

SEWAGE DISPOSAL SYSTEM REQUIREMENTS

“Bulletin A”



County of Santa Clara
Department of Environmental Health

PURPOSE

This bulletin is a compendium of Santa Clara County ordinance and policy provisions related to the design, permitting and installation of individual on-site sewage disposal systems. It is intended to provide technical guidance for homeowners, designers and installers of on-site sewage disposal systems.

PERMIT REQUIREMENTS

A permit must be obtained from the Department of Environmental Health (DEH) to construct, reconstruct or repair an individual on-site sewage disposal system. Permits will only be issued in those areas of the County where a sanitary sewer is not available within 300 feet of the property line (within 200 feet of the building in some cities). On-site sewage disposal systems cannot be used if soil conditions, topography, high ground water or other factors indicate that this method of sewage disposal is unsuitable.

To obtain a permit, four sets of the site plan showing the proposed sewage disposal system, and any required supporting documents, must be submitted to DEH for review and approval.

FEES

Fees, as prescribed by Resolution of the Board of Supervisors of the County of Santa Clara, are payable separately to the Department of Environmental Health for services described throughout this bulletin.

SITE PLANS

Site plans must include the following information and details.

1. Show all proposed and any existing sewage disposal systems drawn accurately to a scale of at least 1 inch = 20 feet. Large parcels must also show the entire site in a larger scale.
2. If the slope of the lot is less than 10% indicate direction and percent of slope with an arrow. If the slope exceeds 10% show elevation contour lines at 2 foot intervals.
3. Note the assessor's parcel number (APN), site address, County file number (if applicable), and any subdivision, tract or lot numbers
4. Show the North arrow and scale.
5. Show the location of all wells, springs, creeks, drainage swales or water courses on the property or within 100 feet of property lines.
6. Show all existing and proposed structures, driveways, culverts, patios, decks, paved areas, swimming pools, large trees, water lines, etc.
7. Show all existing and proposed cuts, slopes or embankments over 67%, slides and flood plain boundaries.
8. Include the name, address and telephone number of the legal owner and/or applicant.
9. Show the name of adjoining property owners.
10. Show the property boundaries and their recorded lengths.
11. Show all recorded easements and right-of-ways and their purpose.
12. Indicate the name of the water company or otherwise indicate the domestic water source.
13. Show all existing or proposed sewage disposal systems within 100 feet of an existing or proposed well.
14. Show the location of all components of the sewage disposal system.

DEVELOPMENT REQUIREMENTS

Land use and building permit applications are evaluated for adequate sewage disposal and water supply. Other conditions such as hazardous materials storage or use, illegal dumping or illegal uses may also be evaluated during field investigations. Evaluation/testing of any existing septic systems may also be required to determine condition and adequacy. Fees are collected separately by the Department of Environmental Health for all services.

Site Approval, - Subdivisions and Use Permits

A site assessment, soil profile and percolation test will be required for sites for which septic systems are proposed to determine feasibility and size of a system.

An approved water supply is required as a condition of approval for building sites, subdivisions and most use permits. Proof of adequate potable domestic water for subdivisions may be required prior to deeming the application complete if water availability is unknown or poor. Otherwise proof of an adequate domestic water supply is required prior to map recordation. Individual wells or water systems with up to 14 connections are regulated by DEH. All other water systems are regulated by the California Department of Health Services.

Building Additions - and Accessory Structures

Minor building additions (up to 500 square feet)³ and accessory structures (barns, detached garages, swimming pools, cabanas, etc.) are evaluated on an individual basis. The construction of an additional septic tank/drainfield may be required if the existing system is undersized, shows evidence of failure, consists of a cesspool, or if there is an intensification of use (usually an addition of bedrooms or family room).

Major building additions (over 500 square feet)³ require that the septic system meet current standards. Current standards require at least a 1,500 gallon septic tank and a dual drain field system sized and sited to current code.

Building additions/accessory structures will not be approved where it would result in a reduction in the size of the drainfield or any required drainfield reserve area.

Secondary - Dwellings

Each detached secondary dwelling must be served by a separate septic system which conforms to current code.

Lexington Basin

The septic system requirements in the Lexington Reservoir Watershed differ from standard county requirements. There are minimum lot sizes for building site approval and major building additions and a requirement for a dual system plus a designated leachfield expansion area.

