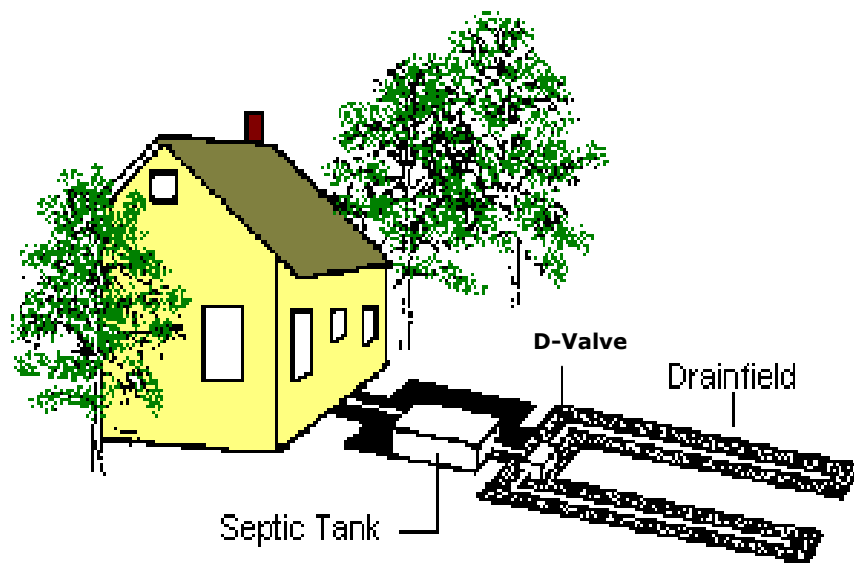


SEWAGE DISPOSAL SYSTEM REQUIREMENTS

"Bulletin A"



County of Santa Clara Department of Environmental Health

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PURPOSE

This bulletin is a compendium of the Santa Clara County Onsite Sewage Disposal 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 (or within 200 feet of the building in some cities). On-site sewage disposal systems cannot be used if soil conditions, topography, high groundwater or other factors indicate this method of sewage disposal is unsuitable.

To obtain a permit, five (5) 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.

