to the owner of the premises and to the holder of the permit, if different from the owner.

2-6.4 Access to Records. The agency may examine the water usage, occupancy, and other relevant records of any establishment, which uses an onsite wastewater disposal system for information pertaining to the amount of water used by the establishment.

2-6.5 Property Resale Inspections. Whenever any property connected to or served by an onsite wastewater system is offered for sale or is subject to a purchase contract or financing, upon the request of the property owner or lending institution, the Administrative Agency may provide a property resale inspection, upon terms and at a fee established by the Administrative Agency, to inspect and determine the current condition of

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the system. At the time of the inspection, the septic tank must be accessible through a clean-out riser or other opening for observation prior to inspection of the septic tank, the tank shall be pumped by a licensed Septic Hauler unless it can be shown that the septic tank has been pumped within three (3) years of the date of the courtesy inspection by a verifiable source. If for any reason the septic tank cannot be found, no inspection will be completed by the Administrative Agency. Any inspection provided under this section shall be performed as a preventive measure only and shall not constitute nor be deemed a warranty, and neither the Administrative Agency nor any other official of the county or municipality shall be liable for any failures of the system or other claims arising out of the inspection. If a clean-out riser is not present at the time of inspection, a minimum of a six (6) inch clean-out riser shall be installed at the level of grade with a tight fitting cap using a material approved by the Administrative Agency. Upon completion of the inspection, a final report shall be issued to the requesting party, but issuance of the final report shall not relieve any person of compliance with the requirements of this code.

2-7.0 SANITARY SERVICES

2-7.1 Grease Traps.

2-7.1.1 Grease Traps Required. Grease traps are neither necessary nor recommended for onsite wastewater systems serving homes, but shall be required for those serving commercial or industrial establishments where it is determined by the Administrative Agency that introduction of grease into the onsite wastewater system might adversely affect it.

2-7.1.2 Grease Trap Design. Grease trap plans and specifications shall be submitted to the Administrative Agency for approval. No human waste shall pass through the grease trap.

2-7.1.3 Construction. Grease traps shall be located, installed and constructed so that they will reduce the temperature of kitchen wastes to permit congealing of grease. Easy access for cleaning and grease removal shall be provided.

2-7.2 Sewage Lift Pumps. In the event that the sewage generated from a building or residence cannot be plumbed to an absorption field or sanitary sewer by gravity, then a sewage lift pump with the necessary accessories as determined by the Administrative Agency and the manufacture shall be required. The pump chamber must be sealed, odor proof and watertight.

2-7.3 Privies.

2-7.3.1 Approval of Plans. No person shall construct, repair, or modify any privy until the plans and specifications for the proposed construction, repair, and/or modification have been approved by the Administrative Agency.

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- 2-7.3.2 Approval of Construction. No person shall use, or make available for use, any newly constructed, repaired, or modified permanent or temporary privy until the construction has been inspected and approved by the Administrative Agency for compliance with approved plans or designs.
- 2-7.3.3 Location.
- (A) No privy shall be installed within 100 feet from an existing well.
 - (B) No privy shall be constructed or reconstructed on any premise served by a public water supply, or on which water is delivered to any building under pressure, unless an exception for use of a privy is obtained from the Administrative Agency.
 - (C) No privy shall be constructed less than 300 feet from any dwelling other than that of the owner of the privy.
- 2-7.4 Proper Maintenance. No person shall use, or offer for use, any privy that is not maintained so that odors are controlled and insects and water are excluded from the vault or pit. All vaults shall be of watertight construction.
- 2-7.5 Chemical Toilets and Portable Toilets. Chemical toilets and portable toilets shall be properly designed, constructed, maintained, and pumped by a licensed septic hauler when unsanitary conditions exist or at a minimum of weekly intervals so that they do not create a public health nuisance. The ratio of persons per toilet at an event shall be fifty people to one toilet. Owners of such toilets, which are not in compliance with this code, shall be notified of the violation and shall be responsible for penalties under this code.
- 2-7.6 Septage Haulers.
- 2-7.8.1 Licensing.
- No person shall remove any wastes from any onsite wastewater system or privy or chemical toilets and transport such waste within Shawnee County unless that person holds a valid Septage Haulers License from the Administrative Agency. Such license shall be issued only to persons:
- (A) Operating properly designed and maintained equipment which has been inspected and approved by the Administrative Agency, and
 - (B) Certified by the Administrative Agency after receiving training in proper disposal of domestic septage and sewage sludge in accordance with this code, EPA regulations, and KDHE guidelines, and
 - (C) Submitting the required Septage Haulers license fee, and