Septic System - Sizing Criteria

Septic system sizing is determined primarily by the number of bedrooms and the ability of the soil to absorb water. Soil may be unsuitable for a septic system if it absorbs water too fast, or too slowly. Rooms which are designated other than bedrooms (e.g., bonus rooms, libraries, offices, etc.) may be counted as bedrooms if they are configured as such and have convenient access to full bathroom facilities.

Maximum Slope -

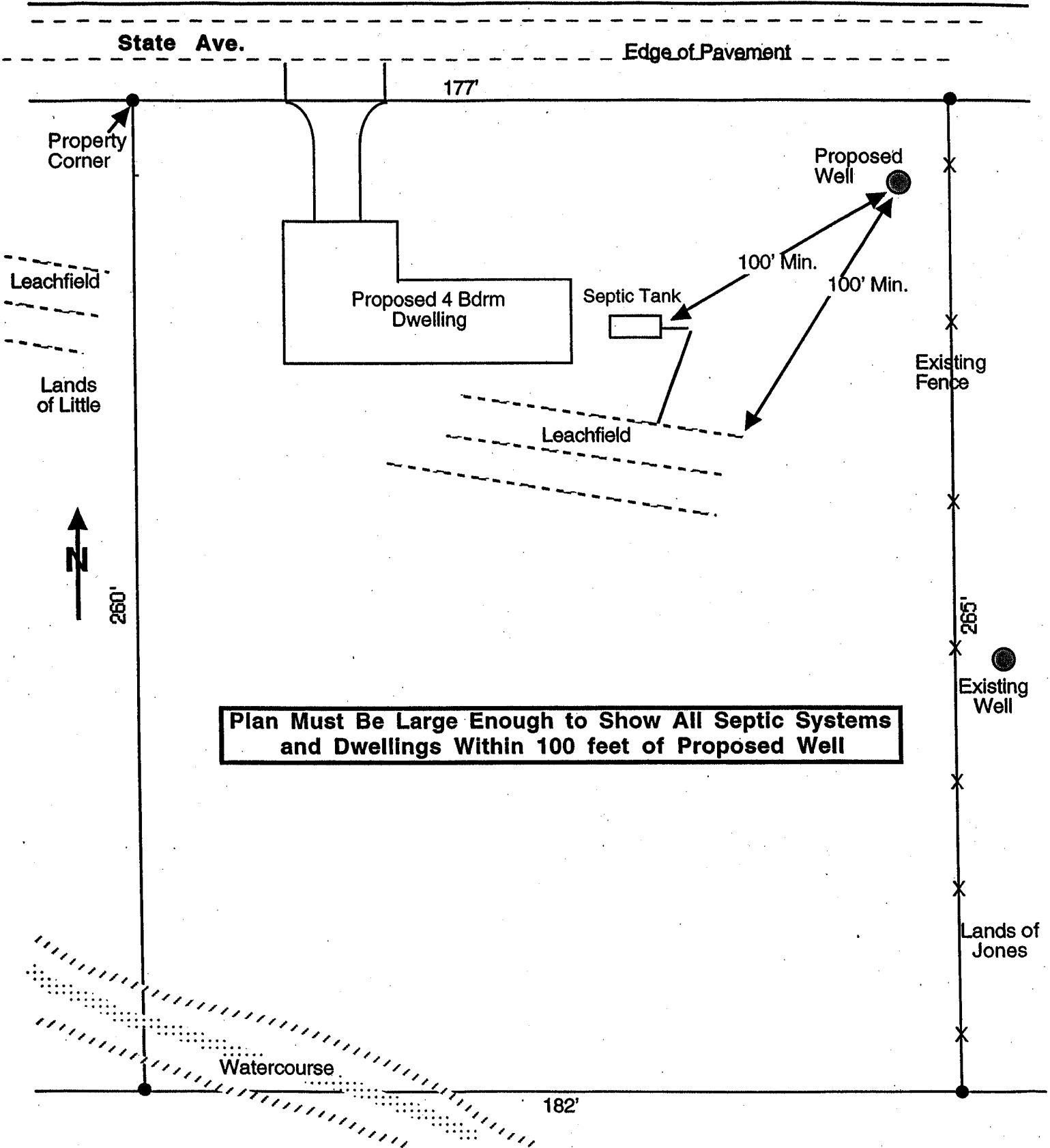
The maximum slope on which a leachfield may be installed is 50%. Leachfield designs for slopes over 30 percent in the area generally south of Cochrane Road must be forwarded by DEH, along with all documentation, to the Regional Water Quality Control Board for approval. No septic systems are allowed on slopes which exceed 30% in the Town of Los Altos Hills.

