

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

RESOLUTION R5-2016-0070

APPROVING THE LOCAL AGENCY MANAGEMENT PROGRAM  
FOR  
SOLANO COUNTY ENVIRONMENTAL HEALTH SERVICES DIVISION

WHEREAS, on 19 June 2012, the State Water Resources Control Board (hereafter State Board) adopted Resolution No. 2012-0032, which in part approves the *Water Quality Control Policy for Siting, Design, Operation, and Maintenance of Onsite Wastewater Treatment Systems* (hereafter the OWTS Policy); and

WHEREAS, the OWTS Policy allows Local Agencies to propose Local Agency Management Programs (hereafter LAMPs) for California Regional Water Quality Control Board, Central Valley Region (hereafter Central Valley Water Board) approval, as conditional waivers of Waste Discharge Requirements; and

WHEREAS, The OWTS Policy requires Central Valley Water Board staff (hereafter staff) to solicit comments from the State Water Resources Control Board Division of Drinking Water (hereafter DDW) regarding a LAMP's proposed setbacks and notifications to water purveyors; and

WHEREAS, on 28 April 2015 the Solano County Environmental Health Services Division (hereafter SCEHSD) submitted an informal draft LAMP, along with a preliminary completeness checklist (hereafter checklist) per staff's request; and

WHEREAS on 14 April 2016 staff and SCEHSD completed discussions on the draft and checklist; on 9 May 2016 SCEHSD submitted a formal draft; and on 13 May 2016 DDW concurred with the proposed setbacks and notifications in the formal draft; and

WHEREAS, on 19 August 2016, the Central Valley Water Board notified SCEHSD and interested parties of its intent to approve the LAMP, and provided them with an opportunity for public hearing, and an opportunity to submit comments and recommendations, both on the draft LAMP and checklist; and

WHEREAS, on 19 August 2016, the Central Valley Water Board, in a public meeting, heard and considered all comments pertaining to this action:

Therefore, be it RESOLVED, that the Central Valley Water Board hereby approves the Local Agency Management Program submitted by the Solano County Environmental Health Services Division.

I, PAMELA C. CREEDON, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of a Resolution adopted by the Central Valley Water Board, on 19 August 2016.

- Original signed by -

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PAMELA C. CREEDON, Executive Officer



**Solano County**  
**Board of Supervisors**

**Minute Order**

**May 06, 2014**

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File Reference No. 14-0218

**RE:** Authorize the Director of Resource Management to execute a letter of commitment to the Central Valley Regional Water Quality Control Board and execute all subsequent letters, applications, reports or other related documents required for the County of Solano to apply for and implement a Local Agency Management Program related to onsite wastewater treatment systems

**Approved**



OWTS that comply with the statewide prescriptive standards will be required to have larger leach fields compared to current County code requirements, resulting in additional construction costs. Solano County Code requirements allows various gravity and engineered OWTS design options to mitigate local site specific conditions for the safe disposal of liquid waste and are equally protective of public health and the environment as the more restrictive statewide prescriptive standards.

The Central Valley Regional Water Quality Control Board, as the state designated lead agency to review and approve the County's LAMP, requests a letter of commitment by May 13, 2014 to confirm that the County intends to submit a LAMP. This is the first step in a process that will require formal submission of reports, correspondence and other documents to various state agencies to apply for a LAMP and report on its implementation once approved. Authorizing the director to execute these documents for the County of Solano will affirm the Board's direction to retain local requirements in the County's OWTS program and provide the most efficient method to accomplish this.

### **FINANCIAL IMPACT:**

The costs associated with a LAMP are part of the ongoing operational cost of the Department of Resource Management - Environmental Health Services Division. These costs include activity to obtain LAMP approval, such as the preparation and submission of the LAMP and its supporting documents to the Central Valley Regional Water Quality Control. Ongoing implementation costs once the LAMP is approved include the preparation and submission of annual reports on permitting activity and at least once every five years an evaluation of water quality impacts, if any, resulting from implementation of the local requirements along with program changes to address any identified impacts to the Central Valley and San Francisco Bay Regional Water Quality Control Boards.

The Department recovers its costs for the OWTS program through one-time fees for permits for construction and repairs to OWTS, and annual fees for operation permits for engineered OWTS, sewage pumping vehicles and chemical toilet companies. Any changes in fees or staffing must first be approved by the Board of Supervisors.

### **DISCUSSION:**

The OWTS policy adopted by the State Water Resources Control Board creates a series of management tiers based on the risk posed by the operation of OWTS and their proximity to a water body likely to be, or already, impacted by OWTS effluent. Attachment A describes the various management tiers contained in the policy. The policy became effective on May 13, 2013 and is available at the following link:

[http://www.waterboards.ca.gov/water\\_issues/programs/owts/docs/owts\\_policy.pdf](http://www.waterboards.ca.gov/water_issues/programs/owts/docs/owts_policy.pdf)

Since May 13, 2013, both the Central Valley and San Francisco Bay Regional Water Quality Control Boards have been modifying their Basin Plans to incorporate the state's OWTS policy.

A fundamental feature of the state's OWTS policy is that it recognizes responsible local agencies provide the most effective means to manage OWTS on a routine basis. Specific to the County of Solano, the policy provides the option to implement one of two management tiers for new and replacement OWTS. Both management tiers provide equivalent protection to public health and the environment.

**Management Tier 1 option** : Use the statewide prescriptive standards for the siting, design and construction of OWTS contained in the Tier 1 portion of the OWTS policy to issue construction permits. Use of Tier 1 does not require any reporting by the County to the state regarding its OWTS program implementation or the program's impacts on water quality since these are state standards and are assumed to be protective by the state. However, the standards are more restrictive than current Solano County code requirements. The state's Tier 1 standards have increased setbacks from surface water, ground water and other surface features, limit OWTS design to use of trench systems only, and require larger leach fields for some OWTS compared to Solano County code requirements. This will prevent the County from issuing permits on some OWTS that can be

permitted using current code requirements. These property owners will have to obtain permits to install and operate their OWTS directly from the regional Water Quality Control Boards via a Waste Discharge Report. A separate County construction permit once approval is obtained from the regional board will also be required. Attachment B contains a summary of key differences between the state's OWTS policy's prescriptive standards and Solano County Code requirements.

Tier 1 standards become effective May 13, 2018 unless the County implements a LAMP as discussed in the Management Tier 2 option below.

Management Tier 2 option : Retain Solano County code requirements for the County's OWTS program by incorporating them into a LAMP. It is anticipated that the LAMP will include:

- Chapter 6.4, which predominantly encompasses the County's regulation of OWTS;
- sections of Chapter 25 (chemical toilets, sewage pumping trucks, domestic septage land application and biosolids land application) relating to the permitting of OWTS pumping vehicles;
- sections from Chapters 6.3 (building standards) and 13.10 (well standards) relating to water quality sampling at new construction and water well setbacks; and
- sections from Chapter 26 (subdivisions) to the extent they establish minimum lot size for lots served by OWTS and are cross-referenced in Chapter 6.4.

The LAMP will also include any department policy and procedures to implement these codes. Any amendments to Solano County Code necessary to conform to OWTS policy requirements for a LAMP will be brought separately to the Board of Supervisors for approval. Once the LAMP is approved, any amendment to the LAMP, including amendments to County codes included in the LAMP, must be approved by both the Central Valley and San Francisco Bay Regional Water Quality Control Boards before implementation.

Once approved, the LAMP will supersede the state's Tier 1 prescriptive standards.

#### **ALTERNATIVES:**

The Board can choose not to authorize the director to submit a letter of commitment to the Central Valley Regional Water Quality Control Board or execute other documents necessary to apply for and implement a LAMP. This is not recommended since it will result in Solano County losing authorization to implement its existing local OWTS requirements beginning May 13, 2018 and having authority only to implement prescriptive statewide standards.

#### **OTHER AGENCY INVOLVEMENT:**

City building officials were contacted by the Central Valley Region regarding the Policy and requirements for a LAMP. Currently, the department provides OWTS oversight in the incorporated cities on a case-by-case basis upon request from local building officials. This practice will be incorporated into a Solano County LAMP.

#### **CAO RECOMMENDATION:**

**APPROVE DEPARTMENTAL RECOMMENDATION**

The State Water Resources Control Board's Policy for Design, Operation, and Maintenance of Onsite Wastewater Treatment Systems (Policy) creates a series of management tiers based on the risk posed by the operation of onsite wastewater treatment systems (OWTS), or septic systems, and their proximity to a water body likely to be, or already, impacted by OWTS effluent. These Tiers are listed below:

**Areas Not Adjacent To Surface Water Impaired by OWTS Effluent:**

- *Existing Systems*
  - **Tier 0** applies to existing OWTS that meet all of the following conditions:
    - are not failing (failing OWTS move to Tier 4 below)
    - are not contributing to an impairment of surface water (OWTS causing impairment to surface water are in Tier 3 below)
    - discharge less than 10,000 gallons per day ( discharges of 10,000 gallon per day or more require a Waste Discharge Report from the regional water quality control board)
    - discharge domestic wastewater from residential or commercial buildings, or high-strength wastewater from commercial food service buildings that have a properly sized and functioning oil/grease interceptor (any other discharge requires a Report of Waste Discharge from the regional water Quality Control Board).

The vast majority of existing OWTS in Solano County are in Tier 0. Owners maintain their systems in good working order and in compliance with permit requirements. Tier 0 conditions for existing OWTS are specified in Section 6 of the Policy.

- *New or Replacement Systems*

Either Tier 1 or Tier 2 is chosen as the management method for new and replacement OWTS. These tiers provide different methods to achieve the same public health and water quality protection.

- **Tier 1** is the management tier containing minimum statewide standards required for jurisdictions that do not have an approved Local Agency Management Program. The state adopted criteria in Tier 1 are intentionally restrictive to ensure that use of such systems, without specific monitoring by Solano County, will not result in water quality impairment. Tier 1 conditions are specified in Sections 7 and 8 of the Policy.
- **Tier 2** is the management tier that will authorize Solano County to continue with its protective local OWTS permitting program in an approved LAMP. With an approved LAMP, the local criteria will supersede the state's Tier 1 criteria. Tier 2 requirements for a LAMP are described in Section 9 of the Policy.

**Areas Adjacent to Surface Water Impaired by OWTS Effluent:**

- **Tier 3** provides special conditions for OWTS located near impaired waters listed in Attachment 2 of the Policy. Within Solano County only the Napa River is listed in Attachment 2 of the Policy and there are no known OWTS adjacent to this portion of the

Napa River. The OWTS impairment of the Napa River is due to upstream impact outside of Solano County.

**Failures:**

- **Tier 4** specifies corrective actions for failing OWTS. After completion of corrective action and repair, the OWTS then returns to Tier 1, Tier 2, or Tier 3 (whichever is appropriate in the specific circumstances). Tier 4 criteria for OWTS requiring corrective action are specified in Section 11 of the Policy. This is no different than current practice in that OWTS found to be failing are required to be repaired and upgraded to greatest extent practical per Solano County Code.

**Table 1: Key Difference between Tier 1 and Proposed LAMP (County Code) Requirements**

Issue	State Policy- Tier 1	County Code
Setback to flowing surface water and streams.	100' unless demonstrated site conditions prevent migration of wastewater.	Typically requires 100' setback, but does allow 50' setback to streams that only flow a portion of the year in response to wet weather.
Setback to non-flowing surface water bodies, such as ponds, lakes, and vernal pools.	State Policy requires 200' setback to ponds, lakes and vernal pools.	Requires 100' setback to ponds and lakes; does not include specific mention of vernal pools, but does preclude installation in concave areas.
Depth to high groundwater	Requires 5' to 20' depending on percolation rate. (Note: Majority of systems in Solano County will be required to have 5' to 8' separation to groundwater using Policy criteria, which may result in many locations not meeting state policy and having to be permitted directly by Regional Water Quality Control Board).	Requires 2' to 20' based on percolation rate and OWTS design. (Note: Majority of systems in Solano County are required to have 2' to 5' separation to groundwater. Engineered systems are required for less than 5' separation to groundwater or other limiting condition, such as rock or impermeable soils).
Dispersal system design and sizing	Provides limited design criteria for sizing dispersal field for effluent. A 4 bedroom house will require from 125' to 1500' feet of leach field depending on percolation rate or soil texture.  Requires a leach field to be installed as the dispersal method.	Provides graduated design and sizing criteria. A 4 bedroom house currently required to have from 175' to 1000' of leach line depending on percolation rate or soil texture. Alternative system required in slower percolating soils (percolating slower than 1" per hour, or 60 minutes per inch). Allows dispersal systems other than a leach field, such as mounds and drip dispersal.