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(D) Disposing of domestic septage and sewage sludge in accordance with Section 2-7.8.4 of this code.

2-7.8.2 Contracting With Unlicensed Persons Prohibited. No person responsible for operating an onsite wastewater system or privy shall contract with any person for sanitary service unless that person providing the service holds a valid Septage Haulers License from the Administrative Agency.

2-7.8.3 Minimum Standards for Sanitary Service Equipment. All equipment used to render sanitary service shall be of watertight construction and maintained in good working condition to ensure that all materials removed from private wastewater disposal systems will be transported to an approved point of treatment and/or disposal without spillage of the waste during transit. The name of the person or firm engaging in the removal of sewage from onsite sewage management systems shall be lettered on both sides of each vehicle used for sewage removal purposes. Letters and numerals shall not be less than two (2) inches in height.

2-7.8.4 Domestic Septage.

All domestic septage shall be properly disposed of:

- (A) By discharge directly into a mechanical publicly-owned treatment works (POTW), after meeting wastewater treatment plant regulations, payment of fees, and maintaining records required under EPA Part 503 regulations, or
- (B) By land application in conformity with EPA Part 503 regulations and all applicable provisions of this code. Persons wanting to operate a land disposal site in Shawnee County shall apply annually for a permit to the Administrative Agency. The land disposal site shall be inspected and evaluated by the Administrative Agency to determine the disposal site's compliance with EPA Part 503 regulations. Septage discharged to a land disposal site shall be managed in conformity with EPA Part 503 regulations. All logs and records required under EPA Part 503 regulations shall be kept for at least five (5) years by the licensed Septage Hauler and shall be available for review upon request by the Administrative Agency.

2-7.8.5 Commercial or Industrial Septage.

All commercial or industrial septage shall be properly disposed of by discharge directly into a mechanical wastewater treatment plant for treatment. Vegetable oils, animal fats, and wastes removed from grease traps of commercial or industrial establishments must be suitably treated at an approved facility.

2-7.8.6 Chemical Toilets and Portable Toilets Wastes.

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No chemical toilet or portable toilet wastes shall be disposed of in Shawnee County in any manner other than by discharge directly into a mechanical publicly-owned treatment works (POTW), after meeting POTW regulations, payment of fees, and maintenance of records that reflect all information required under EPA Part 503 regulations.

2-7.9 Wastewater Disposal System Installers.

2-7.9.1 Licensing.

No person shall construct, modify, service or repair any onsite wastewater system unless that person holds a valid Septic Installers license issued by the Administrative Agency. No Septic Installers license shall be required for an individual performing labor or services for a licensed septic installer at such installer's direction and under such installer's supervision.

- (A) A Septic Installers license valid for a period of one (1) year shall be issued to installers who have completed a prescribed course of training for installers conducted or approved by the Administrative Agency, and have met the minimum standards of knowledge of this code and recommended procedures and practices, and paid the required Septic Installers licensing fee.
- (B) A Septic Installers license may be denied or revoked if it is established by the Administrative Agency that the installer has knowingly contravened this code or has failed to meet Administrative Agency standards and regulations.

2-7.9.2 Contracting With Unlicensed Onsite Wastewater System Installers Prohibited.

No person responsible for operating an onsite wastewater system shall contract with any person for construction, modification, or repair of an onsite wastewater system unless that person holds a valid Septic Installers license issued by the Administrative Agency.