Pump Systems -

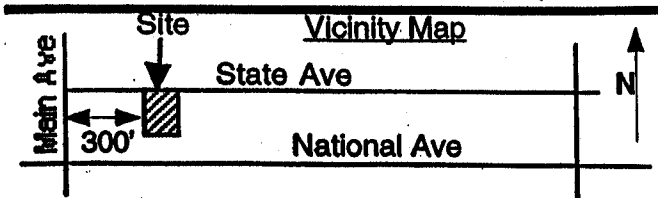
Septic systems which require pumping of the effluent from the septic tank to the leachfield are generally allowed only where it is not feasible to develop a site with a gravity flow system. Pump systems must be engineered per the Department of Environmental Health Effluent Pump System Guidelines.

³ Cumulative square footage since March 2, 1982.

SAMPLE SITE PLAN



Plan Must Be Large Enough to Show All Septic Systems and Dwellings Within 100 feet of Proposed Well



BUILDING SITE FOR

Name _____

Site Address _____

APN _____ Phone No. _____

Scale _____ Date _____

SITE EVALUATION

In order to determine if an on-site sewage disposal system can be utilized, each site must be evaluated by DEH. The purpose of this evaluation is to determine conformance to the standards established in the Santa Clara County sewage disposal ordinance. DEH's site evaluation consists of the a site assessment, a soil profile trench and a percolation test. Fees are collected separately by the Department of Environmental Health for all services.

Site - Assessment	A preliminary review of the physical features of the site, including slope of the land, proximity to cuts, steep slopes, drainageways, wells, and other features that may limit the available drainfield area. Prior to conducting the assessment, an application/authorization for access form must be signed and a site plan must be provided to DEH. Following the assessment a written report will be provided by DEH. The report will briefly describe any limitations to development of the site using an on-site sewage disposal system.
Soil Profile -	A soil profile typically consists of a backhoe excavation to at least 15 feet deep. The required depth of the excavation may be to 28 feet on sloping sites with very fast percolation rates. DEH must be present during the excavation. The purpose of the profile is to 1) determine the suitability of the soils for on-site sewage disposal and, 2) verify that there will be adequate separation between the bottom of the leachfield and bedrock, ground water or impermeable limiting soil strata. If there are site characteristics or historical documentation that a shallow ground water table is likely to occur during the rainy season a wet weather ground water investigation will be required. The investigation must be conducted during normal wet weather ground water conditions in accordance with DEH policy. Contact your local DEH office to determine if wet weather testing is required in your area.
Percolation - Test	A percolation test is conducted to determine the size of the drainfield that will be required. The applicant may choose to either 1) have DEH conduct the test, or 2) hire a consultant to conduct the test. DEH will provide oversight if a consultant conducts the test. In either case the applicant is responsible for excavating and setting up the holes in the locations designated by DEH; to presoak the holes for 48 hours prior to the test; and to provide adequate water to refill the holes as necessary during the percolation test.
Geotechnical - Report (Slope >20%)	If slopes in the drain field area exceeds 20% a geotechnical report and complete engineered installation plan will be required. The report and plan must be prepared by a State Registered Civil Engineer, State Certified Engineering Geologist or a State Registered Environmental Health Specialist in accordance with section B 11-26 of the County Ordinance Code.
Basin Plan - Exemption (Slope >30%)	If slopes in the drainfield exceed 30% in the area generally south of Cochrane Road an exemption to the Regional Water Quality Control Board Basin Plan is required. All documentation must be submitted to DEH for review and forwarding to the Board.

