KERN COUNTY / Public Health

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Environmental Health Division

Standards and Rules and Regulations for Land Development

Sewage Disposal, Water Supply, and Preservation of Environmental Health

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Definitions

The definitions set forth in the following section shall apply throughout these standards.

Alluvium
Sediment deposited by a river.

Disposal field
The required absorption area on square feet per one hundred (100) gallons of septic tank liquid capacity.

Domestic Water
Water plumbed to a dwelling or structure which is intended to be used for, but not limited to, drinking, food preparation, dish washing and bathing. Domestic water must also be potable.

Easement
A grant of one (1) or more of the property rights by the owner to or for the use by the public, a corporation, or another person or entity.

Effluent
The liquid outflow of any facility designed to treat, convey or retain wastewater.

Expansion Area
Additional seepage pits or subsurface drain fields, equivalent to at least one hundred (100) percent of the required original system that may be installed if the original system cannot absorb all the sewage.

Floodplain
A land area adjoining a river, stream, watercourse or lake which is likely to be flooded, including alluvial cones, wherein streams may change their course.

Groundwater
Water stored underground in the spaces between rocks or sediments.

Leach bed
The joining of leach line trenches into one large square area.

Leach line
A series of horizontal trenches that hold a level perforated pipe that is used to distribute the wastewater throughout a rock absorption system where it eventually soaks into the soil particles.

Percolation Test
A test conducted in order to determine the proper porosity for proposed disposal systems. Test must be accomplished by registered civil engineers, certified engineering geologists, or approved registered Environmental Health Specialist.

Potable Water

Water safe for drinking, culinary and domestic purposes and meets all requirements of the health officer.

Public Entity

A local agency which is empowered to plan, design, finance, construct, operate, maintain, and to abandon, if necessary, any sewerage system, the expansion of any sewerage system and the sewage treatment facilities serving a land development.

In addition, the entity shall be empowered to provide permits and to have supervision over the location, design, construction, operation, maintenance, abandonment of individual sewage disposal systems and to conduct any monitoring or surveillance programs required for water quality control purposes.

Seepage Pit

A covered pit with an open-jointed or perforated lining which septic tank effluent seeps into the surrounding soil, sometimes called a leaching pit or leaching pool.

Septic Tank

A water tight, covered receptacle designed and constructed to receive the discharge of sewage from a building sewer, to separate solids from the liquid, to digest organic matter, to store digested solids through a period of detention, and to allow the clarified anaerobic liquids to discharge for final disposal.

Setback

The required minimum distance between a proposed sewage disposal system and those items listed in the California Plumbing Code, Appendix K.

Sewage

Any combination of water-carried waste, discharged from buildings.

Sewage system

A network of wastewater collection, conveyance, treatment and disposal facilities interconnected by sewers, and owned by the districts.

Private system: a private sewerage disposal system or any part thereof, or the building sewer to the point of connection to a public sewer main which typically parallels the center line of the roadway. A private system is sometimes referred to as private disposal system.

Public system: a common sewerage system or any part thereof which is operated by the county, or by a county service area, or by any political subdivision or public entity.

Streams

Surface: a continual or seasonal flow of water in a definite channel having a bed of banks.

Non-classified: a flow of water within a well defined course only during a period for storm.

Chapter I General

Section 601-1

The Environmental Health Division's "Standards for Land Development" include the aspects of sewage, water supply, and preservation of environmental health. The standards are intended to safeguard the public health, and are enforced by the County's Environmental Health Division. They are primarily intended to apply to residential units. The applicant may request a variance from the requirements of these Standards.

The Director of the Public Health Services Department may grant exceptions. He is authorized to approve a variance if it is determined that the granting of such variance will not result in any nuisance or menace to the public health, and may conditionally approve a variance if it is determined to be necessary to meet the goals and objectives of these Standards.

Section 601-2

It is the responsibility of the land developer and his technical consultants to provide to the Environmental Health Division any and all data needed to satisfy the content and the intent of these Standards.

Section 601-3

Regulations of the State of California or other governmental agencies that are more restrictive in nature have precedence over these Standards.

Section 601-4

All references herein to the California Plumbing Code relate to the current edition as adopted by the County of Kern.