2-8.0 REQUIREMENTS FOR SUBDIVISION DEVELOPMENT

2-8.1 After adoption of this code, no person shall develop any subdivision in an unincorporated area within the county until the plans for an onsite wastewater system have been approved by the Administrative Agency and forwarded to the planning commission.

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Appendix A

Ryan's Soil Percolation Testing

How to prepare for a Ryan's soil percolation test on a single building site:

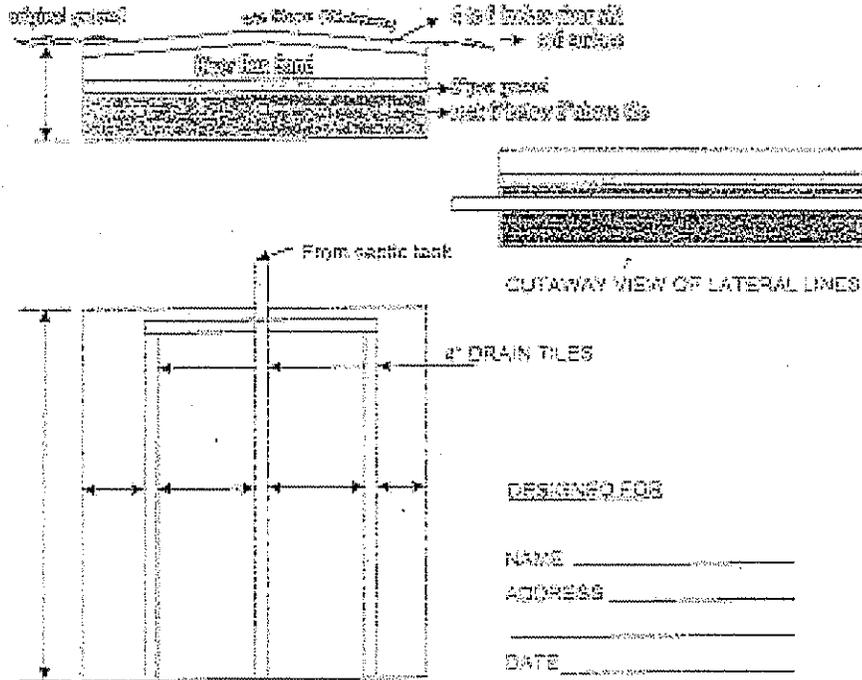
1. Tests are performed on a first come first served basis. Contact the Shawnee County Health Agency before drilling the holes.
2. Do not dig the holes until you have made an appointment for the percolation test.
3. Do not drill or dig the holes more than two (2) days in advance of the test.
4. A total of six (6) holes must be used for the test.
5. Holes are to be eight (8) to twelve (12) inches in diameter and twenty-four (24) inches deep.
6. Rough up the side walls of the perk holes with a sharp implement.
7. If groundwater seeps into holes, then the site is waterlogged, and not acceptable for lateral lines. You must select another site.
8. Locate holes 25 to 50 feet apart and evenly distributed over the area of the proposed lateral field.
9. Twenty-four (24) hours before the test is to be done, fill holes with water within one (1) inch from the top of the hole.
10. As the water level drops, refill the holes to keep them saturated. It is important the holes do not go dry. When the sanitarian arrives to do the test, the water level will be adjusted to complete the test.
11. Please mark the holes with flags or stakes so the holes can be found.