MAINTENANCE AND OPERATIONAL SUGGESTIONS

1. The solids that accumulate in the septic tank should be removed by pumping every 3-5 years to prevent their entering and clogging the drainfield. Licensed septic tank pumpers may be located in the phone book yellow pages or a list may be obtained from the Department of Environmental Health.
2. The diversion valve should be rotated annually to extend the life of the septic system.
3. Garbage disposals should be used sparingly or not at all. Their use contributes to solids accumulation in the septic tank and results in the need for more frequent pumping.
4. The use of water softeners is not recommended in clayey soils. Sodium from these units may alter the soil chemistry and result in reduced drainfield efficiency and possible failure. A system utilizing off-site regeneration is recommended. Any on-site regeneration water should drain to a subsurface rock filled sump.
5. Swimming pools or spas must not be drained or backwashed into the septic system. After ensuring water is free of disinfectants such as chlorine and algacides, the water may be used for on-site irrigation. Cartridge filters should be used to avoid the necessity for backwashing. Filters can be rinsed clean in a laundry or janitorial sink.
6. Avoid planting trees in the drainfield or close to the septic tank. Their roots may invade the drainfield or septic tank and cause blockage of the system.

SITING REQUIREMENTS

- Maximum - Slope** - Drainfields will not be approved on slopes that exceed 50% (30% in Los Altos Hills). Drainfields will only be approved on slopes over 20% with additional investigation (see Site Evaluation Section).
- Fill -** Drainfields must be placed in native soil and no more than 1 foot of fill may be placed over the native grade.
- Septic Tank/ - Diversion Valve** - The tank and diversion valve must be located to be easily accessible for maintenance.
- Depth of Soil** - There must be at least 10 feet of dry permeable soil (no ground water, open fractured rock or impermeable soils) beneath the drainfield on sites with moderate percolation (at least 20 feet with very fast percolation).
- Site Drainage -** On-site drainage must be designed to discharge storm water below the drainfield.
- Percolation - Rate** - Soil percolation rates must be between 1 to 120 minutes per inch.

MINIMUM SETBACKS (In Feet)

MEASURED FROM	TO SEPTIC TANK	TO LEACHFIELD
Foundation	5	10
Property Line ¹ , Swimming Pool	10	
Domestic Water Line	NIA	10
Septic Tank	Max. 10 feet	6
Diversion Valve	recommended	NIA
Top of Cut Bank	NIA	4X height of cut ²
Top of Steep Bank or Slope (over 67%)	NIA	4X height of bank ²
Wells, Springs, Creeks, Watercourses	100	100
Easement or right-of-way	N/A	5
Paved surfaces	NIA	5
Drainage swales (edge of swale) Water reservoirs	50 200	50 200
Trees Over 18 inches Diameter	NIA	Min. 15 ft. recommended

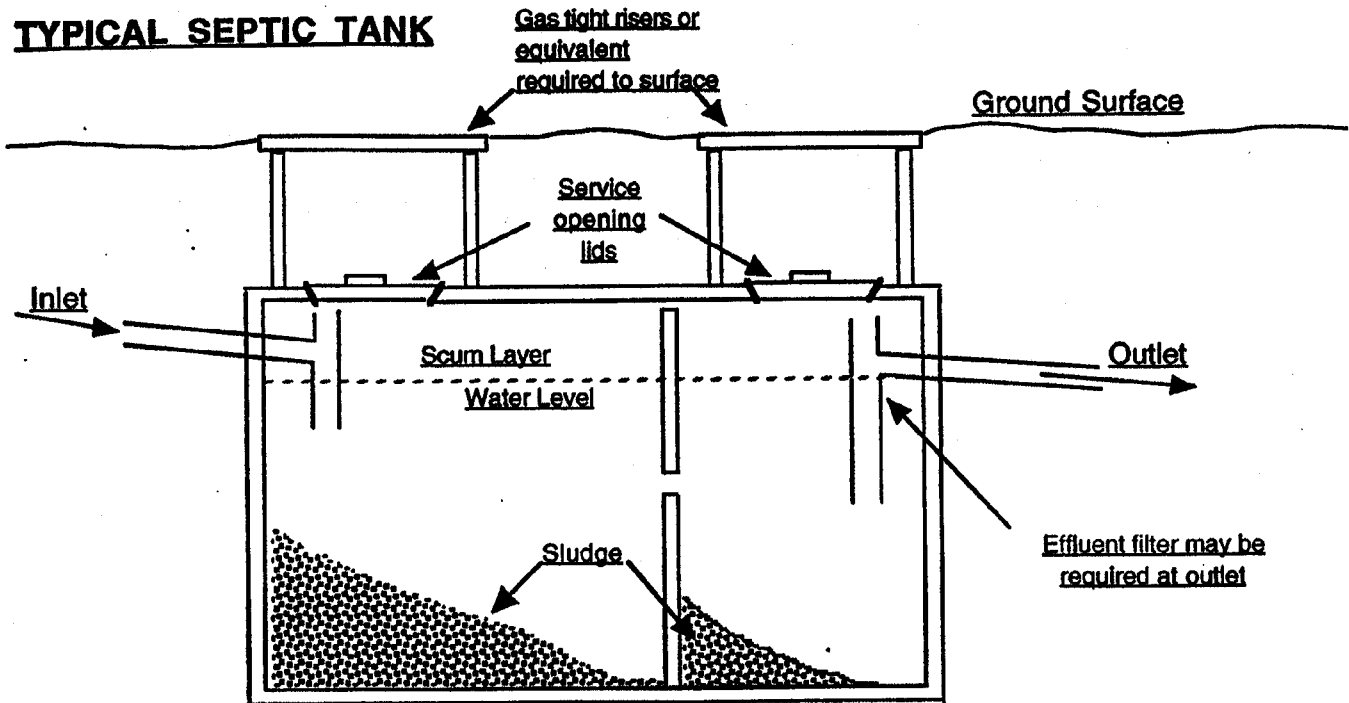
1 No part of a septic system may cross a property line

