

APPENDIX J

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

GUIDELINES FOR WASTE DISPOSAL FROM LAND DEVELOPMENTS *

In its June 1971 Interim Water Quality Control Plan, the Board included Guidelines for Land Development Planning. These Guidelines were substantially modified on the 15 December 1972 and re-titled *Guidelines for Waste Disposal From Land Developments*. The *Guidelines* that follow are substantially the same as those adopted in 1972 but contain changes based upon experience gained from working closely with local governmental agencies in the development of individual waste disposal ordinances.

Section 13260 of the Porter-Cologne Water Quality Control Act requires any person discharging waste or proposing to discharge waste to file a report of the discharge containing such information as may be required by the Board. In the early 1950's, the Board waived the filing of reports for dischargers from individual sewage disposal systems in those counties having satisfactory ordinances of regulations. Traditionally, these individual discharges have been treated by septic tank-leaching systems.

The Water Quality Control Act requires local governmental agencies to notify the Board of the filing of tentative subdivision maps of applications for building permits involving six or more family units except where the waste is discharged to a community sewer system.

The Board believes that control of individual waste treatment and disposal system can best be accomplished by local County Environmental Health Departments if these departments are strictly enforcing an ordinance that is designed to provide complete protection to ground and surface waters and to the public health.

The following principals and policies will be applied by the Board in review of water quality factors related to land developments and waste disposal from septic tank-leaching systems:

1. There are great differences in the geology, hydrology, geography, and metrology of the 40 counties, which lie partially or wholly within the Central Valley. The criteria contained herein are considered to be applied to the Central Valley and pertain to: (a) all tentative maps filed after 15 December 1972, (b) all subdivisions of land made after 15 December 1972, and (c) all final maps for which tentative maps were filed prior to 15 December 1971. Local agencies and the Board may adopt and enforce more stringent regulations, which recognize particular local conditions that may be limiting to wastewater treatment and disposal.
2. The Board does not intend to preempt local authority and will support local authority to the fullest extent possible. Where local authority demonstrates the inability or unwillingness to

* Excerpt from the Water Quality Control Plan (Basin Plan), Sacramento River Basin (5A), Sacramento-San Joaquin Delta Basin (5B), San Joaquin Basin (5C), and Tulare Lake Basin (5D), adopted by the Regional Board on 25 July 1975.

- adopt an ordinance compatible with these guidelines, the Board intends to withdraw its waiver concerning waste disposal from individual systems and will require each and every party proposing to discharge waste within that county to submit a Report of Waste Discharge as required by Section 13260 of the Porter-Cologne Water Quality Act.
- 3 Evaluation of the capability of individual waste treatment systems to achieve continuous safe disposal of waste requires detailed local knowledge of the area involved. The experience and recommendations of local agencies will, therefore, be an important input to the information upon which the Board will base its decision.
 - 4 There are many areas within the Central Valley that are not conducive to individual waste treatment and disposal systems. In these areas, connection to an adequate community sewerage system is the most satisfactory method of disposing of sewage. The Board believes that individual disposal systems should not be used where community systems are available and that every effort should be made to secure public sewer extensions, particularly in urban areas. Where connection to a public sewer is not feasible and a number of residences are to be served, due consideration should be given to construction of a community sewerage treatment and disposal system.
 - 5 The installation of individual disposal system, especially in large numbers, creates discrete discharges which must be considered on an individual basis. The life of such disposal system may be quite limited. Failures, once they begin in an area, generally will occur on an area wide basis. Further, regular maintenance is important to successful operation of individual disposal systems. To assure continued protection of water quality, to prevent water pollution and to avoid the creation of public health hazards and nuisance conditions, a public entity^u shall be formed with powers and responsibilities defined herein for all subdivisions having 100 lots or more. Subdivisions with less than 100 lots, which threaten to cause water quality or public health problems, will also be required to form a public entity.

^u Public Entity – A local agency, as defined in the State of California Government Section 53090 et seq., which is empowered to plan, design, finance, construct, operate, maintain, and to abandon, if necessary, any sewerage system or the expansion of any sewerage system and 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, and abandonment of individual sewage disposal systems within a land development, and shall be empowered to design, finance, construct, operate, and maintain any facilities necessary for the disposal of wastes pumped from individual sewage disposal systems and to conduct any monitoring or surveillance programs required for water quality control purposes. (Unless there is an existing public entity performing these tasks.)