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APPENDIX B

SWAPOTRANSFORMATION BED



QUANTITIES

EXCAVATION	_____	CUBIC YARDS
SAND	_____	CUBIC YARDS
ROCK	_____	CUBIC YARDS
SILT	_____	CUBIC YARDS

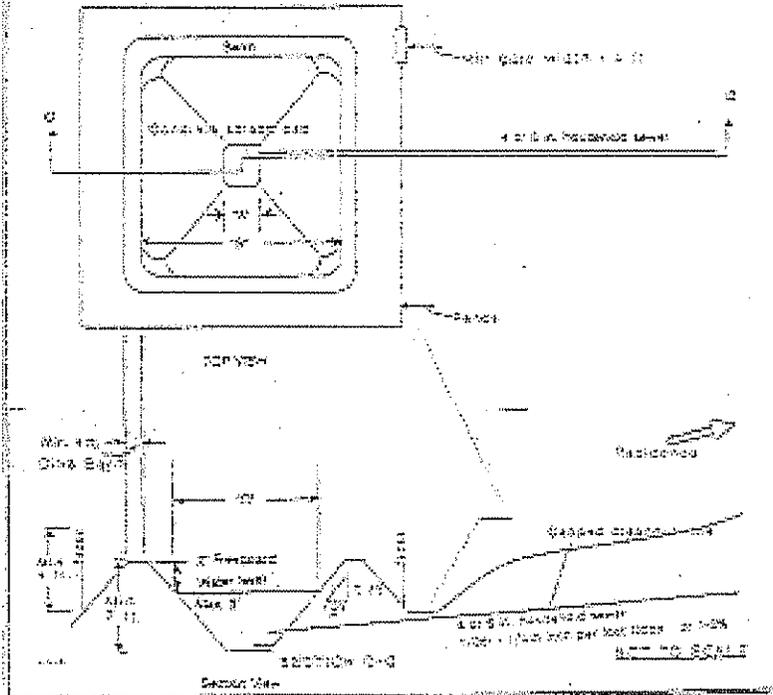
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APPENDIX C
Pond Design

WASTEWATER STABILIZATION POND DESIGN

Pond Type	Dimensions			
	7'	15'	30'	50'
M-20	10'	32'	2	40
M-40	10'	32'	2.5	45
M-60	15'	34'	3.5	50
M-80	20'	35'	3.5	55
M-100	25'	37'	3.5	60



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Appendix D

Quantity of Sewage Flows

TYPE OF ESTABLISHMENT	UNIT (per)	GALLONS (per day)
<u>Permanent Residential Dwellings</u>		
Multi-Family	bedroom	150
Individual Mobile Homes	bedroom	150
Mobile Home Parks	space	300
Boarding Houses	person	50
Rooming Houses	resident	40
<u>Institutions</u>		
Hospitals, Medical	bed	250
Hospitals, Medical	employee	15
Hospitals, Mental	bed	150
Hospitals, Mental	employee	15
Long-Term Care Institutions	bed	125
Long-Term Care Institutions	employee	15
Prison	inmate	150
Prison	employee	15
<u>Schools</u>		
Boarding School	person	150
Schools Without Cafeteria or Showers	person	15
Schools W/Cafeteria & Showers	person	25
Schools W/Cafeteria or Showers	person	20
Daycare (Adult)	person	20
Daycare (Child)	person	20
<u>Travel</u>		
Airports	passenger	5
Railway Stations	passenger	5
Bus Stations	passenger	5
Highway Rest Areas	traveler	5

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Quantity of Sewage Flows (Continued)