2 A minimum of 25 feet and maximum of 100 feet

Septic System Installation Requirements

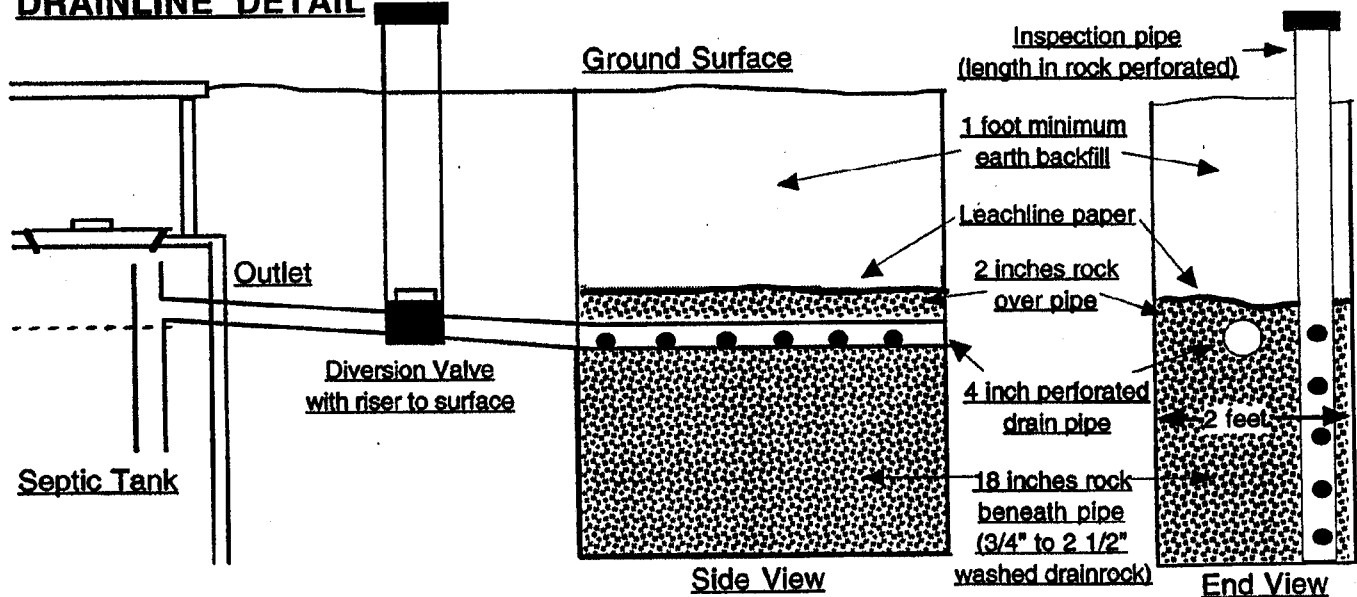
1. The approved septic system/site plan (stamped by Environmental Health) must be available on the job site.
2. Per County ordinance, the contractor must hold the appropriate contractor's license and be registered with the Department of Environmental Health.
3. The appropriate Environmental District Office must be notified at least 24 hours prior to starting work.
4. Trenches must not be excavated when the soil is so wet that the soil compaction or smearing of trench walls occurs. Compaction and smearing are problematic in clayey soils and can cause reduced drainfield efficiency.
5. No part of the septic tank drainfield may be covered without approval from Environmental Health.