Table 2: Potential County Code Amendments for Inclusion into the LAMP		
Issue	State Policy- Tier 1	County Code
Setback to a public water well	Requires 150' setback.	100' setback for any type of well. Chapter 6.4 and Chapter 13.10 will need to be amended to reflect current state standards requiring 150' setback to a public water well.
Notification to public water system if OWTS within certain distance to surface water intake	Variety of requirements to provide notification if OWTS located within a certain proximity to a surface water intake or its catchment basin and likely to cause contamination.	No notification requirements provided. This is also required under section 9 of the policy for a LAMP; Chapter 6.4 will need to be amended to reflect notification requirements, or internal policies will need to be developed for inclusion into the LAMP.
Setback from unstable land mass	Requires 100' setback	Code prohibits placement in unstable soil, but no setback distance specified.
Determination of percentage of rock	Estimated using visual methods	Measured using sieves and analytical methods. Modification to allow visual field methods may be necessary to improve efficiencies in field.
Effluent filter screen requirements on septic tanks	Requires a 3/16" minimum screen on effluent filters.	No minimum screen size specified, but does require all filters be certified by an independent third party listing agency such as NSF. Adjusting to match Tier 1 screen size recommended.

Solano County Formal Draft LAMP

Review, E. Rapport, L. Andam, B. Allen, revised 15 Apr 2016

GENERAL REQUIREMENTS FOR LAMPs							
OWTS Policy Section	OWTS Policy Section Summary	Region 5 Comments (These do not replace your review of OWTS Policy. Italics and websites are specific explanations, more detailed than in the Policy.)	Relevant LAMP Section	Legal Authority/ Code Section	Deficiency; Address Prior to Our Scheduling for Board Approval	Potential Concern; Address in First Water Quality Assessment Report	Resolution; 14 Apr 2016 Meeting, Rancho Cordova, Jag Sahota, Matthew Geisert, Blair Allen (telephone), Lani Andam, Robin Merod, E. Rapport
3.3	Annual Reporting	For Section 3.3 et seq, describe your program for annual reporting to Central Valley Regional Water Quality Control Board (Central Valley Water Board) staff in a tabular spreadsheet format.	Pgs 30-31	Solano County Code, Section 6.4-30			
3.3.1	Complaints	Include numbers and locations of complaints, related investigations, and means of resolution.	Pg 31	Solano County Code, Section 6.4-30			
3.3.2	OWTS Cleaning	Include applications and registrations issued as part of the local cleaning registration pursuant to California Health and Safety Code §117400 et seq.	Pgs 25-26	Solano County Code, Section 25-300			
3.3.3	Permits for New and Replacement OWTS	Include numbers and locations of permits for new and replacement OWTS, and their Tiers.	Pg 31	Solano County Code, Section 6.4-30			
3.4	Permanent Records	Describe your program for permanently retaining records, and means of making them available to Central Valley Water Board staff within 10 working days of a written request.	Pg 30	Government Code Title 1, Division 7, Chapter 3.5, section 6253 (c )			
3.5	Notifications to Municipal Water Suppliers	Describe your program for notifying public well and water intake owners, and the California Department of Public Health. Notification shall be as soon as practicable, but no later than 72 hours upon discovery of a failing OWTS, as described in Sections 11.1 and 11.2, within setbacks described in Sections 7.5.6 through 7.5.10.	Pgs 18 and 27	Solano County Code, Section 6.4-30	Further describe your program for notifying water purveyors and State Board Division of Drinking Water within 72 hours upon discovery of a failing OWTS within 150 feet of a public supply well.		Solano County to clarify in LAMP; existing codes are sufficient.
9.0	Minimum OWTS Standards	This Section is an introduction; we require no specific LAMP Section citation here.		Not Applicable			
9.1	Considerations for LAMPs	For Section 9.1 et seq., provide your commitment to evaluate complaints, variances, failures, and inspections in Section 9.3.2 (Water Quality Assessment); and your proposed means of assessment to achieve this Policy's purpose of protecting water quality and human health.	Pgs 30-31	Solano County Code, Section 6.4-30 and Section 6.4-56		Central Valley Water Board staff has compiled a "straw man" spreadsheet with proposed minimum requirements for Annual and Water Quality Assessment Reports. Please contact Leslie Lindbo, Yolo County, Ray Ruminski, Lake County, and Brad Banner, Butte County, for further details.	Central Valley Water Board staff to forward straw man. Solano County to further distribute to CCDEH Region 2.
9.1.1	Degree of vulnerability due to local hydrogeology	<i>Describe your commitment, and proposed means to identify hydrogeologically vulnerable areas for Section 9.3.2, after compiling monitoring data . Discuss appropriate related siting restrictions and design criteria to protect water quality and public health. Qualified professionals ("Definitions," page 9 in the Policy) should identify hydrogeologically vulnerable areas. Such professionals, where appropriate during a Water Quality Assessment, should generally consider locally reasonable percolation rates of least permeable relevant soil horizons, best available evidence of seasonally shallowest groundwater (including, but not limited to, soil mottling and gleying, static water levels of nearby wells and springs, and local drainage patterns), threats to receptors (supply wells and surface water), and potential geotechnical issues (including, but not limited to, potentially adverse dips of bedding, foliations, and fractures in bedrock).</i>	Pgs 10-19	Solano County Code, Section 6.4.81-6.4.89			
9.1.2	High quality waters and other environmental conditions requiring enhanced protection	Describe special restrictions to meet water quality and public health goals pursuant to all Federal, State, and local plans and orders. <i>Especially consider appropriate alternatives to those provided in Section 7.8, Allowable Average Density Requirements under Tier 1. See also: State Water Resources Control Board Resolution No. 68-16 .</i>	Pg 12	Solano County Code, Sections 6.4-31 and 26-82			

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OWTS Policy Section	OWTS Policy Section Summary	Region 5 Comments (These do not replace your review of OWTS Policy. Italics and websites are specific explanations, more detailed than in the Policy.)	Relevant LAMP Section	Legal Authority/ Code Section	Deficiency; Address Prior to Our Scheduling for Board Approval	Potential Concern; Address in First Water Quality Assessment Report	Resolution; 14 Apr 2016 Meeting, Rancho Cordova, Jag Sahota, Matthew Geisert, Blair Allen (telephone), Lani Andam, Robin Merod, E. Rapport
9.1.3	Shallow soils requiring non-standard dispersal systems	<i>We interpret "shallow" soils generally to mean thin soils overlying bedrock or highest seasonal groundwater. Dependent on threats to receptors, highest seasonal groundwater can locally include perched and intermittent saturated zones, as well as the shallowest local hydraulically unconfined aquifer unit. See Section 8.1.5 for Minimum Depths to Groundwater under Tier 1. Qualified professionals should make appropriate determinations on the design and construction of non-standard dispersal systems due to shallow soils.</i>	Pgs 10-19	Solano County Code, Sections 6.4-81 and 6.4-82			
9.1.4	High domestic well usage areas	<i>Our key potential concerns are nitrate and pathogen transport toward receptor wells, especially in areas with existing OWTS already prone to soft failures (OWTS failures not evident at grade). Appropriate qualified professionals should consider reasonable pollutant flow paths toward domestic wells, at minimum based on; publically available nitrate concentrations in local wells, published technical literature on local wastewater and non-wastewater nitrate sources, well constructions, pumping demands, and vulnerability of wells due to local hydrogeology. For pathogens, qualified professionals should ensure that field methods are sufficient to mitigate the potential for false positives.</i>	Pgs 12, 13, and 26	Solano County Code, Sections 6.4-31 and 26-82			
9.1.5	Fractured bedrock	<i>Where warranted, appropriate qualified professionals should assess permeability trends of water-bearing fractures, and related potential pathways of effluent toward receptors, including but not limited to, domestic wells and surface water. The professionals should also consider potential geotechnical issues. We suggest consideration of fractured bedrock in concert with percolation rates of overlying soils; either very high or low percolation rates might warrant siting restrictions or non-standard dispersal systems. See also State Water Resources Control Board Order WQ 2014-0153-DWQ, Attachment 1, page 1-3, Item A-3.</i>	Pg 9	Solano County Code, 6.4-81(d)			
9.1.6	Poorly drained soils	<i>Appropriate qualified professionals should give criteria for determination of representative percolation rates, including but not limited to, general site evaluation, trench logging, pre-soak and measurement methods of percolation tests, and acceptable alternatives for percolation tests.</i>	Pgs 10,11,12,17,18, and 19	Solano County Code, Section 6.4-81.2			
9.1.7	Vulnerable surface water	<i>Our key potential concern is eutrophication of fresh surface water. While typically with relatively low mobility in groundwater and recently informally banned in dishwasher detergents, phosphate is a common cause. At minimum, describe appropriate qualified professionals who will consider potential pathways of wastewater-sourced phosphate and other nutrients toward potentially threatened nearby surface bodies.</i>	Pgs 17 and 18	Solano County Code, Section, 6.4-82(c) see Table 1	Table 1 is in 6.4-82(f). Table 2, <i>Minimum Setback Requirements</i> , appears more appropriate.		Solano County to correct.
9.1.8	Impaired water bodies	<i>Wolf Creek, Nevada County, and Woods Creek, Tuolumne County will require Tier 3 Advanced Protection Management Programs. This applies to Nevada, Placer, and Tuolumne Counties. See Attachment 2 of the OWTS Policy.</i>	Pg 20	Not Applicable			
9.1.9	High OWTS density areas	<i>Where nitrate is an identified chronic issue, at minimum, consider nitrogen loading per area; for example, see Hantzsche and Finnemore (1992), Crites and Tchobanoglous (1998), and more recent publications as appropriate.</i>	Pgs 26-27	Solano County Code, Section 6.4-89(g)			
9.1.10	Limits to parcel size	<i>At minimum, consider hydraulic mounding, nitrate and pathogen loading, and sufficiency of potential replacement areas.</i>	Pgs 12-13	Solano County Code, Sections 6.4-31 and 26-82			
9.1.11	areas with OWTS that predate adopted standards	<i>This refers to areas with known, multiple existing OWTS.</i>	Pgs 12, 13, and 16	Solano County Code, Sections 6.4-32, 6.4-40 - 6.4-44			
9.1.12	areas with OWTS either within prescriptive, Tier 1 setbacks, or within setbacks that a Local Agency finds appropriate	<i>This refers to areas with known, multiple existing OWTS.</i>	Pgs 12, 13, and 16	Solano County Code, Sections 6.4-32, 6.4-40 - 6.4-44			

GENERAL REQUIREMENTS FOR LAMPs							
OWTS Policy Section	OWTS Policy Section Summary	Region 5 Comments (These do not replace your review of OWTS Policy. Italics and websites are specific explanations, more detailed than in the Policy.)	Relevant LAMP Section	Legal Authority/ Code Section	Deficiency; Address Prior to Our Scheduling for Board Approval	Potential Concern; Address in First Water Quality Assessment Report	Resolution; 14 Apr 2016 Meeting, Rancho Cordova, Jag Sahota, Matthew Geisert, Blair Allen (telephone), Lani Andam, Robin Merod, E. Rapport
9.2	Scope of Coverage:	For Section 9.2 et seq, provide details on scope of coverage, for example maximum authorized projected flows, allowable system types, and their related requirements for site evaluation, siting, and design and construction requirements.	Pgs 5-9	Solano County Code, Sections 6.4-12 , 6.4-89(c), 6.4-89(d), and 6.4-89(e)		While Solano County's prerogative to refer OWTS >2,500 gpd projected flow to Region 2 or 5, as appropriate, the OWTS Policy allows Local Agency lead up 10,000 gpd. We would generally prefer for Solano County to retain OWTS <10,000 gpd, but consult with Regional Board staffs for systems >2,500 gpd. Requests for referrals should be based on Solano County's preliminary assessment of threats to water quality, e.g., proximity of supply wells, and complexity of treatment systems. Both during and after referrals, Solano County should work closely with Regional Board Board staffs. Under our oversight we would likely request applicants to submit a Report of Waste Discharge for applicability under State Board General Order 2014-0153, <i>General Waste Discharge Requirements for Small Domestic Wastewater Treatment Systems</i> .	Solano County has edited codes for scope of coverage. Solano County can approve applications for new and replacement OWTS <10,000 gpd projected flow, but will consult with either Region 5 or 2, as appropriate for proposals >2,500, <10,000 gpd, for potential referral on a case-by-case basis. All concurred with the proposed change.
9.2.1	Installation and Inspection Permits	Permits generally cover procedures for inspections, maintenance and repair of OWTS, including assurances that such work on failing systems is under permit; see Tier 4.	Pgs 20-21	Solano County Code, Sections 6.4-50 - 6.4-55			
9.2.2	Special Provision Areas and Requirements near Impaired Water Bodies	<i>Wolf Creek, Nevada County, and Woods Creek, Tuolumne County will require Tier 3 Advanced Protection Management Programs. This applies to Nevada, Placer, and Tuolumne Counties. See Attachment 2 of the OWTS Policy.</i>	Pg 20	Not Applicable			
9.2.3	LAMP Variance Procedures	Variances for new installations and repairs should be in substantial conformance to the Policy, to the greatest extent practicable. Variances cannot authorize prohibited items in Section 9.4.	Pgs 9 and 22	Solano County Code, Sections 6.4-12 (d), 6.4-53, 6.4-60, 6.4-61, 6.4-62, and 6.4-82.			
9.2.4	Qualifications for Persons who Work on OWTS	Qualifications generally cover requirements for education, training, and licensing. <i>We suggest that Local Agencies review information available from the California Onsite Water Association (COWA), see : <a href="http://www.cowa.org/">http://www.cowa.org/</a></i>	Pgs 24-25	Solano County Code, Sections 6.4-56, 6.4-81(a), 6.4-84.2, and 6.4-89(f)			
9.2.5	Education and Outreach for OWTS Owners	Education and Outreach generally supports owners on locating, operating, and maintaining OWTS . At minimum, ensure that you will require OWTS designers and installers to provide owners with sufficient information to address critical maintenance, repairs, and parts replacements within 48 hours of failure; <i>see also Tier 4</i> . Also, provide information to appropriate volunteer groups. <i>At minimum, we suggesting providing this information on your webpage.</i>	Pgs 23-25	Solano County Code, Sections 6.4-12(e) 6.4-56, 6.4-81(a), 6.4-89(h) 6.4-89(i) and 6.4-89(j)			
9.2.6	Septage Disposal	Assess existing and proposed disposal locations, and their adequacy.	Pgs 25-26	Solano County Code, Section 25-300			