CRITERIA FOR SEPTIC TANK -- LEACHING SYSTEMS

The following criteria will be applied to assure continued preservation and enhancement of state waters for all present and anticipated beneficial uses, prevention of water pollution, health hazards, and nuisance conditions. These criteria prescribe conditions for waste disposals from septic tank-leaching systems for single-family residential units or the equivalent and do not preclude the establishment of more stringent criteria by local agencies of the Board. The Board may prohibit the discharge from septic tank-leaching systems, which do not conform to these criteria. Systems, which cannot meet the following criteria, may be allowed in selected areas if they are individually designed. The criteria may not be applicable in all cases to commercial or industrial developments.

The septic tank, absorption systems, and disposal area requirements for other than single-family residential units shall be based upon the current edition of the *Manual of Septic Tank Practice* or in accordance with methods approved by the Executive Officer. An adequate replacement area equivalent to at least the initial disposal area shall be required at the time of design of the initial installation and incompatible uses of the replacement area shall be prohibited.

Minimum Distances

The Board has determined the following minimum distances (in feet) should be followed in order to provide protection to water quality and/or public health:

Facility	Domestic Well	Public Well	Flowing Stream ¹	Drainage Course or Ephemeral Stream ²	Cut or Fill Bank ³	Property Line ⁴	Lake or Reservoir ⁵
Septic tank or sewer line	50	100	50	25	10	25	50
Leaching Field	100	100	100	50	4h	50	200
Seepage Pit	150	150	150	50	4h	75	200

¹ As measured from the line, which defines the limit of a 10-year frequency flood.

² As measured from the edge of the drainage course or stream

³ Distance in feet equals four times the vertical height of the cut or fill bank. Distance is measure from the top of the bank.

⁴ This distance shall be maintained when individual wells are to be installed and the minimum distance between waste disposal and wells cannot be assured.

⁵ As measured from the high water line.

Minimum Criteria

1. The percolation rate^{2/} in the disposal area shall not be slower than 60 minutes per inch, or not slower than 30 minutes per inch if seepage pits are proposed. The percolation rate shall not be faster than five minutes per inch unless it can be shown that a sufficient distance of soil is available to assure proper filtration.
2. Soil depth below the bottom of a leaching trench shall not be less than five feet, nor less than 10 feet below the bottom of a seepage pit.
3. Depth to anticipated highest level of groundwater below the bottom of a leaching trench shall not be less than five feet, nor less than 10 feet below the bottom of a seepage pit. Greater depths are required if soils do not provide adequate filtration.
4. Ground slope in the disposal area shall not be greater than 30 percent.
5. The minimum disposal area shall conform to the following:

<u>Percolation Rate</u> <u>(minutes/inch)</u>	<u>Minimum Usable Disposal</u> <u>Area (sq ft)</u>
41-60	12,000
21-40	10,000
11-20	8,000
Less than 10	6,000

6. Areas that are within the minimum distances, which are necessary to provide protection to water quality and/or public health, shall not be used for waste disposal. The following areas are also considered unsuitable for the location of disposal systems or replacement areas:
 - a. Areas within any easement, which is dedicated for surface or subsurface improvement.
 - b. Paved areas.
 - c. Areas not owned or controlled by property owners unless said area is dedicated for waste disposal purposes.
 - d. Areas occupied or to be occupied by structures.

^{2/} Determined in accordance with procedures contained in current U.S. Department of Health, Education, and Welfare *Manual of Septic Tank Practice* or a method approved by the Executive Officer.

Implementation

1. The Board will review local ordinances for the control of individual waste disposal systems and will request local agencies to adopt criteria, which are compatible with or more stringent than these guidelines.
2. In those counties, which have adopted an ordinance compatible with these guidelines, the Board will pursue the following course of action for discharges from individual septic tank-leaching systems.
 - a. Land developments consisting of less than 100 lots will be processed entirely by the county. Tentative maps for subdivisions involving six or more family units shall be transmitted to the Board along with sufficient information^{3/} to clearly determine that the proposed development will meet the approved county ordinance. The Board along or the appropriate local authority may require a public entity if potential water quality or public health problems are anticipated
 - b. Tentative maps for land developments containing 100 lots or more shall be transmitted to the Board. The map shall be accompanied by a report of waste discharge and sufficient information to clearly demonstrate that the proposed development will meet these guidelines or the approved county ordinance. A public entity is required prior to any discharge of waste.
3. The Board will prohibit the discharge of wastes from land developments which threaten to cause water pollution, quality degradation, or the creation of health hazards or nuisance conditions. These guidelines will be used to evaluate potential water quality or health problems. In certain locations and under special circumstances the Board's Executive Officer may waive individual criteria or he may waive the formation of a public entity. Land developers are to be aware that a waiver by the Executive Officer is not binding on any location entity.