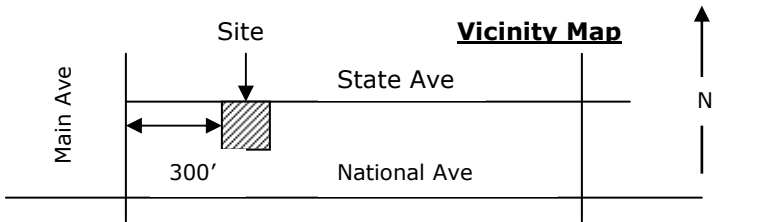
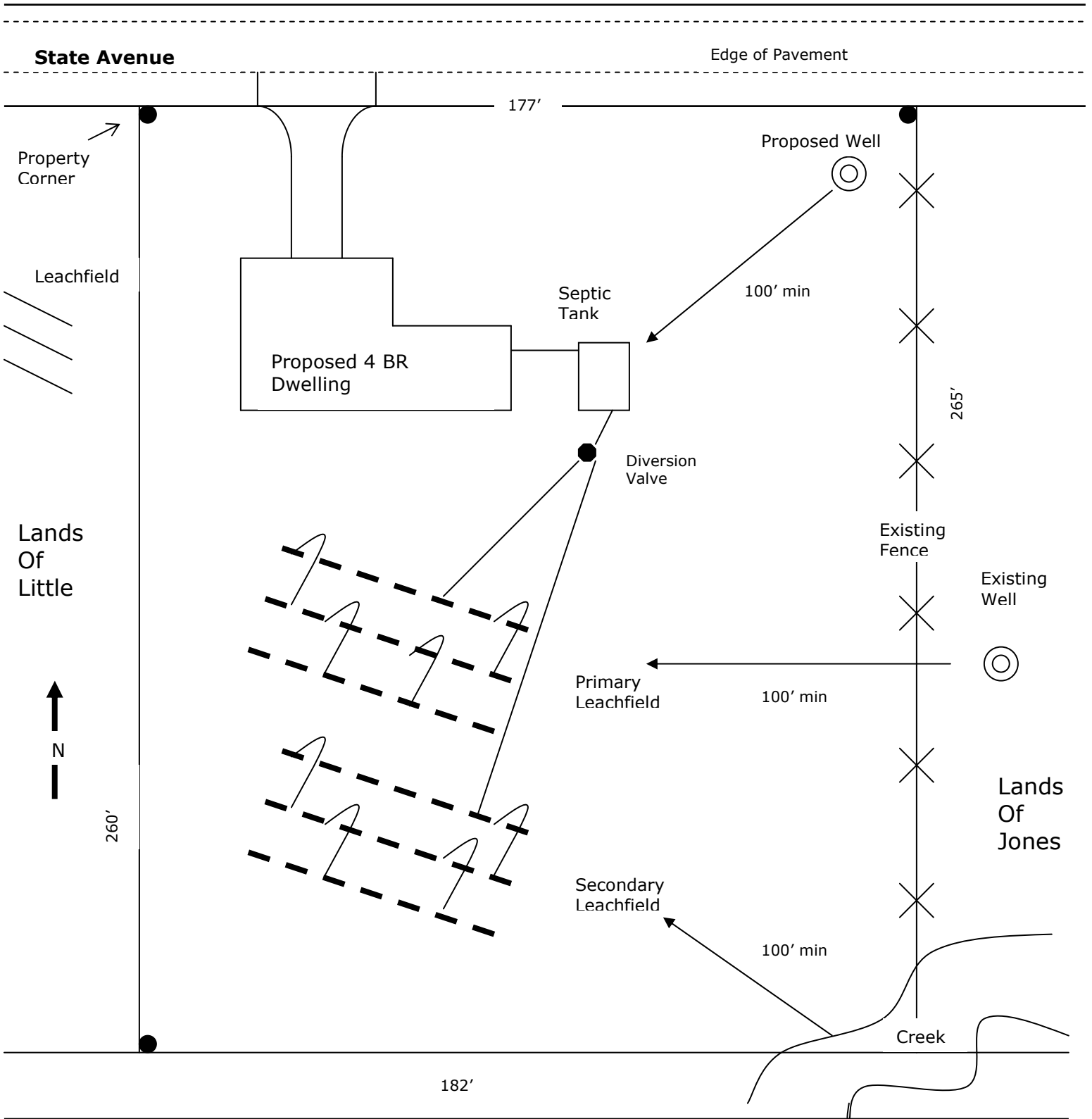
SITE PLANS

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. Note: If a 'grid' septic leachfield system is proposed, one foot contours are required to ensure the leachfield area does not exceed 5% slope.
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 and/or watercourses on the property or within 100 feet of the 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% (30% in South County), 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 the domestic water source (individual well, shared well, mutual water system, etc).
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 (septic tank, diversion valve, leachlines, etc).

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

SAMPLE SITE PLAN



03/01/10

BUILDING SITE FOR

Name _____

Site Address _____

APN _____ Phone # _____

Scale _____ Date _____

DEVELOPMENT REQUIREMENTS

Land use and building permit applications are evaluated for adequate sewage disposal and domestic water supply. Other conditions such as hazardous materials storage or use, illegal dumping or illegal uses on the property may also be evaluated during field inspections. Evaluation/testing of any existing septic systems may also be required to determine condition and adequacy.

The Department of Environmental Health collects fees separately for all services.

Site Approval – Individual Parcels, Subdivisions and Use Permits

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

An approved potable 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. The California Department of Public Health, Drinking Water Division, regulates all other water systems.