GENERAL REQUIREMENTS FOR LAMPs							
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9.2.7	Maintenance Districts and Zones	<i>These generally refer to Homeowners Associations, special maintenance districts, and similar responsible entities. Requirements for responsible entities should generally reflect the Local Agency's judgment on minimum sizes of subdivisions that could potentially cause environmental impacts. LAMPs should ensure that responsible entities have the financial resources, stability, legal authority, and professional qualifications to operate community OWTS.</i>	Pgs 4 and 12	Solano County Code, Sections 6.4-12(c)(2) and 6.4-80(h)			
9.2.8	Regional Salt and Nutrient Management Plans	Consider development and implementation of, or coordination with, Regional Salt and Nutrient Management Plans; <i>see also State Board Resolution 2009-0011:</i> <a href="http://www.waterboards.ca.gov/centralvalley/water_issues/salinity/laws_regs_policies/rw_policy_implementation_mem.pdf">http://www.waterboards.ca.gov/centralvalley/water_issues/salinity/laws_regs_policies/rw_policy_implementation_mem.pdf</a>	Pgs 26-27	Solano County Code, Sections 6.4-80(c) and 6.4-80(d), and 6.4-89(g)		Based on Water Quality Assessment Reports, we may require further local evaluation of TDS, EC, and nitrate in the Dixon Area.	No further discussed required.
9.2.9	Watershed Management Groups	Coordinate <i>with volunteer well monitoring programs</i> and similar watershed management groups.	Pg 23	Not Applicable		Please advise on contacts with volunteer groups, as they become potentially relevant.	No further discussion required.
9.2.10	Proximity of Collection Systems to New or Replacement OWTS	Evaluate proximity of sewer systems to new and replacement OWTS. <i>See also Section 9.4.9.</i>	Pg 20	Solano County Code, Section 6.4-20			
9.2.11	Public Water System Notification prior to permitting OWTS Installation or Repairs	Give your notification procedures to inform public water services of pending OWTS installations and repairs within prescribed setback distances.	Pgs 18 and 27	Solano County Code, Section 6.4-30			
9.2.12	Policies for Dispersal Areas within Setbacks of Public Wells and Surface Water Intakes	Discuss supplemental treatments; see Sections 10.9 and 10.10. A Local Agency can propose alternate criteria; <i>however we will need rationale in detail.</i>	Pgs 18 and 27	Solano County Code, Section 6.4-30			
9.2.13	Cesspool Discontinuance and Phase-Out	Provide plans and schedule.	Pg 8	Solano County Code, Section 6.4-89(e)		If Solano County were to discover a cesspool, what timetable for destruction would it apply to the owner?	Solano County has to date not encountered cesspools. County staff would consider discovery a high priority, and address on a case-by-case basis. No further discussion required.
9.3	Minimum Local Agency Management Responsibilities:	For Section 9.3 et seq, discuss minimum responsibilities for LAMP management. Responsibilities should generally cover data compilation, water quality assessment, follow-up on issues, and reporting to the Central Valley Water Board:	Pgs 28-31	Solano County Code, Sections 6.4-30 and 6.4-56			
9.3.1	Permit Records, OWTS with Variances	Describe your records maintenance; numbers, locations, and descriptions of permits where you have granted variances.	Pgs 28-31	Solano County Code, Sections 6.4-56			
9.3.2	Water Quality Assessment Program:	In the Water Quality Assessment Program, generally focus on areas with characteristics covered in Section 9.1. Include monitoring and analysis of water quality data, complaints, variances, failures, and inspections. Also include appropriate monitoring for nitrate and pathogens; you can use information from other programs. <i>We are available to provide further guidance on reporting requirements. In the interim, to assist with analyses and evaluation reports (Section 9.3.3), we suggest posting data on appropriate maps; for example consider the following links:</i>  <a href="http://www.nrcs.usda.gov/wps/portal/nrcs/site/ca/home/">http://www.nrcs.usda.gov/wps/portal/nrcs/site/ca/home/</a> <a href="http://www.cdpr.ca.gov/docs/emon/grndwtr/gwpa_maps.htm">http://www.cdpr.ca.gov/docs/emon/grndwtr/gwpa_maps.htm</a>	Pgs 28-31	Solano County Code, Section 6.4-55(e), and 6.4-56(e)		Minimum data compilations for Water Quality Assessment Reports should generally include; small community water systems, monitoring well data from permitted facilities, Geotracker-GAMA Secure, and domestic well results, as locally required. See also, previous comments, OWTS Section 9.1 regarding the "straw man" spreadsheet. After compiling comments, we plan to meet with State Board staff on means of entering and posting data.	Solano County routinely reviews and compiles water quality data from Division of Drinking Water and Department of Water Resources on community small water systems and other sources. Solano County also routinely reviews and compiles influent and effluent data from OWTS with supplemental treatments (e.g., those with NSF-40 systems). Solano County to investigate access to Geotracker GAMA-secure. No further discussion required at this time.

GENERAL REQUIREMENTS FOR LAMPs							
OWTS Policy Section	OWTS Policy Section Summary	Region 5 Comments (These do not replace your review of OWTS Policy. Italics and websites are specific explanations, more detailed than in the Policy.)	Relevant LAMP Section	Legal Authority/ Code Section	Deficiency; Address Prior to Our Scheduling for Board Approval	Potential Concern; Address in First Water Quality Assessment Report	Resolution; 14 Apr 2016 Meeting, Rancho Cordova, Jag Sahota, Matthew Geisert, Blair Allen (telephone), Lani Andam, Robin Merod, E. Rapport
		<a href="http://ngmdb.usgs.gov/maps/mapview/">http://ngmdb.usgs.gov/maps/mapview/</a> <a href="http://www.conservation.ca.gov/cgs/information/publications/ms/Documents/MS58.pdf">http://www.conservation.ca.gov/cgs/information/publications/ms/Documents/MS58.pdf</a> <a href="http://www.water.ca.gov/groundwater/data_and_monitoring/northern_region/GroundwaterLevel/SacValGWContours/100t400_Wells_Spring-2013.pdf">http://www.water.ca.gov/groundwater/data_and_monitoring/northern_region/GroundwaterLevel/SacValGWContours/100t400_Wells_Spring-2013.pdf</a> <a href="http://www.water.ca.gov/waterdatalibrary/">http://www.water.ca.gov/waterdatalibrary/</a> <a href="http://www.waterboards.ca.gov/gama/docs/hva_map_table.pdf">http://www.waterboards.ca.gov/gama/docs/hva_map_table.pdf</a> <a href="http://geotracker.waterboards.ca.gov/gama/">http://geotracker.waterboards.ca.gov/gama/</a> <a href="http://msc.fema.gov/portal">http://msc.fema.gov/portal</a>					
9.3.2.1	Domestic Well Sampling	<i>Apply your best professional judgment to ensure that well sampling focuses on hydrogeologically reasonable pollutant (primarily nitrate) flow paths. A qualified professional should generally design an appropriate directed, judgmental, sample (i.e., statistically non-random). Of the links provided, the Geotracker GAMA website might be particularly useful to the professional; at minimum we suggest reviews of available nitrate data in relevant domestic wells, up-gradient, within, and down-gradient of an area of interest. For some instances, for example where a developer proposes a relatively large project, a Local Agency might require a special study to distinguish between wastewater and non-wastewater sourced nitrate. In such cases, we suggest your consideration of requiring focused sampling and analyses, for example of <math>\delta^{18}O</math> and <math>\delta^{15}N</math> of nitrate (Megan Young, USGS, 2014 pers comm), and the artificial sweeteners sucralose and acesulfame-K (Buerge et al 2009, Van Stempvoort et al 2011, and more recent publications as they become available).</i>	Pg 28	Not Applicable		Does Solano County have areas with existing high density OWTS and domestic wells in areas that predated any standards?	Solano County has such systems; current codes and ordinances adequately address. No further discussion required.
9.3.2.2	Domestic Well Sampling, Routine Real Estate Transfer Related	This applies only if those samples are routinely performed and reported.	Pg 28	Not Applicable			
9.3.2.3	Water Quality of Public Water Systems	Reviews can be by you or another municipality.	Pg 28	Solano County Code, Sections 6.4-30 and 6.4-82(f)			
9.3.2.4	Domestic Well Sampling, New Well Development	This applies if those data are reported.	Pg 28	Not Applicable			
9.3.2.5	Beach Water Quality Sampling, H&S Code §115885	<i>Public beaches include those on freshwater.</i>	Pg 28	Not Applicable			
9.3.2.6	Receiving Water Sampling Related to NPDES Permits	This refers to existing data from other monitoring programs.	Pg 28	Solano County Code, Section 6.4-30			
9.3.2.7	Data contained in California Water Quality Assessment Database	This refers to existing data from other monitoring programs.	Pg 28	Solano County Code, Section 6.4-30			
9.3.2.8	Groundwater Sampling Related to Waste Discharge Requirements	This refers to existing data from other monitoring programs.	Pg 28	Solano County Code, Section 6.4-30			
9.3.2.9	Groundwater Sampling Related to GAMA Program	This refers to existing data from other monitoring programs.	Pg 28	Solano County Code, Section 6.4-30			
9.3.3	Annual Status Reports Covering 9.3.1-9.3.2	Reports are due 1 February, annually beginning one year after Regional Board approves LAMP. Every fifth year also include an evaluation report. Submit all groundwater monitoring data in Electronic Delivery Format (EDF) for Geotracker; submit all surface water data to CEDEN.	Pgs 30-31	Solano County Code, Section 6.4-30			
9.4	Not Allowed or Authorized in LAMP:	For Section 9.4 et seq, ensure that your LAMP covers prohibitions.	Pgs 4 and 8	Solano County Code, Section 6.4-12 and 6.4-89(e)			