Examples of these special circumstances would be:

- a. Short time, interim use of individual septic tank-leaching systems may be acceptable in areas which do not meet these guidelines if sufficient, dependable funding of community collection, treatment, and disposal is demonstrated and a plan and time schedule for implementation is being followed.

^{3/} The Board's staff has developed a document entitled *Information Needs for Waste Disposal from Land Developments*. This document discusses the necessary reports, maps, etc., that must be submitted in order to evaluate proposed land developments.

- b. A failure to meet the minimum criteria could be negated by other favorable conditions. For example, the installation of individual septic tank-leaching systems may be allowed in areas which cannot meet the minimum criteria in these guidelines if the disposal area is increased sufficiently to allow for special design systems^{4/} that have been shown to be effective in similar areas.
4. Severe impact on water quality has resulted from improper storm drainage and erosion control. Land developers must provide plans for the control of such runoff from initial construction up to complete build-out of the development.
 5. The disposal of solid waste can have an impact on water quality and public health. Land developers must submit a plan which conforms to the regional or county master plan and contains adequate provisions for solid waste disposal for complete build-out of the development.
 6. The disposal of septic tank sludge is an important part of any area wide master plan for waste disposal. Land developers must submit a plan which conforms to the regional or county master plan and contains adequate provisions for solid waste disposal for complete build-out of the development.
 7. The responsibility for the timely submittal of information necessary for the board of the appropriate local authority to determine compliance with these guidelines rests with persons submitting proposals for development or discharge. For those development which are to be submitted to the Board, the Porter-Cologne Water Quality Control Act provides that no person shall initiate any new discharges of wastes prior to filing a report of waste discharge and prior to (1) issuance of the waste discharge requirements, (2) the expiration of 120 days after submittal of an adequate report of waste discharge, or (3) the issuance of a waiver by the Regional Board.
 8. A report of waste discharge which does not provide the information required by these guidelines is an inadequate report. The 120-day time period does not begin until an adequate report has been submitted. Thus, to avoid extensive delay, every effort should be made to comply with these guidelines at the earliest possible date during formulation of proposals.

^{4/} Special design systems will be accepted for review from registered engineers, geologist, or sanitarians who are knowledgeable and experienced in the field of septic tank-leaching system design and installation. These systems will include at least a 100% replacement disposal area. These systems shall be installed under the supervision of the designer, the public entity responsible, and the local health department.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

INFORMATION NEEDS
FOR
WASTE DISPOSAL FROM LAND DEVELOPMENTS

At a public hearing on 15 December 1972, the California Regional Water Quality Control Board, Central Valley Region, adopted *Guidelines For Waste Disposal From Land Developments*. The Guidelines have been incorporated into the Water Quality Control Plan for the Central Valley.⁽¹⁾ The Guidelines contain a description of how the Board will evaluate waste disposal from land developments especially with regard to the installation of individual septic tank leaching systems.

Contained herein is a description of the information which must be supplied to enable the Board's staff to determine if the proposed development conforms to the Guidelines. The information should be submitted along with the tentative map to the local planning agency. The planning agency will transmit this information and the tentative map to the Regional Board and to the local health department. It is suggested that local planning agencies require the submittal of such information along with a preliminary map to a subdivision review committee prior to submittal of a tentative map.

The following information needs have been developed with regard to developments which propose individual waste disposal systems. Much of this information may also be needed if the developer proposes to build a community collection and treatment system. In such case, the developer must submit a report of waste discharge to the Regional Board.

Existing Conditions

The report must contain sufficient information describing the physical environment of the development to allow the Regional Board to evaluate the effect of waste disposal and associated construction activities on ground and surface waters. It is expected that the developer will make use of locally available data to develop this report. The amount of testing to be done on each subdivision will vary depending on the area involved. In general, the frequency of testing will be left to the discretion of the engineer. Sufficient information must be available to generally categorize the development according to controlling criteria in the Guidelines. Local requirements may require subsequent testing of certain parameters on each lot for purposes of designing treatment and disposal systems.