Building Additions and Accessory Structures

Minor building additions (up to 500 square feet) and Accessory Structures (barns, detached garages, swimming pools, cabanas, etc)

Due to the variability involved, these projects are evaluated on a case-by-case 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 other substandard septic system, or if there is intensification of use to the septic system (typically the addition of bedrooms).

Major Building Additions (over 500 square feet)

These projects require that the existing septic system meet current standards as defined by the Santa Clara County Sewage Disposal Ordinance. Current standards require the minimum of a 1,500 gallon septic tank and a dual drainfield (primary and secondary drainfields) sized and sited to meet current code.

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

Secondary Dwellings

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

Attached secondary dwellings must have direct access from the main house to the secondary dwelling. Breezeways, porches, etc. do not constitute direct access. For attached secondary dwellings, the septic tank will be sized based on the total square footage of the house (plus secondary dwelling) and the drainfield will be sized based on the number of bedrooms for both the main house and secondary dwelling.

Lexington Basin

The septic system requirements in the Lexington Reservoir Watershed differ from standard county wastewater requirements. There are minimum lot sizes for building site approval and major additions. There are also requirements for a dual leachfield 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 soil to absorb water (the percolation rate). Soil may be unsuitable for a septic system if it absorbs water too fast or too slow.

Rooms which are designated as other than bedrooms (bonus rooms, libraries, offices, media rooms, etc.) may be considered 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% EXCEPT

- In the South County area (generally south of Cochrane Road in Morgan Hill), the maximum slope requirement for leachfields is 30%. The Central Coast Regional Water Quality Control Board may grant variances, after approval by DEH.
- No septic systems are allowed in the Town of Los Altos Hills.

Pump Systems

Septic systems that 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 DEH Effluent Pump System Guidelines.

SITE EVALUATION

In order to determine if an on-site sewage disposal system can be utilized, the Department of Environmental Health (DEH) must evaluate each site. The purpose of this evaluation is to determine conformance to the standards established by the Santa Clara County Onsite Sewage Disposal Ordinance. DEH's site evaluation consists of 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 the slope of the land, proximity to cuts, steep slopes, watercourses, and drainage swales, wells, and other features that may limit the available drainfield area.

Prior to conducting the site assessment, a Land Use Application form must be completed, along with a preliminary site plan. This form must be signed by the owner of the property in order to gain legal access to the parcel.

Following the site 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 a depth of 15 feet. The required depth of the excavation may be up 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
2. Verify that there will be adequate separation between the bottom of the leachfield and bedrock, groundwater, or impermeable limiting soil strata.

If there are site characteristics or historical documentation that a shallow groundwater table is likely to occur during the rainy season, a wet weather groundwater investigation will be required. This investigation must be conducted during normal wet weather ground

water conditions in accordance with DEH policy. Contact the 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 for the project. The applicant must hire a consultant to conduct the percolation test. DEH will determine if oversight will be provided during the test.

The applicant is responsible for:

1. Contracting with a septic contractor or other qualified individual to excavate and set-up the percolation test holes in the locations designated by DEH.
2. Contracting with a septic system design consultant to run the percolation test.
3. The percolation test holes must be presoaked for 24 hours prior to the test.
4. Adequate water must be available to refill the percolation test holes as necessary during the percolation test.

Geotechnical Report (Slope >20%)

If slopes in the drainfield area exceed 20%, a geotechnical report and complete engineered installation plan will be required.

The geotechnical report and engineered septic design plan must be prepared by a Registered Civil Engineer, State Certified Engineering Geologist, or a State Registered Environmental Health Specialist in accordance with Section B11-83 of the County Onsite Sewage Disposal Ordinance Code.

Basin Plan Exemption (Slope >30%): For South County Only

In the area generally south of Cochrane Road (Morgan Hill), an exemption to the Central Coast Regional Water Quality Control Board Basin Plan is required for slopes exceeding 30%.

All documentation must be submitted to DEH for review prior to submitting to the RWCQB.