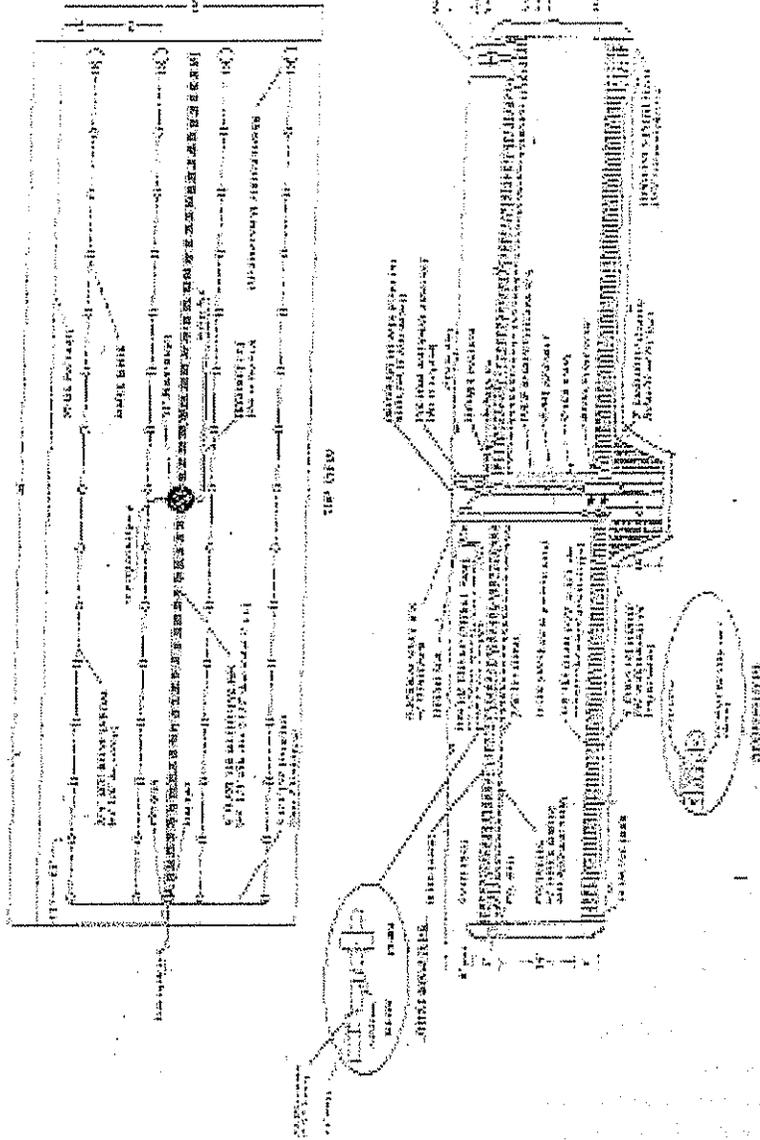
TYPE OF ESTABLISHMENT	UNIT (per)	GALLONS (per day)
<u>Recreational & Seasonal Areas</u>		
Campground W/ Mobile Homes	site	150
Swimming Pools & Bathing Beaches	person	10
Comfort Sta. W/Toilets & Showers	space	35
Comfort Sta. W/O Showers	space	25
Day Camps W/O Meals	person	25
Day Camps W/Meals	person	35
RV Parks W/Water and Sewer Hook-ups	space	50
Cottages and/or Small Dwellings W/Seasonal Occupancy	bedroom	15
Picnic Parks W/Toilet Facilities (only)	person	10
Youth Camps W/O Cafeteria	person	50
Youth Camps W/ Cafeteria	person	60
Migrant Labor Camps	person	150
Sanitary Dump Station for Un-sewered Site	site	20
Campground W/Central Bath and Toilet Facilities	space	35
<u>Commercial, Industrial & Misc.</u>		
Country Clubs, No Kitchen	member	25
Hotels & Motels	bed	50
Places for Public Assembly	person	5
Theaters	seat	5
Churches W/O Kitchen	seat	3
Churches W/Kitchen	seat	6
Restaurants	meal	10
Restaurants W/Bar & Cocktail	meal	12
Offices & Day Workers	person	15
Shopping Centers	(per 1000 sq.ft. of floor area)	250
Stores	toilet	400
Service Stations (served)	vehicle	10
Laundries	customer	50
Factories W/Toilets & Showers	person	35
Factories W/Toilets, No Showers	person	20

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APPENDIX E
 POTENTIALLY SENSITIVE AREAS



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ENVIRONMENTAL CODE
SHAWNEE COUNTY, KANSAS
CHAPTER 3

WATER SUPPLIES

3-1.0 PURPOSE AND INTENT

The provisions of this Sanitary Code are adopted for the purpose of regulating and controlling the development, maintenance, and use of public and private water supplies of Shawnee County to protect public health and safeguard public water resources.

- 3-1.1 Compliance Required. No person shall, after publication of this code, construct on any property subject to this Sanitary Code, any public or private water supply that does not comply with the requirements of this Sanitary Code and Kansas Department of Health and Environment Article 30-- Water Well Contractor's License; Water Well Construction and Abandonment.