Chapter II Sewage Disposal by Individual Soil Absorption Systems

Section 602-1

Consideration should be given to the construction of a community sewerage system and treatment plant if connection to a public sewer is not possible. Where sewage disposal by individual soil absorption systems such as septic tanks with disposal fields or seepage pits is proposed, the following standards shall apply:

A. A soils report regarding the feasibility of using individual sewage disposal systems in accordance with the standards of good public health and engineering practice is required. Three copies of the report must be submitted. The report must be prepared by a registered civil engineer, qualified in the field of soils engineering, or by some other specialist acceptable to the Environmental Health Division. The report is subject to the review and approval of the Division.

B. The report must include the results of soil percolation tests. Percolation tests shall be made in accordance with the U.S. Public Health Service test procedure (Manual of Septic Tank Practice, Part I). Any departure from that procedure must first be approved by the Environmental Health Division. The submittal of soil test hole logs is also required, with soils classified in accordance with the current California Plumbing Code and by either the Unified Soil Classification System or other standard method.

Where soil and bedrock conditions permit, the test pits or borings shall extend to minimum depths of seven (7) feet below the bottoms of proposed disposal trenches or twelve (12) feet

below the bottoms of pits. The Engineer must specify whether disposal trenches and/or pits are to be used. The number of test holes and percolation tests is ordinarily at the discretion of the engineer, but they are required to state whether or not the soil in each lot in a development is capable of satisfactorily absorbing sewage effluent.

Soil and percolation test hole locations must be accurately plotted on the map which accompanies the report. If the current California Plumbing Code soil types vary within the development, the map shall indicate limits of the different types, and a lot-by-lot list of soil types shall be submitted.

C. For purposes of standardization, Appendix Tables 1 and 2 shall be used to correlate percolation rates with the current California Plumbing Code soil types.

Section 602-2.1

Individual sewage disposal systems may be used only where sufficient area for them is provided and where the density of such systems and of the resulting sewage effluent will not have an adverse effect upon water quality or public health.

A. The minimum allowable lot size where individual sewage disposal systems are used is considered to be a function of soil properties, climate, geology, and topography. The required minimum lot size where individual sewage disposal systems are used is 10,000 square feet net, except as follows:

1. In desert, valley, or foothill areas, lots may be less than 10,000 square feet net but no less than 7,200 square feet net, where individual systems are used, provided that the following criteria, over and above those contained elsewhere in these Standards, are satisfied:

(a) A functioning public entity providing potable water exists or is provided.
(b) The site is shown on the Geologic Map of California as "Recent Alluvium", as published by the California Division of Mines and Geology.

(c) The soils for septic tank purposes are Type 1 (Coarse sand and gravel) or Type 2 (Fine sand) of the current California Plumbing Code.
(d) The natural slope of the surface of the ground throughout the site does not exceed ten (10%) percent.
(e) Other pertinent environmental quality control factors, in the discretion of the Director of the Public Health Services Department, allow the smaller lot size.

B. In all areas, each lot shall be provided with an adequate site for subsurface disposal of sewage effluent within the boundaries of the lot. The site must have a natural slope of thirty (30%) percent or less; it must be located to allow disposal by gravity flow, and its size for single family residential use, whether leaching trenches or disposal pits are used, shall be in accordance with Appendix Table 3.

C. The required minimum size of the effluent disposal field area for multiple dwelling lots, in which leaching trenches or seepage pits are used, shall be determined by the following information:

1. The required area in square feet and the required septic tank capacity in gallons, in accordance with the current California Plumbing Code.

2. The proposed number of dwelling units, the number of bedrooms in each unit, and the current California Plumbing Code soil type in the future effluent disposal area must be known in order to derive the required area.
3. Also, the use of dual disposal systems, which entails alternate, periodic use and resting of trenches or pits, is required on multiple dwelling lots.

Section 602-2.2

In designing lots and sewage disposal sites prior to the filing of a tentative map, the following factors shall be considered:

A. Space shall be allowed on the lot for expansion of the original absorption facility. The square footages given in Appendix Table 3 are intended to satisfy initial expansion area requirements for disposal fields. The use of dual disposal systems, which entails alternate, periodic use and resting of trenches and pits, may be required at the reasonable discretion of the Director of the Public Health Services Department. Where dual disposal systems are to be used, each one-half of the system shall have an absorption area equal to at least two-thirds of that required by the current California Plumbing Code. An expansion area capable of accommodating at least 50% of the original installation is required in Types 1, 2, and 3 soils; at least 87% in Type 4 soil; and 125% in Type 5 soil.