TYPICAL SEPTIC TANK



Concrete tanks must be used where possible. Alternative materials are approved on a site specific basis. The Department of Environmental Health maintains a list of approved septic tanks.

DRAINLINE DETAIL



Two drainfields, each 100% of the total size required shall be installed and interconnected with an approved diversion valve. The valve must be capable of directing the septic tank effluent to one drainfield at a time.

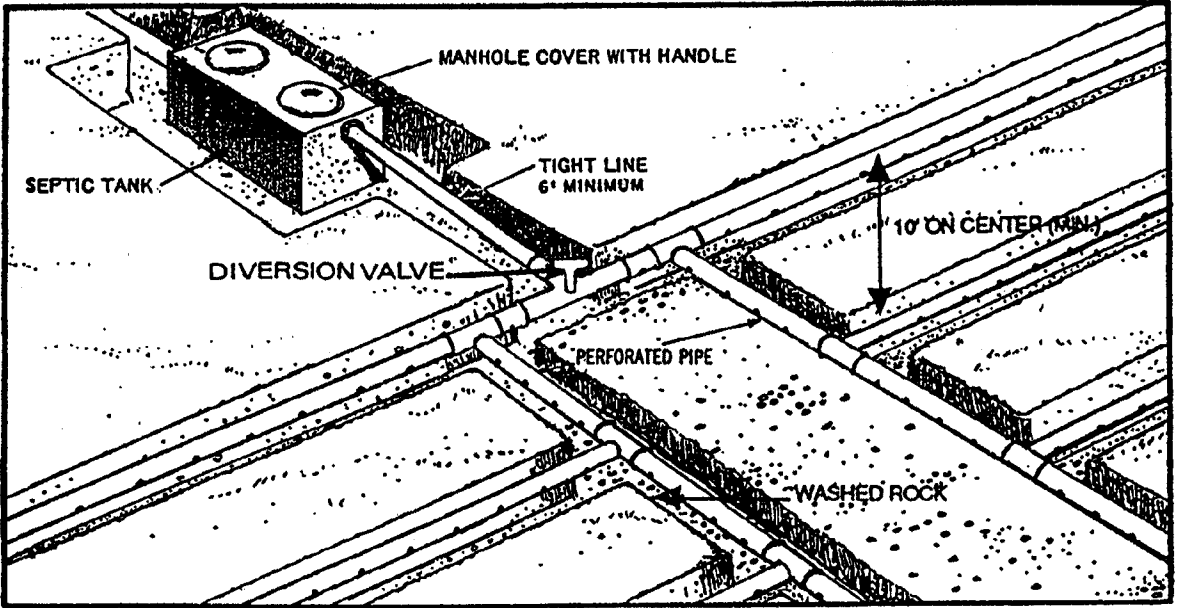
Drainline pipes shall be of approved, perforated pipe at least 4 inches in diameter. The tightline from the septic tank to the diversion valve must be ABS or schedule 40 PVC joined with glue, cement or elastomeric seal to be water tight.

The drainline trench bottom must be level. They must be at least 24 inches wide and 3 to 8 feet deep. At least 18 inches of clean, washed drainrock must be placed beneath the drainpipe and filled around and over the pipe at least 2 inches. The rock must be covered with untreated building paper or filter fabric to prevent clogging the rock with earth prior to backfilling.

Illustration #3 shows typical drainline installations for level land and hillside or sloping land.

Illustration #3

DRAINFIELD SYSTEM ON LEVEL LAND



DRAINFIELD SYSTEM ON HILLSIDE OR SLOPING LAND (ONE SIDE)