SITING REQUIREMENTS

Maximum Slope	Drainfields will not be approved on slopes that exceed 50% (30% in Los Altos Hills and South County). Drainfields will only be approved on slopes over 20% with additional investigation (geotechnical report).
Fill	Drainfields must be placed in native soil and no more than one (1) foot of fill may be placed over the native grade.
Septic Tank Diversion Valve	The septic tank and diversion valve must be located to be easily accessible for maintenance.
Depth of Soil	There must be at least 8 feet of dry permeable soil (with percolation rates between 6 and 120 minutes per inch), and with no groundwater, open fractured rock or impermeable soils beneath the drainfield on sites with moderate percolation rates (and at least 20-feet with very fast percolating soils). A 5-foot separation to groundwater is approved with percolation rates from 60-120 minutes per inch AND a satisfactory wet weather test.
Site Drainage	On-site drainage must be designed to discharge stormwater below the drainfields. Closed drainage pipes = 10' Impervious surface = 15' Grass or dirt = 25 Energy dissipators= 25' below or to the side
Percolation Rate	Soil percolation rates must be between 1 and 120 minutes per inch (5 to 120 minutes per inch in Lexington Basin).

MINIMUM SETBACKS (In Feet)

MEASURED FROM	TO SEPTIC TANK	TO DRAINFIELD
Foundation	5	10
Property Line ¹ , Swimming Pool	10	10
Domestic Water Line	10	10
Septic Tank	N/A	6
Diversion Valve	Maximum 10-foot Recommended	N/A
Top of Cut	N/A	4X height of cut ²
Top of Steep Bank or Cut – over 67% ³	N/A	4X height of bank ²
Wells, Springs, Creeks, Watercourses	100	100
Easement or Right-of-Way	N/A	5
Paved Surfaces	N/A	5
Drainage Swales (edge of swale)	50	50
Reservoirs ⁴	200	200
Trees Over 18-Inches in Diameter	N/A	Minimum 15-foot recommended

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

² A minimum of 25-feet and a maximum of 100-feet.

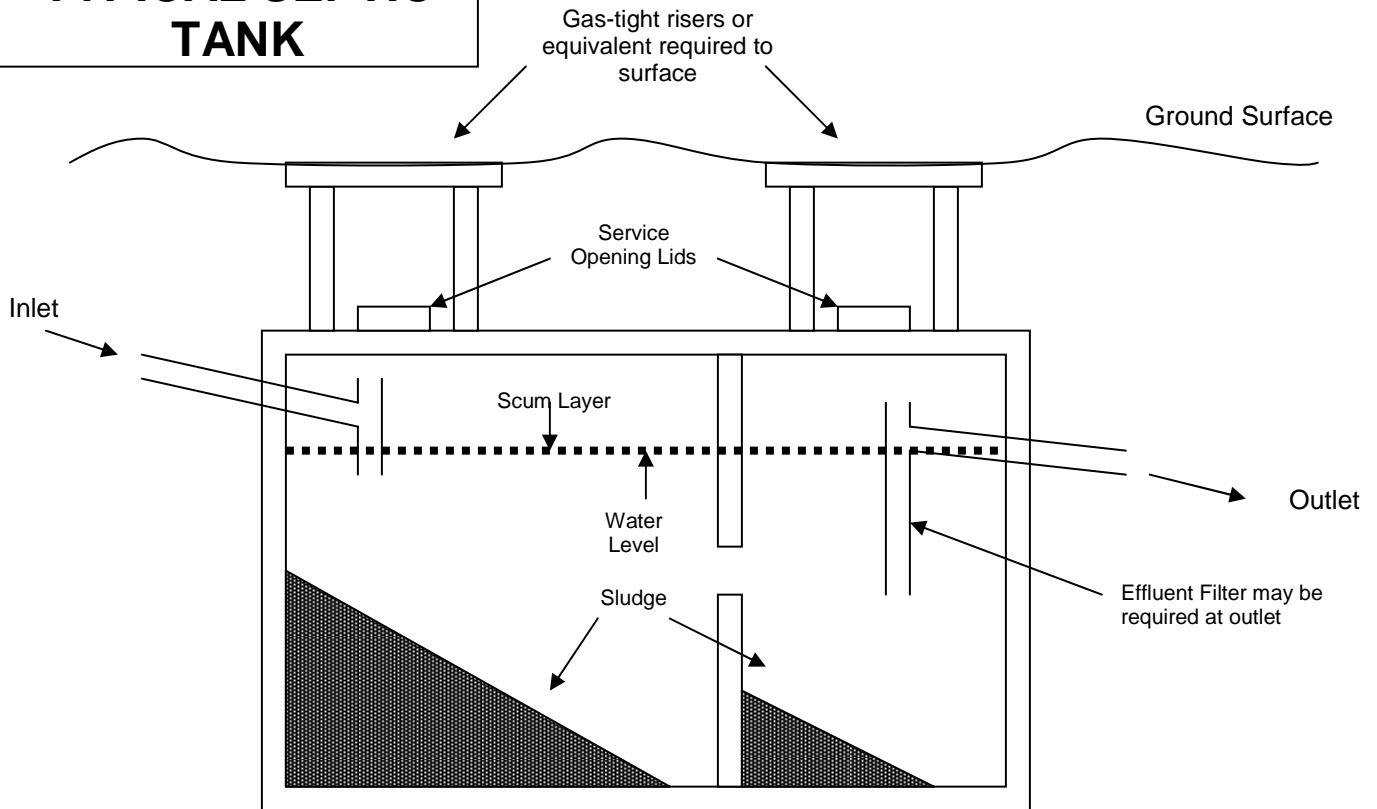
³ Over 30% in South County and Los Altos Hills.