GENERAL REQUIREMENTS FOR LAMPs							
OWTS Policy Section	OWTS Policy Section Summary	Region 5 Comments (These do not replace your review of OWTS Policy. Italics and websites are specific explanations, more detailed than in the Policy.)	Relevant LAMP Section	Legal Authority/ Code Section	Deficiency; Address Prior to Our Scheduling for Board Approval	Potential Concern; Address in First Water Quality Assessment Report	Resolution; 14 Apr 2016 Meeting, Rancho Cordova, Jag Sahota, Matthew Geisert, Blair Allen (telephone), Lani Andam, Robin Merod, E. Rapport
9.4.1	Cesspools	Local Agencies cannot authorize cesspools of any kind or size.	Pg 8	Solano County Code, Section 6.4-89(e)			
9.4.2	Projected Flow>10,000 gpd	<i>Apply professional judgment to further limit projected flows.</i>	Pg 5	Solano County Code, Section 6.4-12(a)		See previous comment, OWTS Policy Section 9.2, <i>Scope of Coverage</i> ; we would prefer Solano County to retain lead on systems <10,000 gpd.	No further discussion required.
9.4.3	Effluent Discharger Above Post-Installation Ground Surface	For example, Local Agencies cannot authorize effluent disposal using sprinklers, exposed drip lines, free-surface wetlands, and ponds.	Pg 8	Solano County Code, Section 6.4-89(e)			
9.4.4	Installation on Slopes >30% without Registered Professional's Report	<i>See also earlier comments, Section 9.1.1, regarding potential geotechnical concerns.</i>	Pg 13	Solano County Code, Section 6.4-82(d)			
9.4.5	Decreased Leaching Area for IAPMO-Certified Dispersal System with Multiplier <0.70	IAPMO, International Association of Plumbing and Mechanical Officials. <i>Decreased leaching area refers to alternatives to conventional (stone-and-pipe) dispersal systems; these alternatives require relatively less area. The multiplier, &lt;1, allows for a reduction in dispersal field area relative to a conventional system.</i>	Pg 14	Solano County Code, Section 6.4-87(a)(2) and 6.4-87(b)			
9.4.6	Supplemental Treatments without Monitoring and Inspection	<i>Therefore, ensure that the LAMP describes periodic inspection and monitoring for OWTS with supplemental treatments .</i>	Pgs 21, 24, and 28	Solano County Code, Sections 6.4-56, 6.4-89(h),and 6.4 -89(j)			
9.4.7	Significant Wastes from RV Holding Tanks	<i>We interpret significant amounts to mean amounts greater than incidental dumping, such that volume, frequency, overall strength, or chemical additives preclude definition as domestic wastewater; see Definitions in OWTS Policy. See also, State Water Resources Control Board Order WQ 2014-0153-DWQ, Attachment B-2.</i>	Pg 4	Solano County Code, Section 6.4-12 (e)			
9.4.8	Encroachment Above Groundwater	Bottom of OWTS dispersal systems cannot be less than 2 feet above groundwater, or bottom of seepage pits, less than 10 feet above groundwater. <i>We interpret groundwater to include inter-flow and perched zones, along with the shallowest main unconfined aquifer. Degree of vulnerability to pollution due to hydrogeological conditions, Section 9.1.1, and the Water Quality Assessment, Section 9.3.2., should cover in detail means of assessing seasonally shallowest depth to groundwater.</i>	Pg 9	Solano County Code, Section 6.4-82 see Table 1			
9.4.9	Installations Near Existing Sewers	New and replacement OWTS cannot occur on any lot with available public sewers less than 200 feet from a building or exterior drainage facility (exception; connection fees plus construction costs are greater than 2 times the replacement OWTS costs, and Local Agency determines no impairment to any drinking water.)	Pg 20	Solano County Code, Section 6.4-20			
9.4.10	Minimum Setbacks:	These setbacks are from public water systems.	Pg 27	Solano County Code, Section 6.4-30 and 6.4-82(f)			
9.4.10.1	From Public Supply Wells	If the dispersal system is less than 10' in depth, then the setback must be greater than 150' from public water supply well.	Pg 18	Solano County Code, Section 6.4-82(f) and see Table 2 and footnotes			
9.4.10.2		If the dispersal system is greater than 10' in depth, then the setback must be greater than 200' from public water supply well.	Pg 8	Solano County Code, Section 6.4-89(e)(2)			
9.4.10.3	From Public Supply Wells, Regarding Pathogens	If the dispersal system is greater than 20' in depth, and less than 600' from public water supply well, then the setback must be greater than the distance for two-year travel time of microbiological contaminants, as determined by qualified professional. In no case shall the setback be less than 200'.	Pg 27	Solano County Code, Section 6.4-30			

GENERAL REQUIREMENTS FOR LAMPs							
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9.4.10.4	From Public Surface Water Supplies	If the dispersal system is less than 1,200' from public water system's surface water intake, within its drainage catchment, and potentially threatens an intake, then the setback must be greater than 400' from the high water mark of the surface water body.	Pg 27	Solano County Code, Section 6.4-30			
9.4.10.5	From Public Surface Water Supplies	If the dispersal system is greater than 1,200,'but less than 2,500,' from public water system's surface water intake, within its drainage catchment, and potentially threatens an intake, then the setback must be greater than 200' from high water mark of surface water body.	Pg 27	Solano County Code, Sections 6.4-30 and 6.4-82(f)			
9.4.11	Supplemental Treatments, Replacement OWTS That Do Not Meet Minimum Setback Requirements	Replacement OWTS shall meet minimum horizontal setbacks to the maximum extent practicable.	Pgs 21,26, and 27	Solano County Code, Sections 6.4-82(f) and 6.4-82 see Table 2	OWTS Policy Section 9.4.11 specifically requires an evaluation of need for supplemental treatments and other mitigation measures based on evidence of limited potential for adverse impact to a public water source, considering topography, soil depth, soil texture, and groundwater separation. Such evaluations might include, but are not limited to, reviews of historical site investigations and water quality samples from relevant supply wells. Maintain such evaluations on file for Central Valley Water Board staff's potential review, and report laboratory results to Geotracker.		Solano County to further clarify in LAMP; existing codes are sufficient.
9.4.12	Supplemental Treatments, New OWTS That Do Not Meet Minimum Setback Requirements	New OWTS shall meet minimum horizontal setbacks to the maximum extent practicable, and meet requirements for pathogens as specified in Section 10.8. and any other Local Agency's mitigation measures.	Pgs 17, 18 and 27	Solano County Code, Sections 6.4-82(f),6.4-82 see Table 2 and 6.4-89(g)			
9.5	Technical Support of LAMP	Include adequate detail to ensure that the combination of all proposed criteria will protect water quality and public health sufficiently to warrant the Central Valley Water Board's waiver of Waste Discharge Requirements, pursuant to §13269, California Water Code.	pp 27, 28	Solano County Code, Sections 6.4-11(a) and 6.4-11(b)	We would need justification in detail for a proposed new and replacement OWTS within 150' of a public supply well.		No further discussion required.
9.6	Regional Water Quality Control Board Consideration of LAMP	Regional Boards shall consider past performance of local programs to protect water quality. <i>We will generally consider past performance based on our reviews of annual status and evaluation reports; see Section 9.3.3.</i>	Pgs 1-32	Solano County Code, Sections 6.4-11(a) and 6.4-11(b)		See previous comments, OWTS Policy Sections 9.1 and 9.3.2. Based on findings in Water Quality Assessment Reports, staff may request further local requirements for new and replacement OWTS.	No further discussion required.

**References:**

Hantzsche, N.N. and E.J. Finnemore (1992). *Predicting groundwater nitrate-nitrogen impacts*. "Groundwater," 30, No. 4, pages 490-499.

Crites, R and G. Tchobanoglous (1998), *Small and Decentralized Wastewater Management Systems*, McGraw-Hill, ISBN 0-07-289087-8, 1084 pages (see especially pages 919-920).

Young, Megan, USGS Menlo Park, mbyoung@usgs.gov, (650-329-4544)

Buerge, Ignaz J., Hans-Rudolf Buser, Maria Kame, Markus D. Muller, and Thomas Poiger (2009), *Ubiquitous occurrence of the artificial sweetener acesulfame in the aquatic environment: an ideal chemical marker of domestic wastewater in groundwater*. "Environmental Science and Technology," 43, pages 4381 to 4385.

Van Stempvoort, Dale R., James W. Roy, Susan J. Brown, and Greg Bickerton (2011). *Artificial sweeteners as potential tracers in groundwater in urban environments*. "Journal of Hydrology," 401, pages 126 to 133.



# SOLANO COUNTY

# Local Agency Management Program

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## Onsite Wastewater Treatment Systems

ENVIRONMENTAL HEALTH SERVICES DIVISION

04/18/2016



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## **I. INTRODUCTION AND SCOPE:**

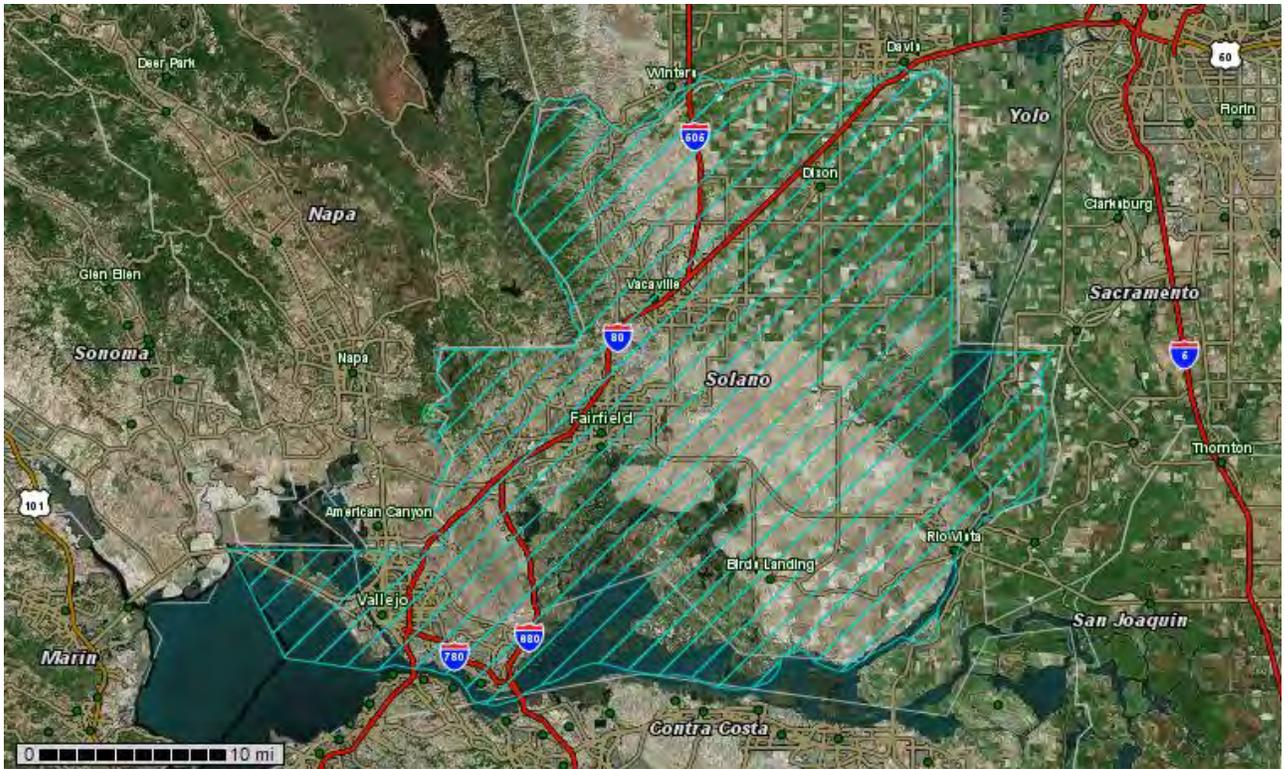
### **A. Purpose:**

The Solano County Local Agency Management Program Plan (LAMP) describes how Solano County's Onsite Wastewater Treatment System (OWTS) program is in compliance with the State Water Resources Control Board *Water Quality Control Policy for Siting, Design, Operation, and Maintenance of Onsite Wastewater Treatment Systems*, dated July 2012 (POLICY) and applicable Basin Plan policies adopted by the Central Valley and San Francisco Bay Regional Water Quality Control Boards. The LAMP describes standards and procedures for reviewing and approving OWTS for individual lots and subdivisions in Solano County. The LAMP demonstrates that the Solano County OWTS regulatory program is protective of public health and the environment by ensuring the proper treatment and disposal of liquid waste through the appropriate siting, design, installation, maintenance, and monitoring of OWTS given the specific geologic, hydrologic, and soil characteristics of Solano County.

### **B. Geographical Setting:**

Located approximately 45 miles northeast of San Francisco and 45 miles southwest of Sacramento, Solano County is bordered by Napa, Yolo, Sacramento, and Contra Costa counties. The county covers 909.4 square miles, including 84.2 square miles of water area and 675.4 square miles of rural land area. The County includes seven incorporated cities - Benicia, Dixon, Fairfield, Rio Vista, Suisun City, Vacaville and Vallejo - and the unincorporated areas.

Both the California Regional Water Quality Control Board, Central Valley Region and the California Regional Water Quality Control Board, San Francisco Bay Region have jurisdiction within the boundaries of Solano County. The Central Valley Regional Water Quality Board has jurisdiction in Vacaville, Dixon, Rio Vista and the unincorporated areas around these cities. The San Francisco Bay Regional Water Quality Control Board has jurisdiction in Suisun City, Fairfield, Benicia, Vallejo, and unincorporated areas around these cities.



Map showing the Boundaries and Geographical Area of Solano County. The shading indicates LAMP Applicability. See section C 1&2 for applicability within incorporated cities.

### C. **Introduction and Applicability:**

Solano County maintains a city-centric development policy, which has resulted in the majority of the population residing within city limits and using city services, including public sewer systems. The California Department of Finance estimates the total population of Solano County is 429,522 in the 2015. The majority of residents live within the incorporated cities estimated at 95% and estimate of 5% or 19,939 resided in the unincorporated areas of the county.

The Solano County Environmental Health Services Division is responsible for regulating OWTS located in all the unincorporated areas of Solano County, and, on a case-by-case basis, within incorporated cities as described in this section.