B. The design of the lot should be easily accessible for future maintenance, repair, reconstruction, or connection to future public sewers.

C. The installation of sewage disposal systems within easements is not permitted without prior approval of the easement holder. Slope easements are included in this prohibition.

D. The disposal system must be located so that sewage effluent will not percolate out through the surface of the embankment. As a guideline, disposal systems should be set back at a ratio of 4 to 1 from embankments; for example, for each vertical foot of embankment height, the disposal system should be located four feet horizontally from the top of the embankment. Setbacks should be adjusted to suit local geologic conditions.

E. The following minimum setbacks from water wells are required:

System	All Water Wells
Sewer or water-tight septic tank	100 feet
Leaching Field	100 feet
Seepage Pit	150 feet

These setback distances may be increased where deemed necessary by the Director of the Public Health Services Department.

F. Disposal systems should not have to be installed underneath pavement or other impervious ground surface coverings. If it is necessary to install disposal fields beneath impervious surface coverings, the disposal system and required areas shall be increased by 25%.

G. The use of aerobic-treatment equipment in place of conventional septic tanks is not acceptable as a basis for reduction of the subsurface disposal area. The installation of electro-mechanical sewage disposal devices must have a provision for periodic professional maintenance, and is subject to approval by the Environmental Health Division.

H. A lot is not suitable for residential use if the sewage disposal system cannot be installed within its boundaries.

I. Bedrock, other impervious formations, and the maximum seasonal elevation of the ground water level shall be at least seven (7) feet below the bottoms of disposal trenches or twelve (12) feet below the bottoms of seepage pits.

In very pervious soils, for example, Types 1 and 2, the required separation between ground water level and the bottoms of disposal trenches or pits may be increased at the discretion of the Director of the Public Health Services Department.

J. The installation of sewage disposal systems in areas underlain by carbonate rocks or by fractured bedrock is not permitted unless evidence indicates that solution cavities or open fractures will not serve as conduits for the passage of improperly filtered sewage effluent into ground waters, springs, or surface streams.

Professional findings or opinions in this regard shall be submitted where applicable.

K. No sewage or sewage effluent may be discharged within 100 feet (horizontally) of any water source or the high water mark of a river, stream, canal, lake, or other surface body of water.

Sewage disposal systems shall be located as far as possible from a non-classified stream or its established easement and in no case closer than 25 feet thereto unless certified by a qualified engineer that is safe to do so without creating a nuisance or endangering the watershed.

Section 602-3

The engineer is required to submit a statement that all lots have been designed in compliance with these standards. For specially engineered systems, the engineer shall certify that the system(s) have been installed according to the approved plans when required by the Environmental Health Division.

Section 602-4

One copy of a topographical analysis map on the tentative map base (or on a larger scale map) may be required at the Director of the Public Health Services Department's discretion. Slope percentage categories shall be depicted in accordance with the following color code:

Slope Range	Color
0 to 30%	Uncolored
Greater than 30 %	Colored

Additionally, the map shall show all easements and locations of rock out-crop, high groundwater, and spring discharge. The portions of lots allocated for the subsurface disposal of sewage effluent shall be

delineated, and their approximate areas in square feet indicated. The approximate size of irregularly-shaped lots must also be shown.

Section 602-5

Where watercourses, significant drainage channels, or bodies of water traverse or adjoin a lot, a predevelopment plan, showing how sewage disposal systems can be installed and still remain at the necessary distance from the high water mark, may be required.

Lines depicting the required setbacks from such watercourses, drainage channels, or bodies of water shall be indicated on a copy of the tentative map.

Section 602-6

The use of disposal fields, wherever conditions permit, is preferred to that of pits. Seepage pits are prohibited where percolation rates for them exceed 25 minutes per inch (U.S. Public Health Service test procedure). In lieu of seepage pits, the engineer might consider the use of "specially designed", deeper disposal trenches as described in the current California Plumbing Code.