⁴ From the high water mark of the Reservoir, as determined by the Santa Clara Valley Water District.

ONSITE SEWAGE DISPOSAL SYSTEM INSTALLATION REQUIREMENTS

1. The approved, permitted septic system site plan (wet-stamped by the Department of Environmental Health) must be available at 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 Health Office or Specialist must be notified at least 48-hours prior to starting work.
 - a. Main Office (1555 Berger Drive, San Jose) 408-918-3400
 - b. South County Office (16450 Monterey Road, Morgan Hill) 408-779-0631 (call between 8:00 am and 10:00 am)
4. Trenches must not be excavated when the soil is wet so that the soil compaction and/or smearing of the trench walls occurs. Compaction and smearing are problematic in clay soils and can cause reduced drainfield efficiency.
5. No part of the septic tank or drainfield may be covered without approval from the Department of Environmental Health.

TYPICAL SEPTIC TANK



Cement/concrete tanks must be used whenever possible. Alternative materials are approved on a site-specific basis. The Department of Environmental Health maintains a list of approved septic tanks.

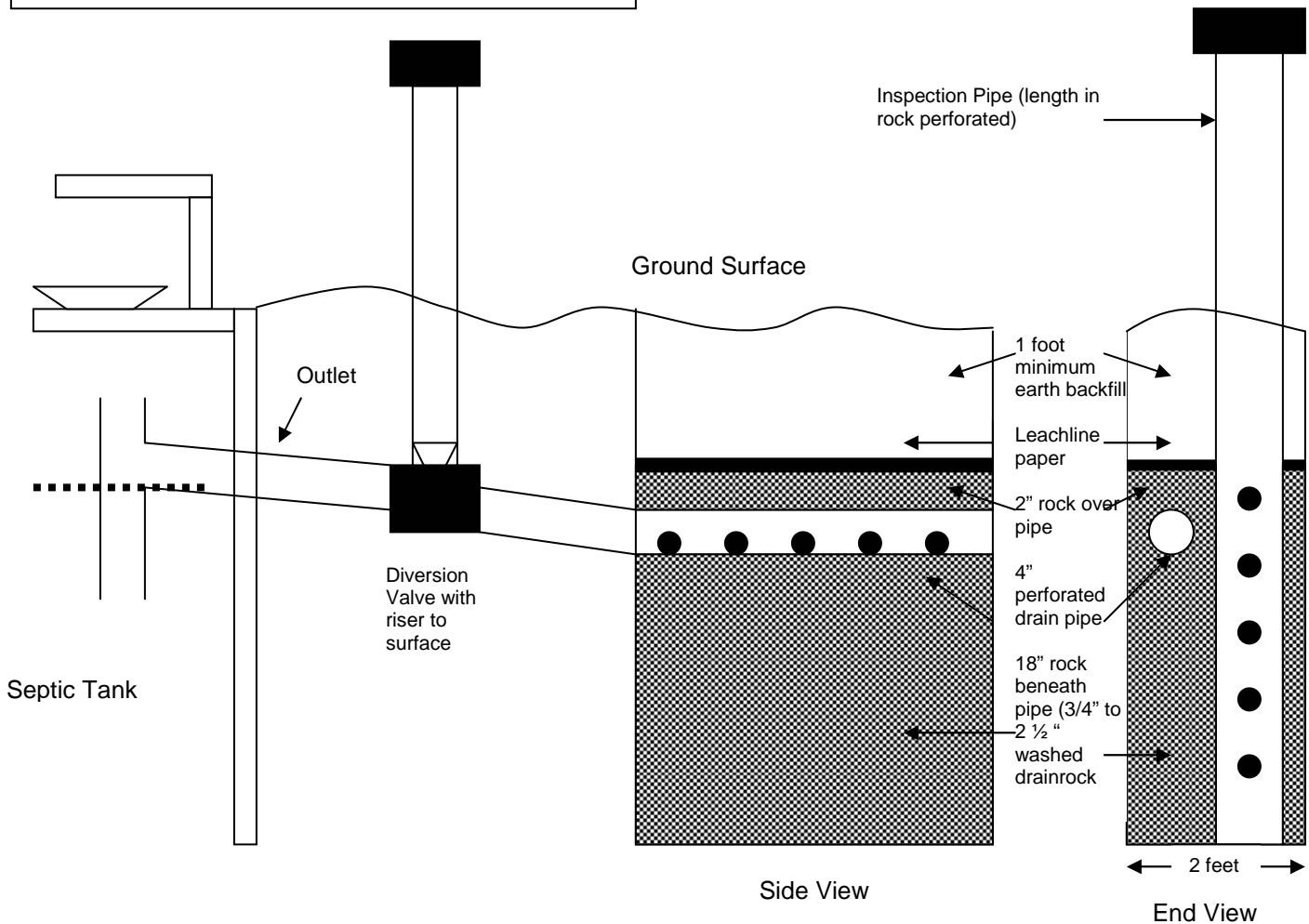
Septic tanks must be a minimum of 1500 gallons with two compartments. The first compartment must be two-thirds the total tank volume. The compartments must be separated by a baffle or equivalent arrangement.

Septic tanks must be watertight and constructed of reinforced concrete, heavyweight reinforced concrete blocks, or other materials approved by DEH. All interior surfaces must be coated with bitumastic or similar compound to minimize corrosion.

Access to each septic tank compartment must be provided by a manhole at least 20-inches in diameter and having a durable handle to facilitate removal.

A riser must extend from each manhole cover to or above the surface of the ground. The riser must be of a size larger than the manhole cover, be both gas- and water-tight, and be constructed of durable material.

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.