The Environmental Health Services Division is one division within the Department of Resource Management (DRM). DRM also consists of the Building and Safety Division, Planning Division, Public Works Divisions, and the Parks and Recreation Division. DRM is responsible for regulating land use and building permits within unincorporated Solano County, and the divisions within DRM work closely together to review these projects to provide coordinated comments, conditions and oversight. More information about DRM can be found at [www.solanocounty.com/depts/rm/default.asp](http://www.solanocounty.com/depts/rm/default.asp).

The LAMP will apply through all of unincorporated Solano County. The LAMP will also apply in the incorporated cities of Solano County where the following conditions occur:

1. The applicable incorporated city does not have an approved Local Agency Management Program for their jurisdiction, **and**
2. The applicable permitting authority within an incorporated city provides written deferral to Solano County to include an OWTS project under jurisdiction of the Solano County OWTS program.

The LAMP does not apply to the following:

1. Individual OWTS that are installed or designed predominantly for recreational vehicle wastewater, commercial/ industrial wastewater including food processing, and winery wastewater from commercial development in areas not served by public sewer without specific authorization from the applicable Regional Water Quality Control Board.
2. Community sewage disposal systems including public sewer systems and community on-site sewage disposal systems.

The LAMP will be applicable under certain conditions: (1) with authorization from the applicable Regional Water Quality Control Board, the OWTS project will be under the jurisdiction of Solano County LAMP for application/plan review, issuing authorization to construct, and construction inspections; (2) the wastewater is low strength black water from lavatories and toilets at commercial facilities; (3) high strength liquid waste from commercial food facilities with a BOD of <900 mg/l/day that are connected to a grease separator before discharging to a disposal area; and (4) gray water that is discharged in compliance with state law or regulation.

**D. Supporting Regulatory Documents:**

The LAMP relies upon the following Solano County Codes:

[www.codepublishing.com/ca/solanocounty/](http://www.codepublishing.com/ca/solanocounty/)

1. Solano County Code, Chapter 6.4, Sewage Standards, that addresses the siting, design, construction, operation and maintenance of OWTS.
2. Solano County Code, Chapter 25, Chemical Toilets, Domestic Septage Land Application, and Biosolids Land Application that addresses standards for businesses engaged in liquid waste pumping from OWTS.
3. Solano County Code, Chapter 26, Subdivisions, that addresses standards for subdivisions including size of parcels with OWTS.

E. **General Overview and Types of OWTS, Scope and Coverage:**

Solano County Code, Chapter 6.4 provides requirements for OWTS proposed as part of subdivision of land, a building permit, a land use permit, or replacement, upgrade, and/or repair of an existing system discharging 2,500 gallons per day (gpd) or less. Solano County Code authorizes Environmental Health Services Division (EHSD) to oversee domestic type wastes in excess of 2500 gpd and not to exceed 10,000 gpd with approval of the LAMP by the California Regional Water Quality Control Board and as per EHSD Policy # LW-93-02. Therefore, Solano County Code currently meets the standards within the POLICY.

Solano County Code, Chapter 6.4 provides requirements for the following types of OWTS:

1. Standard Systems: OWTS that use gravity to disperse effluent throughout the disposal field, and in which no pretreatment device is utilized are standard systems. This includes OWTS that use a pump to transport effluent received from the septic tank to an uphill disposal field where the effluent is then dispersed by gravity into an absorption field.



*Example of the installation of a standard system*

2. Alternative Systems: OWTS that use an advanced method of effluent treatment and/or distribution, and are designed by a Professional Engineer (civil), Certified Engineering Geologist or Registered Environmental Health Specialist licensed/registered in the State of California. An alternative system is designed to mitigate soil and/or groundwater

conditions that render a lot inappropriate for a standard septic system, or to mitigate severely inadequate replacement area for repair or replacement of an existing, improperly functioning on-site sewage disposal system.



*Photo shows the squirt test for an alternative OWTS using a sand filter system as a pretreatment prior to the disposal field*

3. Experimental System: OWTS that: (a) are alternative systems installed into areas where surface and/or subsurface conditions do not comply with the standard in Solano County Code, Chapter 6.4 and/or (b) are not allowed for individual on-site sewage disposal for subdivision of land or new construction without being approved and under permit from the Regional Water Quality Control Board having jurisdiction; and/or (c) use construction materials other than those noted for standard systems and non-experimental alternative systems in Solano County Code, Chapter 6.4



*Example of the installation of a drip disposal field*

#### 4. Prohibitions:

Solano County Code, Chapter 6.4 does not allow OWTS to include:

- Evapo-transportation systems unless designed by a Professional Engineer, Certified Engineering Geologist, or Registered Environmental Health Specialist, and meets Regional Water Quality Control Board and Drinking Water Division of State Water Resources Control Board standards for reuse.
- Leach (Seepage) pits with a width greater than 3 feet and a depth greater than 5 feet,
- Waste Disposal wells
- Cesspools,
- Composting toilets,
- Incineration systems,
- Wetlands.

### **Areas to be excluded from OWTS installation:**

- Areas known to be subject to erosion, slope instability, or within identified landslide-prone areas.
- Low swampy areas, areas with permanent or intermittent springs, areas with a high groundwater (permanent, fluctuating, seasonal, or perched) within two feet of the ground surface, areas which are subject to standing water, or areas which are subject to flooding by storms having a recurrence interval of less than ten (10) years.
- Portion of the lot in which there is ledge rock, hard pan, soils with a percolation test results greater than 120 minutes per inch (mpi), or other impervious formations within two (2) feet of ground surface will not be acceptable as an area for installation, expansion, or replacement of an individual sewage disposal system.
- Installations into areas with fractured rock, or with 50% or more rock, within two feet of ground surface.
- Installation into areas with percolation test results less than 1 mpi,
- Areas of excessive slopes steeper than 50% grade (2:1 slope horizontal to vertical).

### 5. Appeals/Variances

- The Environmental Health Manager or his designee may allow variances to setbacks and other provisions including allowance for the use of fiberglass and poly tanks in limited access areas;
- The Environmental Health Manager or his designee may allow variances for structures that have been destroyed due to fire and natural disaster and which cannot be reconstructed in compliance with OWTS standards
- Any person may appeal decisions of the Environmental Health Services Division to the Environmental Health Manager. The appeal must be in writing and submitted with 10 days of the decision, stating reasons and including supporting documentation.
- Any decision of the Environmental Health Manager may be appealed to the Director of the Department, and ultimately the Board of Supervisors who will set the date and time of the hearing. All appeals are to be submitted in writing to the Environmental Health Services Division within 10 days of the decision. When the appeals are made to the Board of Supervisors, the Clerk of the Board sets the time and place of hearing, and provides notice to the appellant and the department.

## **II. SITING AND DESIGN:**

### **A. Site Evaluation:**

An OWTS site evaluation must be performed:

1. By an OWTS consultant who is a licensed Professional Engineer (Civil), Professional Geologist, Certified Engineering Geologist, Registered Environmental Health Specialist, or a Certified Professional Soil Scientist.
2. Under inspection by the Environmental Health Services Division. This includes prior notification to the Environmental Health Services Division to ensure that staff is available to witness the site evaluation.
3. Prior to the issuance of any permits to construct, expand, modify, or replace an OWTS, or approval of a lot line adjustment or tentative subdivision map. The exception to this is when Environmental Health Service Division reviews existing soil data and approves modification of an existing system that is functioning properly, including expanding the disposal area or the replacement of a septic tank.

All aspects of an OWTS site evaluation are performed by the OWTS consultant and will include an on-site review of surface features and conditions which shall include one or more soil evaluations within the boundaries of the area of the on-site sewage disposal system proposed for construction, expansion, alteration, replacement, or repair. Soil characteristics, including texture, color, structure, plasticity, and porosity of each horizon, shall be evaluated to determine permeability.

The OWTS consultant will identify limiting conditions including, but not limited to; bed rock, hard pan, ground water, saturated soils, impermeable soil layers, and observed free water.

The OWTS consultant will prepare a site evaluation report that includes all data relative to the proper placement, design and operation of an on-site sewage disposal system, including, but not limited to, percolation tests, soil profiles, hydrometer tests, depth to groundwater, slope measurements and surface water flow for each proposed sewage disposal system or lot to demonstrate compliance with these standards. All data, whether used in the final design of the disposal field or rejected, shall be included in the report.

The standards require the report be signed by the consultant responsible for the site evaluation and include their license/registration number. The OWTS consultant will submit the site evaluation to Environmental Health Services Division for review. After reviewing the site evaluation report, the Environmental Health Services Division may require additional information including a follow up technical report prepared by a Certified Soil Scientist, Certified Engineering Geologist, Professional Geologist, or Registered Professional Engineer to address soil limitations and/or slope instability.

## **B. Hydro Geologic Evaluation:**

To verify adequate separation of OWTS from groundwater, the OWTS consultant will estimate the highest anticipated level of groundwater by identifying the highest extent of soil mottling to natural grade observed in a soil profile, or by direct observation of stabilized groundwater levels.

If the consultant uses, or Environmental Health Services Division requires direct observation of groundwater levels, the consultant will use performance wells or piezometers to collect measurements every 2 weeks during the wet weather period between October 15<sup>th</sup> and March 15<sup>th</sup>. The wet weather period may be extended earlier or later depending on weather patterns and with approval of the Environmental Health Services Division. The consultant may propose alternate wet weather groundwater plans provided the groundwater monitoring plan will capture seasonal high groundwater elevation in the proposed primary and reserve disposal fields.

The OWTS standards require that at least one direct observation well is constructed in each initial and replacement areas. The OWTS consultant will accurately depict the location of the well(s) on all site plans submitted to the Environmental Health Services Division prior to the approval of the OWTS.

Where a conflict exists between the depth of groundwater observed through direct observation during wet weather conditions and the depth at which soil mottles are observed, the direct observation of actual groundwater levels will govern.

In the case of a proposed subdivision, if the Environmental Health Services Division determines that there is a potential for significant degradation or impact to the elevation of groundwater or the surface water supplies, the Solano County OWTS standards require the applicant to submit a hydrogeological evaluation of the projected cumulative impacts of the project to the entire drainage basin. The applicant must provide a groundwater evaluation identifying the existing and potential groundwater aquifers, and focus on aquifers with a greater potential for water quality impacts from the proposed project. The applicant must provide information on: drainage basin area, saturated thickness, transmissivity, flow contours, existing water quality, seasonal depth to water table, ultimate density of soil absorption systems based on current land use planning for the groundwater basin being evaluated, and any other data as deemed necessary by the Environmental Health Services Division.

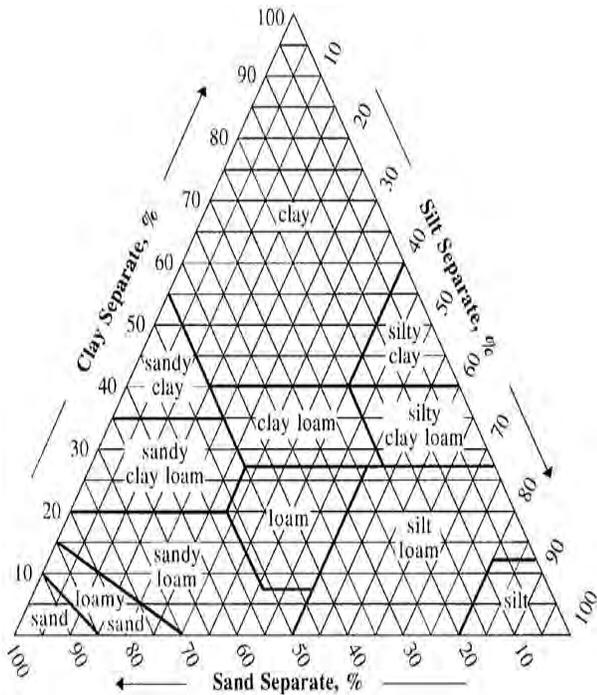


Illustration of USDS Soil Triangle

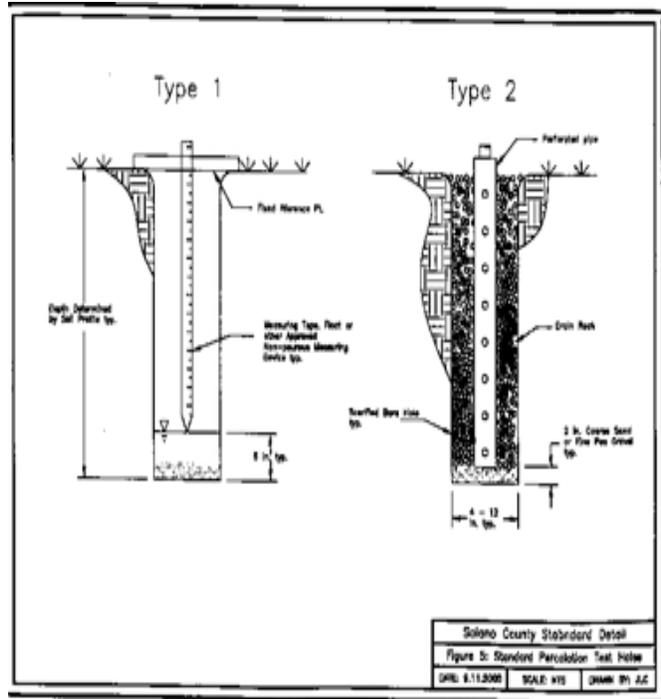


Illustration of Percolation Test Holes

**Land Use Projects with Onsite Wastewater Treatment Systems:**

Solano County Code Chapter 6.4 specifies that the Environmental Health Services Division will review land use projects, subdivisions including tentative maps, and proposed lot line adjustments, prior to approval.