Section 602-7

If the engineer determines that the building of fill pads for the installation of disposal fields is necessary, he must submit design criteria for such pads and fields. Where any fill pad is to be built in sloping terrain, the Environmental Health Division may require the subdivider to furnish findings of an engineer or engineering geologists qualified in such matters regarding the possibility of soil slippage or landslide of the pad area. The engineer shall certify that the fills are constructed in accordance with the design.

Section 602-8

If lot-grading adversely changes the engineer's initial report on percolation characteristics of the soil in a proposed sewage disposal area, the system installed therein shall be designed in accordance with specific recommendations of a soils engineer or other specialist acceptable to the Environmental Health Division.

Section 602-9

If underground irrigation lines or other pipelines, either abandoned or proposed for abandonment, exist within a proposed land development, their locations must be shown on the tentative map, and they must be removed or destroyed as part of the subdivision improvements.

Section 602-10

When a geological hazards report for land development is prepared (either at the developer's will or as a requirement of any governmental agency), it shall include findings and recommendations concerning probable adverse affects of such hazards on the integrity of water supply and sewage disposal facilities. A copy of the report shall be furnished to the Environmental Health Division.

Section 602-11

When a flood hazard is found to exist, the engineer shall define it and shall submit his recommendations for protecting the integrity of water wells, water quality, and sewage disposal systems. Where applicable, the limits of the 100-year flood line shall be indicated on the tentative map.

The installation of public or private sewage disposal systems in a primary floodplain is prohibited.

In a secondary floodplain, individual sewage disposal systems are not permitted unless protected by flood control devices approved by the Water Agency or the Department of Engineering and Survey Services and constructed in accordance with the requirements of the Environmental Health Division so as to minimize infiltration of floodwaters into the systems and discharges from the systems into the floodwater.

Section 602-12

Environmental Health Division acceptance of proposed water supply and sewage disposal methods is contingent upon clearance of those proposals through the State Regional Water Quality Control Board and/or the State Department of Public Health.

Section 602-13

If a private domestic water well and individual sewage disposal systems are to be constructed on a lot, the minimum lot size shall be 2 ½ acres gross. In order to preclude interference with neighboring installations, water wells shall be located with consideration of required setback distances from existing or future neighboring sewage disposal systems.

Where demonstrated by a qualified civil engineer or geologist to be practical from the public health and engineering viewpoints, an exception may be granted to allow lot design of one (1) acre net minimum size where the construction of a private domestic water well and individual sewage disposal system is proposed.

Section 602-14

In accordance with the current California Plumbing Code and County ordinance, all individual sewage disposal systems must be installed under permit with the Building Inspection Division of the Engineering and Survey Services Department.

Section 602-15

In areas which are determined by the Environmental Health Division to be unsafe for installation of individual sewage disposal systems, and where it is considered likely that a nuisance or health hazard might be created, said areas shall be served by an approved public or community sanitary sewer system.

Section 602-16

If a “package treatment plant” is proposed as a means of community sewage disposal, the engineer must submit design criteria for the plant to the Environmental Health Division and receive approval from the appropriate Regional Water Quality Control Board.

Section 602-17

In larger land developments, consideration should be given to setting aside easements and areas for possible future use for sewage collector lines and treatment plant sites. In some cases, the Environmental Health Division may require such provisions.

Section 602-18

If a proposed land development is to be served by a public or community sewerage system, a letter from the appropriate agency or company signifying its capability and its intention to furnish its sewerage facilities to the property must be submitted to the Environmental Health Division. If construction has not begun within one year of the date the “will serve” letter is issued, an updated letter will be required.

Section 602-19

The sewerage statement on the tentative map for a land development for which individual sewage disposal systems are proposed should be worded: "Sewerage: Individual septic tank systems to be furnished by each subsequent lot owner", or similar.

Section 602-20

The findings and comments of the Environmental Health Division regarding a proposed land development are ordinarily based upon the most recent of available tentative map. If the design is later changed significantly, a reappraisal of the development by this Department may be necessary.

Chapter III Water Supply

Section 603-1

There must be an adequate supply of potable domestic water for the needs of the development.