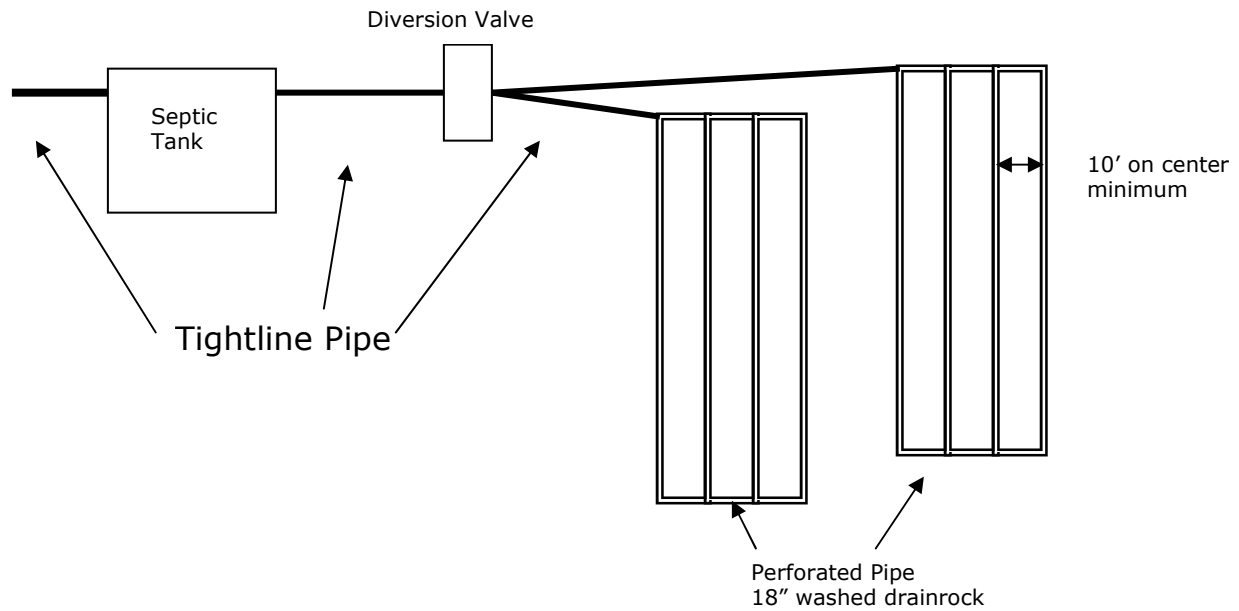
The tightline from the septic tank to the diversion valve must be ABS or schedule 40 PVC joined with glue, cement, or elastomeric seal to be watertight.

The drainline trench bottom must be level. The trenches 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 drainrock must be covered with untreated building paper or filter fabric to prevent clogging the rock with earth prior to backfilling.

DRAINFIELD SYSTEM ON LEVEL LAND (LESS THAN 5% SLOPE)