The applicant and/or owner of the property shall be responsible for supplying any and all information, testing, and consent to inspect, as required by the Environmental Health Services Division, to verify that the subdivisions or lot line adjustments comply with applicable codes, rules and regulations. The Environmental Health Services Division reports its conclusions together with any conditions necessary to ensure compliance with all applicable codes, rules and regulations to the Planning Division or other responsible agency.

**D. Domestic Wells and Parcel Size**

Solano County standards address the concern of high usage of domestic wells in areas that use OWTS by regulating parcel size, and are more protective of public health and the environment by requiring less density for a subdivision than the average densities per subdivision specified in the POLICY.

Solano County Code, Chapter 26 requires that where sewage disposal is not by means of a sewer operated by public sewer agency, it shall be by means of an OWTS located entirely on the lot generating the sewage.

Each proposed lot within a subdivision that is not served by a public sewer system will meet the following minimum site and design criteria:

1. Lots served by both an individual water supply and an OWTS shall not be less than 5 acres.
2. Lots, which are served by OWTS and community water supplies operated by a public agency or utility district shall not be less than 2.5 acres. Where a planned unit development process (parcel overlay) is proposed along with community water supply, then each lot may be not less than 1 acre provided the overall density of the project will not be less than one dwelling unit per 2.5 acres.
3. Parcels that meet the above, but have limiting conditions on site must be of sufficient size in order to meet the required setbacks to accommodate the conventional site development.

A detailed discussion of Solano County OWTS standards for subdivision lot size can be found in the Solano County Code section 6.4-31 and Solano County Code section 26-82.

**E. General Design Standards:**

1. All new, expanded, modified, repaired, or replacement OWTS will be in a location for which the applicant has obtained site evaluation data for the use in the design and installation of the system.
2. A replacement area equivalent to 100% of the initial system area conforming to the standards is required for every lot served by an OWTS.
3. Soil Texture Zones are those described in the USDA Soil Textural Triangle.
4. The percentage of coarse fragments throughout the effective soil depth will not exceed fifty (50%) percent by volume as retained on a #10 sieve.
5. Percolation Rates in the disposal field area and the effective soil depth within the disposal area shall not be less than one minute per inch or more than 60 minutes per inch.

There is an exception for alternative and experimental OWTS: the percolation test results throughout the disposal field area and required effective soil depth will not be less than one minute per inch or more than 120 minutes per inch.

6. Slope. Currently the OWTS standards require native slopes not be more that 25%. Other slope limitations may apply depending on the type of on-site sewage disposal system proposed. Lots may not be graded or altered in any manner to accommodate the slope requirement and leach lines will not be installed in areas of excessively concave slopes. Solano County Code meets and exceeds the provisions within the POLICY.
7. Areas of filled soil or unstable soil formations will not be used for a disposal field site. The on-site sewage disposal system shall be located and installed in natural, undisturbed and unobstructed ground or earth.

There is an exception for fill placed for ten or more years that is stable, with a soil evaluation indicating characteristics acceptable for installation of an OWTS such as approved structure, texture, consistency, pore space, percolation rate.

8. No grading shall occur in the area of the proposed or installed on-site sewage disposal system or replacement area.
9. An individual on-site sewage disposal system shall only be installed on the same lot as the structure to which it is connected.
10. Disposal fields and replacement areas shall be maintained so as to facilitate aerobic treatment and the evapotranspiration of wastewater.
11. Disposal fields will not be reduced in lineal feet for the use of chamber systems.
12. OWTS will be located so as to be accessible for maintenance or repair. Septic tanks, dosing tanks, and interceptors will be located so as to readily allow pumping and maintenance. Pressure distribution lines shall be located to accommodate monitoring and flushing of the lines.
13. Septic Tanks shall be constructed of reinforced concrete. Fiberglass or polyethylene tanks may be installed where concrete tanks are not feasible because of access limitations, slopes, or safety concerns, only with the approval of Environmental Health Services Division.

Solano County OWTS standards require that non typical standard leach field design, alternative, experimental, and pump systems be designed by an OWTS Designer who is a Professional Engineer, Certified Engineering Geologist, or Registered Environmental Health Specialist. The OWTS Designer will use the site evaluation data discussed previously for the design of the disposal system to ensure maximum equal distribution of wastewater through-out the disposal area. Solano County Code, Chapter 6.4 discusses the use of these types of components and systems:

1. Standard leach field systems
2. Non-typical standard leach fields
3. Pressure Distribution systems
4. At Grade systems
5. Mound systems
6. Sand Filtration system
7. Aerobic Treatment units (ATU)
8. Nutrient treatment devices (typically nitrates)
9. Grease interceptors

10. Dosing tanks

11. Experimental systems including constructed wetlands which are used when other options for correction of sewage systems failure on existing lots have been exhausted

Solano County OWTS standards describe that experimental systems will not be used as a method for individual on-site sewage disposal for proposed lots except upon approval by the Environmental Health Services Division and under permit by the Regional Water Quality Control Board.

Experimental systems may be approved as the method of individual on-site sewage disposal under certain exceptional circumstances only:

1. Their use will not create a potential health hazard or contaminate the environment; and
2. 200% replacement area exists on the lot to install a conventional or alternative system in conformance to these standards; or
3. They are used as a modification/repair of an existing, failing individual on-site sewage disposal systems; or
4. They are used as a pretreatment device for a standard or alternative system where no pretreatment device is necessary, or as an additional pretreatment device in conjunction with a non-experimental system already utilizing a non-experimental pretreatment device

Solano County OWTS standards also address the use of sealed vaults including portable toilets in the following circumstances:

1. Temporary works sites, such as construction site, special events, and agricultural operations.
2. Campgrounds, rest stops, fishing piers, or similar facilities operated and maintained by a government agency that are remote or located on a site not suitable for an OWTS.
3. Existing residential or commercial operations where a severe sewage disposal failure has occurred and there is not a feasible alternative for repair.
4. Intermittently used non-residential, non-commercial structures such as duck clubs in the primary area of the Suisun Marsh, where: a) a site evaluation demonstrates conditions that prohibit the installation of an OWTS; b) the operators have installed appropriate high-level alarms; and c) the operators provide evidence of a maintenance contract with a licensed liquid waste pumper.



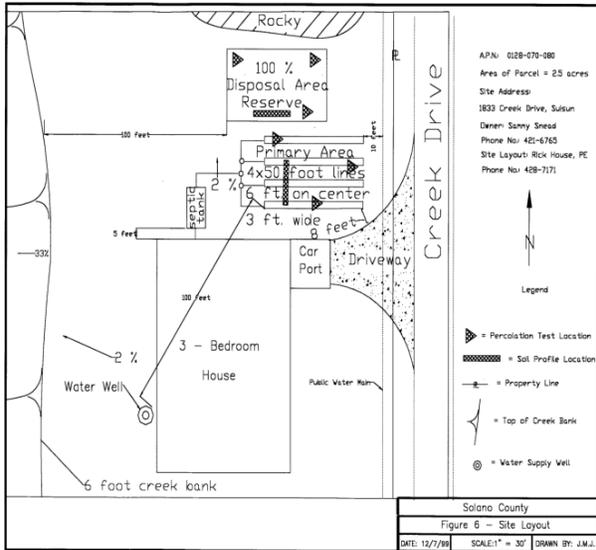
*Side wall of trench used for Site Evaluation*



*Photo illustrating Site Evaluation Process*

Solano County OWTS standards require that any person proposing to develop any property utilizing an OWTS, whether for new construction, remodel, addition, or replacement must submit copies of the general site layout, the detailed OWTS drawn to scale, and floor plan for the proposed development to the Environmental Health Services Division. The plans must be complete, and must clearly show the exact locations of the following whether existing or proposed:

1. Parcel number and address if applicable;
2. Name, address and telephone number of property owner;
3. Name, address, and telephone number of the person preparing the application package;
4. A vicinity map and the scale used;
5. Lot dimensions including all property lines, setbacks, easements, right-of-ways, and side yards;
6. Vehicle traffic areas whether paved or unpaved;
7. Structures including pools, dwellings, and auxiliary buildings;
8. Any hazardous materials storage including fuel tanks;
9. Animal enclosures;
10. Plumbing including existing and proposed stub outs and water lines;
11. Existing and proposed wells, springs, neighboring wells, streams, ditches, canals, ponds, and any other body of water located within 100 feet of the property line;
12. Areas subject to flooding, ravines, bluffs, cut banks, and the slope;
13. Trees and utilities with 10 feet of the actual or proposed sewage disposal areas.



*Illustration showing typical site diagram*

*Photo showing consultant beginning site evaluation*

Each project will have a site evaluation unless the project does not cause any increase in the potential generation of sewage and Environmental Health Services Division has conducted an inspection and verified that the project will not significantly impact the existing OWTS or the replacement area for the OWTS. The one exception to this is for addition of one bedroom to residences that have a current permit and existing site evaluation data. In these cases, no new additional site evaluation will be required. For a detailed discussion of building permits, new construction, additions, and replacement structures please review Solano County Code, Chapter 6.4.

The Solano County Building Division routes all Building Applications to the Environmental Health Services Division for review. Environmental Health reviews each application to determine whether there is a need to (1) modify/upgrade an existing OWTS; (2) install a new OWTS; (3) perform a site evaluation to identify a replacement area; (4) conform the project to all septic and well setbacks.

Solano County OWTS standards specify the minimal horizontal separation between the components of the OWTS including the required reserve area. These setbacks are detailed in Table 1.

**Table 1: Minimum Setback Requirements, Chapter 6.4**

	<b>Septic Tanks, Interceptor, Dosing Tanks, Holding Tank, Distribution</b>	<b>Disposal Field, Replacement Area</b>	<b>Solid Piping (ABS or Cast Iron)</b>	<b>Solid Piping (PVC or other)</b>
<b>Wells, abandoned wells, springs</b>	100 feet <sup>1</sup>	100 feet	25 feet	50 feet
<b>Bays, streams, rivers, ditches, canals, culverts or 10 year flood plains (2)</b>	100 feet <sup>1</sup>	100 feet	25 feet <sup>3</sup>	50 feet
<b>Ephemeral streams, rivers, unlined ditches, unlined canals, or unlined culverts (2)</b>	50 feet	50 feet	25 feet <sup>3</sup>	50 feet
<b>Lined ditches, lined canals, or watertight culverts or conduits</b>	15 feet	15 feet	10 feet <sup>3</sup>	10 feet
<b>Lake or reservoir (2)</b>	100 feet	100 feet	25 feet	50 feet
<b>Property line (public water supply and no on-site well)</b>	10 feet	10 feet	10 feet	10 feet
<b>Property line (neighboring lot on-site well or spring water supply)</b>	25 feet	25 feet	10 feet	10 feet
<b>Structures and foundations</b>	5 feet	10 feet	0 feet	5 feet
<b>Swimming Pool. Lined pond or lined basin</b>	15 feet	15 feet	5 feet	5 feet
<b>Areas subject to vehicular traffic</b>	5 feet	5 feet	0 feet if sand packed	5 feet
<b>Cut or fill banks, cuts, or steep slopes(4)</b>	4 x height (50 feet maximum)	4 x height (100 feet maximum)	0 feet	10 feet
<b>Easements and rights of way (5)</b>	5 feet	5 feet	5 feet	5 feet

Notes:

(1) May be reduced to fifty (50') feet if the tank passes a field test to verify it is water tight.

- (2) As measured from the highest water level obtained.
- (3) Variance may be granted for creek crossings if pipe is pressure tested and adequately protected.
- (4) Distance in feet equals four times the vertical height of the cut bank, fill bank, or escarpment.
- (5) Unless easement is specifically and solely designated for an on-site sewage disposal system.

Where adverse conditions exist, Solano County Code allows the Environmental Health Services Division to increase the minimum horizontal separation distances pertaining to the construction of the OWTS. The Environmental Health Division (EHSD) is requiring setbacks of septic tank and disposal field to be 150 feet from a public water system pursuant to EHSD Policy # LW-93-02.