In certain areas, the Board may waive the submittal of some of the following material. In general, however all items should be considered and those not applicable so noted. The attached form together with the tentative subdivision or land development map and certification will generally suffice.

⁽¹⁾ The Water Quality Control Plan for the Sacramento River Basin (5A), Sacramento-San Joaquin Delta Basin (5B), San Joaquin River Basin (5C), and the Tulare Lake Basin (5D) was adopted by the Regional Board on 25 July 1975.

Proposed Development Plan

- A. Show extent of development including all existing, currently proposed, and contemplated future land developments for area and immediately adjacent areas. If development is to be staged, show extent of each stage and expected time for implementation.
- B. If sewage disposal is to be by individual system, provide the following data for each lot as determined by representative testing within the development.
 1. Percolation rates (min/in)
 - a. Describe and show location of percolation tests.
 2. Soils and geology
 - a. Show depth of soil to rock or first impervious layer.
 - b. Evaluate grain size distribution, organic content, presence of swelling clays, etc.
 - c. Show location and extent of all rock outcrops, and if limestone is present, discuss the possibility of solution cavities serving as conduits to carry effluent into water supplies.
 - d. Define geological hazards as they relate to waste disposal including degree and nature of fracturing and weathering and discuss the possibility of fractures serving as conduits to carry effluent into water supplies.
 - e. Show depth and distribution of impervious layers including slope and direction of these layers.
 - f. Present information used to compile soils data (include Soil Conservation Service appraisal where applicable).
 3. Slope
 - a. Show slope of existing ground surface.
 - b. Show location of all cut or fill banks over two feet in height and designate area not available for waste disposal.
 4. Available disposal area
 - a. Show the total available disposal area that can be reached by gravity for each lot or proposed discharge.
 5. Ground water
 - a. Show depth to seasonal high groundwater and discuss anticipated and/or historic high level.

- b. Indicate direction of movement.
 - c. Discuss recharge sources and amounts in areas where they may be a problem.
 - d. Submit data on chemical and/or bacteriological quality.
 - e. Show location of marshy areas and springs.
 - f. Show location and identify use of all existing or proposed water wells, including those abandoned, both in development and on adjoining properties within 100 feet of development boundaries, and show areas not available for waste disposal.
6. Surface waters
- a. Show location and extent of all flowing streams, drainage courses, ephemeral streams, canals, lakes, and reservoirs.
 - b. Discuss relationship to groundwater.
 - c. Discuss any flood hazards.
7. Climate
- a. Describe annual precipitation showing storm and seasonal precipitation.
 - b. Describe evapotranspiration rates and show seasonal distribution.

Master Plan for Waste Disposal

Discuss plans for handling both liquid and solid wastes and the resulting impact on water quality at all stages of development.

1. Liquid Waste

- a. Identify flows and characteristics of sewage and industrial wastes.
- b. Discuss the changes in water quality that may be expected to occur as a result of waste discharges.
- c. If individual systems are to be used, indicate why existing community systems were not used or why such a system was not constructed.
- d. If installation of a community system is proposed at a later date, show that system can be economically installed, provide evidence of capability to finance and construct such a system.
- e. Discuss the public entity and indicate maintenance and operation schedules of the individual system.

- f. Show how disposal of septic tank pumpings will be accomplished.

2. Solid Waste

- a. Identify expected solid waste volumes and point of disposal.
- b. Discuss how, and by whom, the waste will be transported to the disposal site.
- c. If disposal is to an existing site, indicate that solid waste from the development will be accepted at the site, provide information on capability of the site to accommodate wastes and discuss the effect upon the life of the site.

Storm Drainage and Erosion Control Plan

A storm drainage and erosion control plan must be submitted with the tentative map which indicates:

1. Expected volumes, peak rates, characteristics, and other pertinent information concerning storm water runoff and dry weather drainage from both construction and ultimate development phases.
2. Adequate collection and treatment systems are, or will be, available as necessary to protect the water environment from any adverse effects.
3. Stabilization and/or erosion control of all cuts, fills, and other excavations or gradings by planting, raprapping, of other effective means that will prevent erosion.
4. Installation of adequate storm drainage facilities which will minimize the amount of silt, sand, and debris discharged to area receiving waters.
5. Stabilization of all storm water runoff channels by the installation of culverts, ripraps, or other effective means that will prevent erosion.
6. Scheduling of work so as to minimize erosion from weather conditions and the stabilization of work in progress against inclement weather conditions.