"Grid" System for Leachfields

Distance between each leachline: 10-foot on center minimum

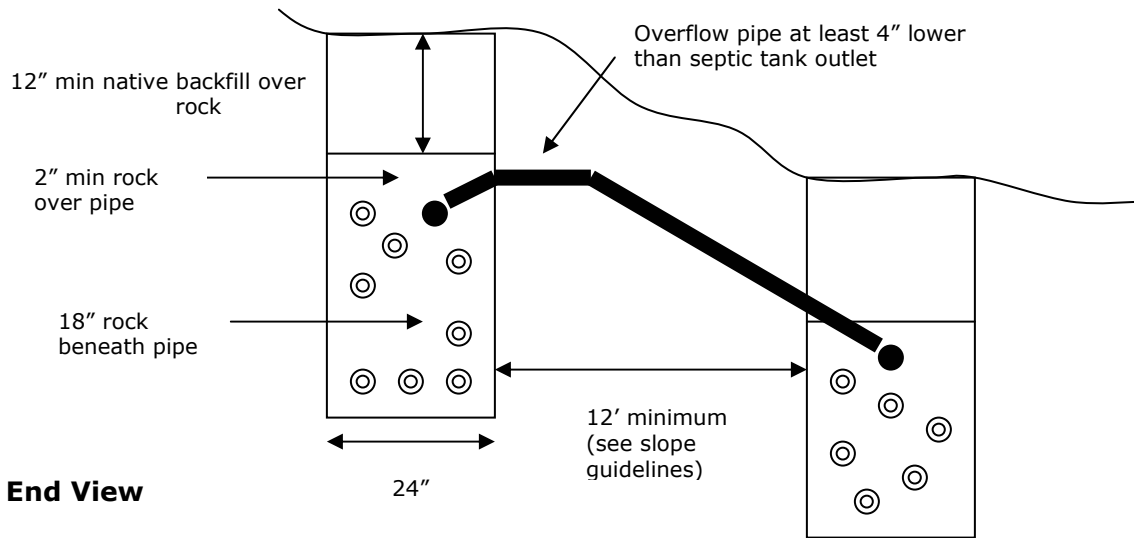
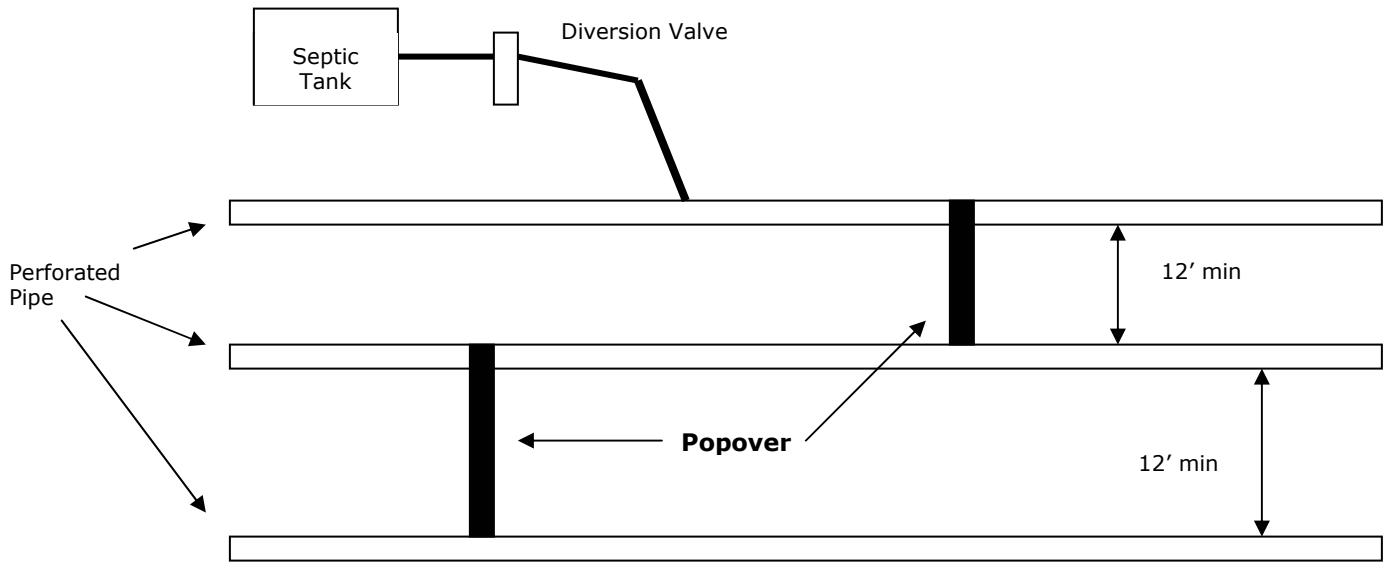
Perforated pipe throughout the "grid" - 6-foot credit for ends of leachlines

Natural terrain must be 5% or less

To ensure even distribution throughout the "grid," the bottom of all trenches must be level

Drainlines must be 50-feet in length minimum, 100' in length maximum

Drainfield System on Hillside or Sloping Land



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 telephone 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 soils with high clay content. 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 algaecides, the water may be used for on-site irrigation. Cartridge filters should be used to avoid the necessity of backwashing. Filters can be rinsed 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.