Solano County OWTS standards also establish soil depths for each limiting condition. Table 2 details limiting conditions:

**Table 2: Soil Depth below Absorption Field to Limiting Condition, Chapter 6.4**

<b>Soil texture<sup>1</sup></b>	<b>Percolation Rate Minutes per inch (mpi)</b>	<b>Depth to groundwater</b>	<b>Depth to other limiting factor</b>
<b>Sand, Loamy Sand</b>	1 mpi – 5 mpi	20 feet <sup>2</sup>	5 feet <sup>3</sup>
	6 mpi- 60 mpi	5 feet <sup>3</sup>	5 feet <sup>3</sup>
<b>Sandy Loam, Sandy Clay Loam, Loam</b>	6 mpi – 60 mpi	5 feet <sup>3</sup>	5 feet <sup>3</sup>
	61 mpi- 120mpi	3 feet <sup>4</sup>	3 feet <sup>4</sup>
<b>Sandy Clay, Clay Loam, Clay, Silty Clay, Silty Clay Loam, Silt Loam, Silt</b>	6 mpi – 60 mpi	5 feet <sup>3</sup>	5 feet <sup>3</sup>
	61 mpi- 120mpi	3 feet <sup>4</sup>	3 feet <sup>4</sup>

**Notes:**

1. Soil texture of the most limiting soil layer in the active leaching layers directly below proposed disposal fields ( within two feet to five feet below trench bottom depending on the type of system
2. If an alternative system is used then the depth may be reduced to two to five feet dependent on the system proposed. Pretreatment and de nitrification may be required for any allowed reduction of setback.
3. Separation distances may be reduces to three feet if pressure distribution is used or two feet if a pretreatment device approve by Environmental Health Services Division is used before disposal by pressure distribution
4. Applies to sites approved for alternative systems utilizing pressure distribution methods and can be reduced if a pretreatment device is used before disposal of effluent into soil.

In summary, Solano County OWTS standards meet the intent of the POLICY and the Basin Plans of both California Regional Water Quality Control Boards.

Solano County OWTS standards are protective of public health and the environment by; (1) requiring a site evaluation for a new OWTS or the repair, replacement, modification of an existing system; (2) identifying replacement areas with **at least** 100 % the size of the initial disposal area in case of the initial system failure during the site evaluation process; (3) requiring consultants with specific credentials to design systems; (4) allowing the use of alternative systems such as pressure dose, ATU/nutrient treatment system, sand filter, at grade, mound system etc; (5) allowing the use of experimental systems only with at least 200% replacement area for non-experimental systems; (6) not allowing unacceptable designs such as: Evapotranspiration systems, leach pits, cesspools, composting toilets and incineration systems.

For a detailed discussion of OWTS system designs and specification see Solano County Chapter 6.4.

#### **F. Impaired Water Bodies**

Within Solano County, currently the OWTS Policy identifies the Napa River on Table 6 as a 303(d) water body for nitrogen. The Regional Water Board at its February 2014 meeting approved a proposal to delist Napa River for nutrients, and to remove it from the impaired water body list. Napa River will most likely be removed out of the impaired water body list once the US EPA approves the request. Meanwhile, Solano County has not identified any OWTS systems located near the Napa River. All identified dwellings and commercial structures along the Napa River are on sewer operated by Vallejo Sanitation and Flood District.

#### **G. Installation Near Existing Sewers:**

Solano County OWTS standards require a connection to a public sewer for all proposed lots, new development, additions, or remodels that propose to generate wastewater, and for existing structures requiring repairs to septic system if sewer is available.

Solano County OWTS standard also define the sewer is available if: (1) It is within 200 feet of the property line; (2) The structure is within 1000 feet of the property; and (3) There is willingness by the agency in control of the sewer to permit connection to the sewer main.

Solano County will not issue permits for the installation, repair, replacement, or expansion of an OWTS if a sewer is deemed to be available. Solano County OWTS standards do not apply to community sewage disposal systems including public sewer systems that are subject to Regional Water Quality Control Board review and approval. For a more detailed discussion see Solano County Code Chapter 6.4.

## **H. Inspection, Construction and Enforcement:**

The Environmental Health Services Division references the *Onsite Wastewater Treatment Systems* by US EPA dated 2002, *Onsite Wastewater Treatment Systems* by Bennette D. Burks and Mary Margaret Minnis dated 1994, Product information and design specification for OWTS manufacturers and distributors, *Environmental Engineering and Sanitation* by Joseph Salvado 4<sup>th</sup> edition or later as references for OWTS within Solano County.

The Environmental Health Services Division tracks all complaints regarding the discharge of sewage and the failure of OWTS through the Department's internal database. Each location is provided a unique tracking number and information related to the type of the complaint and actions to abate are saved and can be readily recalled as needed. Environmental Health staff responds to all complaints of failed OWTS and the discharge of sewage by conducting inspections, documenting site conditions, and issuing a Notice of Violation specifying corrective actions as needed. For OWTS the typical corrective actions include stopping the discharge and obtaining a permit to repair or replace the OWTS.

The Environmental Health Services Division addresses OWTS malfunction, poor performance, or failure by:

1. Responding to complaints of failing systems and/or unpermitted repairs;
2. Permitting of OWTS installations, modifications, expansions, or repairs;
3. Conducting construction inspections including, a preconstruction meeting, inspecting open trenches, inspecting rock and pipe, conducting other inspections as necessary for the system and a final construction inspection;
4. Reviewing the design consultants certification that the OWTS has been installed according to standards and permit conditions;
5. For an alternative system, issuing an operation & maintenance permit;
6. Performing an annual inspection that includes a review of the performance and conditions of many alternative and experimental systems;
7. Issuing septic tank destruction permits and conducting inspections;
8. Requiring maintenance and performance monitoring at least annually by the property owner, licensed contractor, or OWTS consultant;
9. Triennially requiring the maintenance and performance monitoring done by an OWTS consultant or licensed contractor knowledgeable in the permitted OWTS.

Solano County OWTS standards require an applicant to obtain a permit for the installation, repair, replacement, expansion, modification, or destruction of an OWTS. The standards provide that the contractor, property owner, or any other person must not violate or fail to comply with

any construction permit condition, and require that only the work specifically authorized by the construction permit may be performed.

Solano County OWTS standards provide the following exceptions from permitting:

- Clearing stoppages in pipes as long as OWTS is undisturbed;
- Cleaning each septic tank, dosing tanks, interceptor, holding tank or other sewage receptacle that is pumped by a sewage disposal service that is permitted by Solano County;
- Exposing portions of the OWTS to evaluate its performance or operation as long as it is not damaged, altered, modified, or repaired;
- Repairing Risers and lids;
- Repairing Effluent filters;
- Repairing Sanitary tees;
- Repairing Distribution boxes

The Environmental Health Services Division may address malfunctioning or failing systems by denying, suspending, or revoking a permit for: (1) not complying with standards; (2) a failing or abandoned OWTS; (3) providing false information; (4) failing to comply with monitoring or maintenance requirements. The OWTS standards prohibit the surface discharge of sewage. The OWTS standards provide that any person, firm, corporation, will be deemed guilty of an infraction and subject to a fine. For more detailed discussion of these activities see Solano County Code, Chapter 6.4.



*Photo illustrating an inspection during construction*



*Photo illustrating inspection of Installed components*

## **I. Operation and Maintenance Program**

Solano County implements a comprehensive operation and maintenance program through the following methods:

1. Education of OWTS Owners.

The Environmental Health Services Division maintains information on its website to educate OWTS owners on proper operation and maintenance. This information can be found at:

[http://www.solanocounty.com/depts/rm/environmental\\_health/](http://www.solanocounty.com/depts/rm/environmental_health/)

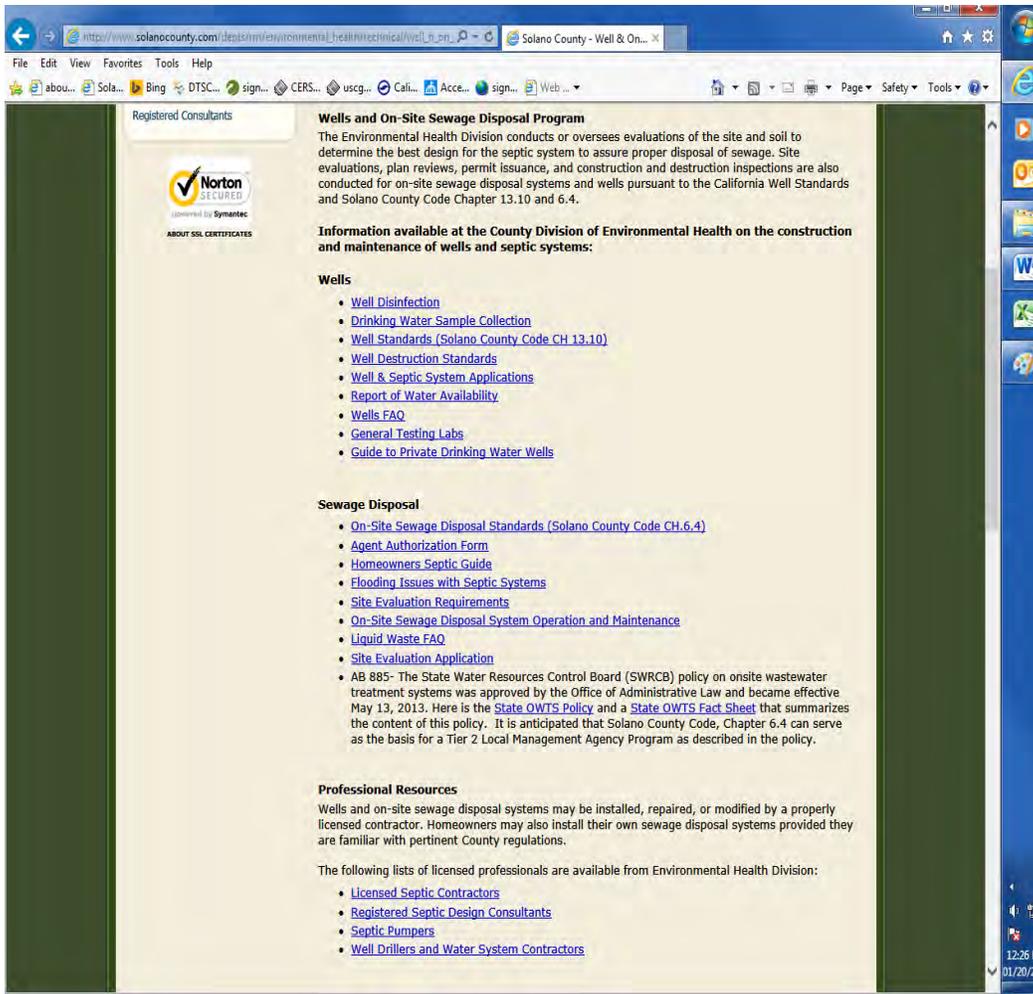
The information provides general guidance to all OWTS owners on proper operation and maintenance of OWTS. Solano County also maintains electronic databases that the public can access which has documents (permits, design, and site map) specific to the permit for the specific OWTS. Solano County requires that homeowners with engineered OWTS to provide operation permit and all conditions to a subsequent property owner or tenant within 60 days of the date of transfer of the property.

2. Public Outreach:

The Environmental Health Services Division provides information on Solano County OWTS standards, general soil characteristics, and general ground water depths, as well as information on specific parcels to consultants, contractors, property owners, and prospective buyers and their representatives in person, by telephone, and by email. Solano County EHSD is on-call 24/7 to respond to sewage releases in both incorporated and unincorporated areas of Solano County.

The Environmental Health Services Division has OWTS file information in a digital imaging format that is available for review at the public counter and in a dedicated file review room. Environmental Health Service Division provides public information from these files by email as describe above, or US Mail upon request.

The Environmental Health Services Division portion of the Solano County website has FAQs on OWTS; lists of OWTS consultants, licensed septic contractors, licensed septic pumpers that work within the county; information for owners on maintenance of OWTS; and site evaluation information. The Environmental Health Services Division interacts with the Suisun Resource Conservation District regarding OWTS within the primary marsh and the use of holding tanks/seal vaults for use by duck clubs and other hunting clubs with the Suisun Marsh. The Environmental Health Services Division has not previously coordinated well monitoring programmatically with any watershed management group.



Screen shot of Solano County Website with discussion of sewage disposal and OWTS Policy

### 3. Operation and Maintenance Permit:

Solano County Code, Chapter 6.4 ensures that all engineered OWTS, including experimental systems, are routinely evaluated for performance by requiring each OWTS owner with an alternative or experimental system to maintain a valid operation permit for the OWTS. The Operation and Maintenance Permit is renewed annually. As part of Operation and Maintenance Program each owner must complete and submit a maintenance report for their system and provide a copy of this report to the Environmental Health Services Division.

Triennially, the owner must hire a manufacturer trained service technician to perform inspection and maintenance on each system subject to these requirements.