3-2.0 DEFINITIONS

In addition to the definitions provided in Chapter 1 and 2 of this code, the words, terms and phrases listed below for purposes of this Chapter 3, are as follows.

- 3-2.1 Abandoned water well means a water well determined by the Kansas Department of Health and Environment to be a well;

- a. in which the use has been permanently discontinued;
- b. in which pumping equipment has been permanently removed;
- c. which is in such a state of disrepair that it cannot be used to supply water, or it has the potential for transmitting surface contaminants into the aquifer or both;
- d. which poses potential health and safety hazards; or
- e. which is in such a condition it cannot be placed in active or inactive status.

- 3-2.2 Active well means a water well which is an operating well used to withdraw water, monitor or observe groundwater conditions.

- 3-2.3 Annular space means the space between the well casing and the well bore or the space between two or more well casings.

- 3-2.4 Aquifer means an underground formation that contains and is capable of transmitting groundwater.

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- 3-2.5 Backflow means the undesirable reversal of flow of water or mixtures of water and other liquids, gases or other substances into the distribution pipes of the potable supply of water from any source or sources.
- 3-2.6 Confined aquifer means an aquifer overlain and underlain by impermeable layers. Groundwater in a confined aquifer is under pressure greater than atmospheric pressure and will rise in a well above the point at which it is first encountered.
- 3-2.7 Cross-connection means any unprotected actual or potential connection or structural arrangement between a public or a consumer's potable water system and any other source or system through which it is possible to introduce into any part of the potable system any used water, industrial fluid, gas or substance other than the intended potable water with which the system is supplied. By-pass arrangements, jumper connections, removable sections, swivel or change over devices and other temporary or permanent devices through which or because of which "backflow" can or may occur are considered to be cross-connections.
- 3-2.8 Domestic uses means the use of water by any person or family unit or household for household purposes, or for the watering of livestock, poultry, farm and domestic animals used in operating a farm, or for the irrigation of lands not exceeding a total of two acres in area for the growing of gardens, orchards and lawns.
- 3-2.9 Groundwater means the part of the subsurface water, which is in the zone of saturation.
- 3-2.10 Grout means cement grout, neat cement grout, bentonite clay grout or other material approved by the department used to create a permanent impervious watertight bond between the casing and the undisturbed formation surrounding the casing or between two or more strings of casing.
- 3-2.11 Grout tremie pipe or grout pipe means a steel or galvanized steel pipe or similar pipe having equivalent structural soundness that is used to conduct pumped grout to a point of selected emplacement during the grouting of a well casing or plugging of an abandoned well or test.
- 3-2.12 Heat pump hole means a hole drilled to install piping for an earth coupled water source heat pump system, also known as a vertical closed loop system.
- 3-2.13 License means a document issued by the Kansas Department of Health and Environment to qualified persons making application therefore, authorizing such persons to engage in the business of water well contracting.

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- 3-2.14 Pitless well adapter or unit means an assembly of parts installed below the frost line which will permit pumped groundwater to pass through the wall of the casing or extension thereof and prevent entrance of contaminants.
- 3-2.15 Person means any individual, association, firm, partnership, corporation or governmental entity responsible or liable to comply with regulations set forth in this code.
- 3-2.16 Potable water means water free from impurities in amounts sufficient to cause disease or harmful physiological effects in humans and conforming to latest Public Health Service Drinking Water Standards.
- 3-2.17 Private Water Supply means a water supply used for domestic uses, which serves not more than three (3) dwellings on a piped system.
- 3-2.18 Public Water Supply means a water supply system for delivery to the public of piped water for human consumption, if this system has at least ten (10) service connections or regularly serves at least twenty-five (25) individuals daily at least sixty (60) days out of the year. This term includes any source, treatment, and storage or distribution facilities used in connection with the system.
- 3-2.19 Sanitary well seal means a manufactured seal, approved by the Administrative Agency and KDHE, installed at the top of the well casing which, when installed, creates an air and watertight seal to prevent contaminated or polluted water from gaining access to the groundwater supply.
- 3-2.20 Static water level means the highest point below or above ground level, which the groundwater in the well reaches naturally.
- 3-2.21 Unconfined aquifer means an aquifer containing groundwater at atmospheric pressure. The upper surface of the groundwater in an unconfined aquifer is the water table.
- 3-2.22 Water District means any special district authorized and empowered by state statutes to plan, construct, and/or operate a public water supply system.
- 3-2.23 Water well means any excavation that is drilled, cored, bored, washed, driven, dug, jetted or otherwise constructed when the intended use of such excavation is for the location, diversion, artificial recharge or acquisition of groundwater.