The Regional Board will prescribe requirements when necessary pertaining to waste discharges from land development or other construction and earth moving operations located in areas having a high potential for soil erosion and resultant siltation problems affecting water quality and water use.

Certification

The engineer or person in direct responsible charge and the person or corporation possessing ownership of the proposed development shall provide the following certification:

I hereby certify to the best of my belief that the land development known as _____

has been designed in accordance with *Guidelines* established by the California Regional Water Quality Control Board, Central Valley Region, on 25 July 1975.

Registered Civil Engineer

Certification No. _____

Date _____

I hereby certify to the best of my belief that any restrictions, requirements, or orders of the California Regional Water Quality Control Board, Central Valley Region, shall be made a part of the deeds, covenants, and restrictions for each lot sold in the land development known as _____

Name

Title

Company

Date

DEFINITIONS OF TERMS USED IN GUIDELINES

Abandoned Well

A well whose original purpose and use has been permanently discontinued or which is in such a state of disrepair that it cannot be used for its original purpose. If an abandoned well has been properly destroyed so that it will not produce water nor act as a conduit for the movement of water, it will not be subject to minimum criteria in the Guidelines

Community Sewerage System

A piped collection system which delivers sanitary wastes from a number of dwelling, business, commercial, etc., units to one or more wastewater treatment plants. The community sewerage system is normally under the jurisdiction of a public entity and operates under waste discharge requirements issued by the Regional Board.

Disposal Area

The area to be used for installation of leaching systems (normally trenches or seepage pits) from septic tanks.

Drainage Course

A depression in the ground surface that normally carries water only during and shortly after a rainfall.

Ephemeral Stream

A stream which has a surface flow of water only for a limited period of time.

Flowing Stream

A stream which maintains a surface flow during all or most of the year.

Ground Water

The water in the zone of saturation.

Impervious Layer

A bed or lens of fine grained soil or cemented material that retards the downward movement of fluids.

Individual Disposal System

A collection system and wastewater treatment and disposal facility for individual dwellings, business, commercial, etc., units. Normally septic tanks - leaching systems used for individual disposal.

Minimum Usable Disposal Area

The minimum area that must be available on a lot to dispose of waste from septic tank – leaching systems.

Porosity

Percentage of voids in the dry material.

Report of Waste Discharge

A Report required under Section 13260 of the Porter-Cologne Water Quality Control Act.

Rock

Cemented or compacted sediments or crystalline material having a porosity of less than 15%.

Soil

Granular or weathered material having a porosity greater than 15%.

REPORT TO REGIONAL BOARD

CONCERNING LAND DIVISIONS NOT TO BE SERVED BY A SEWERAGE SYSTEM

I. Subdivision Name

a. Location to nearest 1/4 section:

b. Owner: _____

Address: _____

Telephone: _____

II. Date of Submittal: _____

III. Acres in Subdivision _____; Number of parcels or lots _____;

Smallest parcel or lot size _____.

IV. Adjacent Subdivision Information

Tract or Parcel Map No.	Date Submitted to Local Advisory Agency	No. of Parcels or Lots	Smallest Parcel or Lot Size
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____

V. Soil Conditions

a. Percolation Rates (Min/in) No. Tests Performed _____

Maximum _____ Minimum _____ Average _____

b. Soil Type (Unified and U.P.C., or texture description)

Average Condition _____; Extreme Condition _____

c. Test Hole Depths (ft.) Max. _____ Min. _____ Average _____

Were restrictive barriers encountered in any test holes? Yes _____ No _____

d. Slope (%) in Disposal Area Max. _____ Min. _____ Avg. _____

e. Type of Proposed Disposal System: Pits _____; Trenches _____; Other _____.

VI. Ground Water

a. Depth to ground water within the area (ft.) _____.

b. Source of supply water – Individual Wells _____;

Water Company Name _____.

VII. General Remarks

a. What is the distance to an existing or proposed public or community sewerage facility in area:

Distance: _____ Existing: _____ Proposed: _____

b. Are there any unique conditions associated with this development which may affect water quality?

Explain: _____

VIII. Certification

County Concurrence

To the best of my knowledge, the foregoing information is an accurate and complete evaluation of this land division map number _____.

By: _____

Title: _____

Agency: _____

Date: _____

Regional Board Response is necessary by (date) _____.

Recommended Approval: _____

Additional information requested (form incomplete): _____

Complete subdivision information submittal is necessary: _____

By: _____

Title: _____

Date: _____