Section 603-2

The quality of the domestic water supply shall meet the current U.S. Environmental Protection Agency Drinking Water Standards. Should those standards be replaced by those of some Federal or State agency, the newer standards shall apply.

Section 603-3

Where domestic water supply by private wells is proposed, a report prepared by a qualified engineer or geologist outlining findings and opinions concerning the adequacy of the quantity and quality of groundwater is required. The report shall include, but not be limited to data on the chemical and bacteriological qualities of the groundwater (chemical and bacteriological analysis must be made by a State-approved laboratory).

Section 603-4

Tank-truck hauling of domestic water for land developments or lots within new land developments is not permitted.

Section 603-5

Domestic water supply wells shall be drilled and constructed in accordance with the Kern County Ordinance Code. The installation of private water wells within easements or in building setback areas is not permitted.

Section 603-6

All domestic water supply systems must be under Environmental Health Division or State Department of Public Health permit. A permit to construct a new water system for a subdivision must be obtained prior to recordation of the final map. If an existing system is to be expanded, its permit must be updated prior to recordation of the final map.

Construction of any water supply facilities shall be in compliance with the Kern County Zoning Ordinance, and any Variance, Conditional Use Permit, Modification, or other requirement shall be obtained prior to recordation of the final map.

Section 603-7

Existing water wells which have been, or are proposed to be abandoned shall be destroyed in accordance with the Kern County Ordinance Code prior to recordation of final map.

Section 603-8

If the proposed land development is to be served by a public domestic water supply, a letter from the appropriate agency or company signifying its capability and its intention to furnish domestic water to the property must be submitted to the Environmental Health Division. If construction has not begun within one year of the date the "will serve" letter is issued, an updated letter will be required.

Section 603-9

Sources of domestic water supply are not permitted in floodplains unless protected by flood control devices approved by the Water Agency or the Engineering and Survey Services Department and constructed in accordance with the requirements of the Environmental Health Division so as to minimize infiltration of floodwaters there into.

Chapter IV Preservation of Environmental Health

Section 604-1

Any aspect of the design of a proposed development which in the opinion of the Director of the Public Health Services Department is likely or highly possible to cause serious public health problems; or likely to cause degradation of environmental quality by pollution or contamination shall be cause for a recommendation from the Environmental Health Division for disapproval of the development.

Environmental Health Division activities in this regard will be coordinated with the appropriate State agencies.

Section 604-2

Violations of health and safety laws within a proposed land development must be abated prior to Environmental Health Division acceptance of the development.

Uncovered or abandoned shafts, pits, wells, and any other possible hazards, shall be properly destroyed, filled, or otherwise corrected.

Section 604-3

Land developments are subject to review and regulation with regard to all aspects pertinent to the Environmental Health Division.

Appendix

Table 1. Percolation rates correlated with current California Plumbing Code soil types.

Percolation Rate Minutes/Inch	CPC Soil Type
Less than one	1
1 to 3	2
3+ to 10	3
10+ to 25	4
25+ to 60	5
Greater than 60	Unacceptable

Table 2. Design criteria of five typical soils.

	Type of Soil	Required sq. ft. of leaching area/ 100 gal. (m²/L)		Maximum absorption capacity in gals./sq. ft. of leaching area for a 24 hr. period (L/m²)	
1	Coarse sand or gravel	20	(0.005)	5.0	(203.7)
2	Fine Sand	25	(0.006)	4.0	(162.9)
3	Sandy loam or sandy clay	40	(0.010)	2.5	(101.8)
4	Clay with considerable sand or gravel	90	(0.022)	1.1	(44.8)
5	Clay with small amount of sand or gravel	120	(0.030)	0.8	(32.6)

Table 3. Minimum size of disposal site (square feet) required according to current California Plumbing Code soil type in disposal area.

CPC Soil Type in Disposal Area	Required minimum size of disposal site (square feet) *
1	2,000
2	2,500
3	4,500
4	13,000
5	21,000

* Exclusive of any areas occupied by structures, setbacks, and easements on the lot and in accordance with the requirements of the current California Plumbing Code and these standards.

The minimum disposal area required by the table above (which includes expansion area) is for standard leaching trenches which provide three (3) square feet of leaching area per lineal foot, or special leaching trenches which provide seven (7) square feet of leaching area per lineal foot.