3-3.0 REQUIREMENTS FOR PUBLIC WATER SUPPLIES

- 3-3.1 State permit. No person shall operate a public water supply without obtaining a public water supply permit from the Kansas Department of Health and Environment.

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3-3.2 State Approved Plans. No person shall construct or permit to be constructed on any property subject to the provisions of this Sanitary Code, any public water supply until the plans and specifications for such supply have been submitted to and approved by the Kansas Department of Health and Environment. A copy of the plans, specifications shall be made available to the Shawnee County Health Agency if requested.

3-4.0 WATER SUPPLY REQUIRED

3-4.1 Owners of private homes that are used as a principal residence and all rented or leased homes shall furnish at least one convenient outlet supplying an adequate quantity of potable water. Owners of permanent establishments shall furnish an adequate supply of safe water for the clientele.

3-5.0 MINIMUM STANDARDS FOR WATER WELLS

Construction regulations for all wells other than public water supply.

3-5.1 Area Requirements

No well shall be located on a lot less than two (2) acres whereon an onsite sewage management system is utilized.

3-5.2 Location

Before a permit can be issued for well construction, the Administrative Agency will approve the well location with respect to separation distances from pollution sources and compliance with local and state regulations. No site shall be approved for well construction if it is subject to contamination or cannot meet separation requirements as set forth by the Administrative Agency or the Kansas Department of Health and Environment. The well shall meet the following requirements:

A.) Minimum horizontal distances as set forth below:

1. Fifteen (15) feet from utility lines;
2. Fifty (50) feet from abandoned cesspools, inactive wells, barnyards and feedlots, manure storage, streams, lakes and ponds, buildings and property lines, sewer lines;
3. One hundred (100) feet from septic tanks, lagoons, pit privy, septic system lateral field;
4. One hundred fifty (150) feet from chemical storage, fertilizer storage, fuel storage, pesticide storage and landfills.

B.) The well shall not be constructed in an area subject to the regulatory flood.

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- C.) Proper drainage in the vicinity of the well shall be provided so as to prevent the accumulation and ponding of surface water within fifty (50) feet of the well. The well shall not be constructed in a ravine or any other drainage area where surface water may flow into the well.
- D.) Fifty (50) feet or more from the nearest property line, allowing public right-of-ways to be counted; however, a well used only for irrigation or cooling purposes may be located closer than twenty-five (25) feet to an adjoining property where:
- 1) Such adjoining property is served by a sanitary sewer and does not contain a septic tank system, disposal well or other source of contamination or pollution and;
 - 2) The property to be provided with the proposed well is served by both a sanitary sewer and a public water supply and;
 - 3) A water well irrigates more than two 2 acres. Wells watering less than two acres are domestic wells and shall follow the regulation set forth above for domestic wells.
- E.) A water well shall be so located as to minimize the potential for contamination of the delivered or obtained groundwater and to protect groundwater aquifers from pollution and contamination.
- F.) The Administrative Agency can grant a wavier of the county code as long as the waiver meets the minimum requirements of K.A.R. 28-30 8, only KDHE can grant a waiver of KDHE standards.

3-6.0

WATER WELL CONSTRUCTION AND ABANDONMENT

All water well construction and abandonment shall be monitored and enforced under the stated statues of Kansas Department of Health and Environment Article 30.

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