Solano County OWTS standards require Environmental Health Services Division to review performance of all alternative and experimental OWTS annually. This evaluation consists of a file review and/or on-site inspections of the system. The Environmental Health Services Division will communicate information to the OWTS owner by sending letters on OWTS maintenance and provide information and training during inspections.

### **III. WATER QUALITY IMPACTS:**

#### **A. Licensing:**

Solano County OWTS standards and State Laws require the following certification, licensing, or registration, of the professionals involved in the installation, modification, repair, upgrade, and maintenance of OWTS:

1. *OWTS Consultant*--The OWTS consultant will be a Professional Engineer, Professional Geologist, Certified Engineering Geologist, or Registered Environmental Health Specialist certified/ registered by the State of California or a Certified Professional Soil Scientist certified by the Soil Science Society of America.
2. *OWTS Designer* --The designer is an OWTS consultant who is a Professional Engineer, Certified Engineering Geologist, or Registered Environmental Health Specialist certified/registered by the State of California.
3. *OWTS Installer* --A contractor licensed by State of California as a General Engineering contractor (Class A), General Building contractor (Class B), Sanitation System contractor (C-42), or a Plumbing contractor (C-36) that conforms to Business and Professions Code sections 7056, 7057, and 7058.
4. *OWTS Service Providers* – The OWTS standards currently require maintenance and performance monitoring done by a licensed consultant or contractor with knowledge of OWTS triennially for operating, monitoring, and maintaining an OWTS according to the Policy and Solano County Code.

An exception to this is that the property owner, as an owner builder, is allowed by law to install his/her own OWTS under permit with inspections from the Environmental Health Services Division and perform annual maintenance to their alternative or experimental OWTS.

Currently, the Solano County requires as built plans and operation and maintenance manuals for all engineered OWTS as part of the required design consultant's certification for each system. Solano County will require operation and maintenance manuals for all OWTS.

#### **B. Liquid Waste Disposal and Disposal Capacity:**

Environmental Health Services Division regulates liquid waste pumping within the political boundaries of Solano County pursuant to Solano County Code, Chapter 25 and the Health and Safety Code. Environmental Health Services Division inspects and issues permits for liquid waste pumping/portable toilet companies that work within Solano County. The Environmental Health Services Division receives pumper reports from the City of Vacaville Wastewater Treatment Plant, which accepts liquid waste from pumper trucks. Environmental Health Services Division enters this data into an EXCEL spreadsheet to track the disposal and to use as a monitoring tool for the indication of failing septic systems.

The Environmental Health Services Division will assess the county's liquid waste disposal capacity by performing the following actions:

1. Survey the POTW capacity within Solano County.
2. Determine the total volume of septic waste from pumper truck manifests.
3. Survey Septic Pumper firms permitted by Solano County to verify septic waste disposal locations in and outside Solano County.
4. Consult with the Solano County Planning Division to derive the total housing stock in unincorporated Solano County and use an average capacity per house with an average pumping frequency to determine septic waste volume per year. This estimate will be compared to septic waste volume calculated from pumper truck manifests and the POTW disposal capacity.



*Example of typical type of pumper truck used to transport liquid waste*

### **C. Cumulative Impacts:**

Solano County OWTS standards define a community sewage disposal system as a system that accepts sewage from two or more lots and is owned, operated, and maintained according to the Solano County General Plan by a government agency, public utility, maintenance district, or other similar entity approved by the Local Agency Formation Commission. Community sewage disposal systems must be approved and operated under permit from the applicable California Regional Water Quality Control Board.

Solano County OWTS standards address nutrient and salts by prohibiting the discharge of waste to an OWTS from roofs, water softeners, and swimming pool filters. Solano County OWTS standards allow the Environmental Health Division to require the use of treatment devices to reduce nitrogen to protect ground water from nitrates. When Environmental Health Services Division receives an application to repair or modify an existing OWTS on an existing non-conforming lot with shallow ground water and/or restricting soil conditions, then the repair or modification may be required to include the addition of a pretreatment device and the property owner must obtain an annual Operation and Maintenance Permit. Within Solano County, the known area with high nitrate levels in groundwater is in the Dixon area. The Central Valley Regional Water Quality Control Board has identified the sources of nitrate being predominantly from sources other than OWTS. These include large commercial and municipal discharges

under permit by the State of California, agricultural chemical companies, and the use of synthetic fertilizers in farming operations. In the Dixon area, OWTS are dispersed throughout the area on large lots as required by Solano County Code. Therefore; Solano County OWTS standards continue to protect public health and the environment.

**D. Public Water Systems**

Solano County does not have any Public Water System intakes within 2500 feet of an OWTS. However, if a Solano County receives a project that is within 2500 feet of a Public Water System intake, then the Environmental Health Division will notify the public water system owner/operator and the SWRCB Division of Drinking Water of the proposed project to get their comments as required in the State OWTS Policy. Solano County currently does not allow the use of seepage pits or waste wells, and currently does not allow disposal at depths of 10 feet or greater. Hence the requirement for notification of a Public Water System within 600 feet of such a system is not applicable in Solano County. Environmental Health Services Division currently notifies the OWTS Designers of the 150 feet setback to public drinking water systems. When an OWTS is proposed within 150 feet of a public water system, the Environmental Health Services Division will notify the owner/operator of the public water system as well as the State Water Resources Control Board, Division of Drinking Water prior to issuing the construction permit and require advance treatment unit (ATU). Environmental Health Services Division will notify both the public water system operation and the SWRCB, Division of Drinking Water within 72 hours of determining there is a failing OWTS within 150 feet of a public water well. Solano County sewage standards cover this process of notification during permit process. Therefore, Environmental Health Services Division procedures meet the standards to address notice regarding OWTS

meeting  
proximity  
standards  
in the  
POLICY.



detailed

*Illustration of well pad, pressure tank and water storage tank for a public drinking water system*

**E. Monitoring and Reporting:**

The Environmental Health Services Division will use the following types of data for the water quality-monitoring program:

1. Complaint investigation reports;
2. Operation and maintenance inspection reports;
3. Data in the SWAMP database;
4. Data contained in the GAMA database;
5. Operation and maintenance reports submitted to Solano County by owners and service providers annually and triennially including any influent or effluent data;
6. Examine frequency of septic pump outs on a given lot using our established spreadsheet;
7. Use repair permits and inspection reports;
8. Laboratory data received, as courtesy copy, from Public Drinking Water Systems;
9. Laboratory data received, as a courtesy copy, from private well owners who voluntarily submit data;
10. The laboratory data received, as courtesy copy, from NPDES and WDR permitting requirements;
11. Any laboratory data received as a part of a report submitted as borings/ well permit requirements;
12. Any laboratory data from monitoring wells, storm water, surface water bodies, and as permit conditions of the Solano County's Biosolids land application program;
13. Laboratory reports associated with new building permits;

Therefore, the Environmental Health Services Division's water quality monitoring program meets the POLICY and the Basin Plan policies of the applicable California Regional Water Quality Control Boards.

GeoTracker GAMA - Mozilla Firefox

gctracker.waterboards.ca.gov/gama\_gamemap\_public/?CMD=runreport&myaddress=SOLANO COUNTY

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## GEOTRACKER GAMA

**LOCAL INFORMATION**

**CITY**  
UNINCORPORATED

**COUNTY**  
SOLANO - [VIEW WATER REPORTS](#)

**GROUNDWATER BASIN**  
SACRAMENTO VALLEY - SOLANO (5-21.66)

[VIEW 363 ENVIRONMENTAL MONITORING WELL BORING LOGS](#)

- SUPPLY WELLS - CDPH (within one mile of actual location)
- SUPPLY WELLS - OTHER (within 1/2 mile of actual location)
- ▲ MONITORING WELLS - REGULATED SITES (exact locations displayed)
- ICONS WITH A CIRCLE AROUND THEM SIGNIFY A CLUSTER OF WELLS

**ADDITIONAL TOOLS**

DEPTH-TO-WATER

DEPTH-TO-WATER CHANGE

GROUNDWATER ELEVATION

\* Comparison concentration is 45 MG/L (MCL).  
Click [here](#) for more information.

Map | Satellite | Hybrid | Terrain

Map data ©2012 Google - Terms of Use

MAP SIZE: 640x480

46 MATCHING WELLS FOR NITRATE AS NO3

**ENVIRONMENTAL MONITORING:**

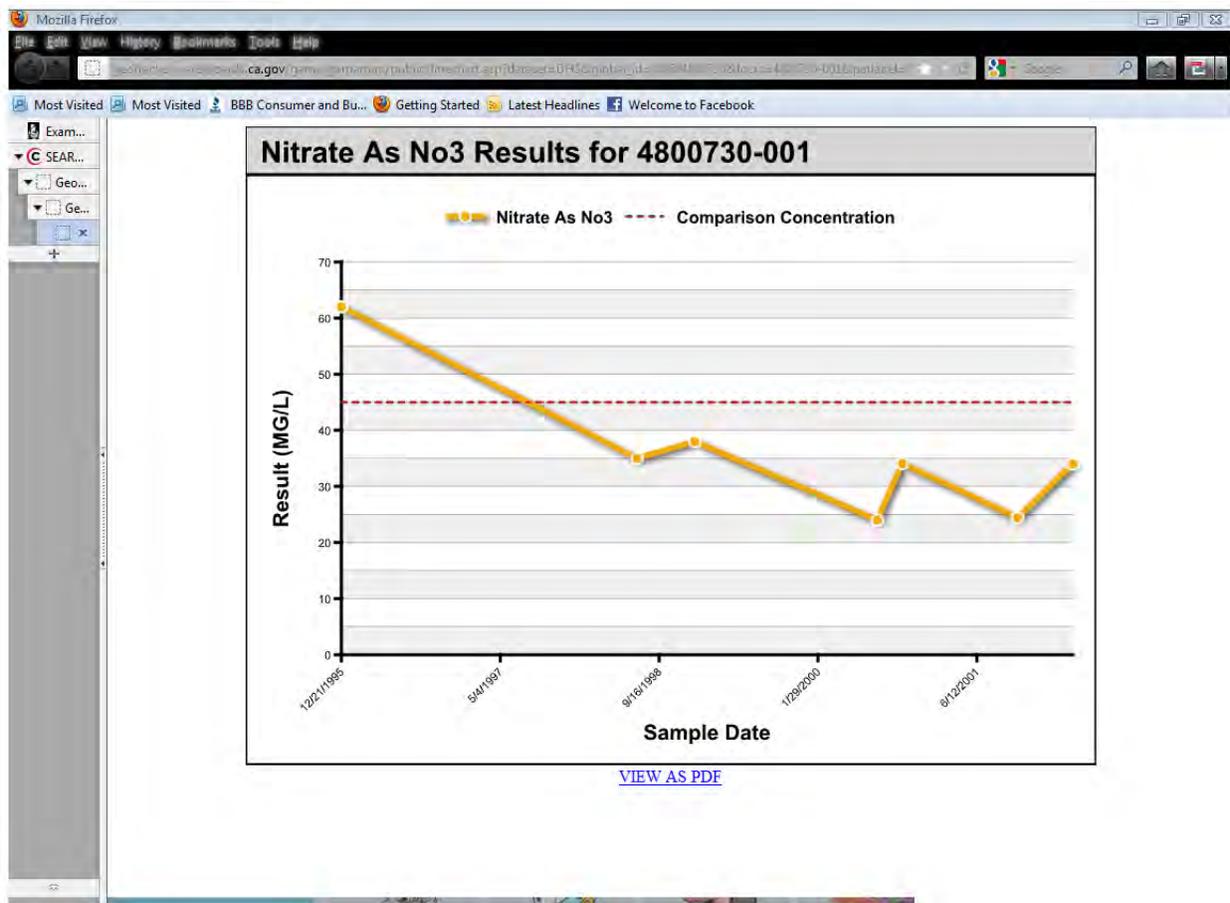
Monitoring Wells - Water Board Regulated Sites

**SUPPLY WELL S:**

Supply Wells - CDPH  GAMA - SWRCB Domestic  GAMA - USGS  GAMA - LLNL  DPR  DWR

**GIS LAYER** - SELECTING A GIS LAYER WILL LIMIT YOUR QUERY TO RESULTS IN THAT GIS LAYER

Screen shot of Geotracker GAMA webpage that will be used as a component of monitoring



Screen shot illustrating monitoring data from GAMA webpage showing a decreasing trend

**G. Record Retention:**

The Environmental Health Services Division maintains complaint records including notice of violations, inspection reports, correspondence, permits, site evaluations and system designs. Initially maintained as hard copy, these records are retained permanently as imaged documents. The Environmental Health Services Division has a record retention policy and regularly provides documents pursuant to the California Public Records Act. Environmental Health Services Division will provide documentation to the applicable California Regional Water Quality Control Board pursuant to the California Public Records Act and Environmental Health Services Division Policy LW-91-01.

**H. Reporting:**

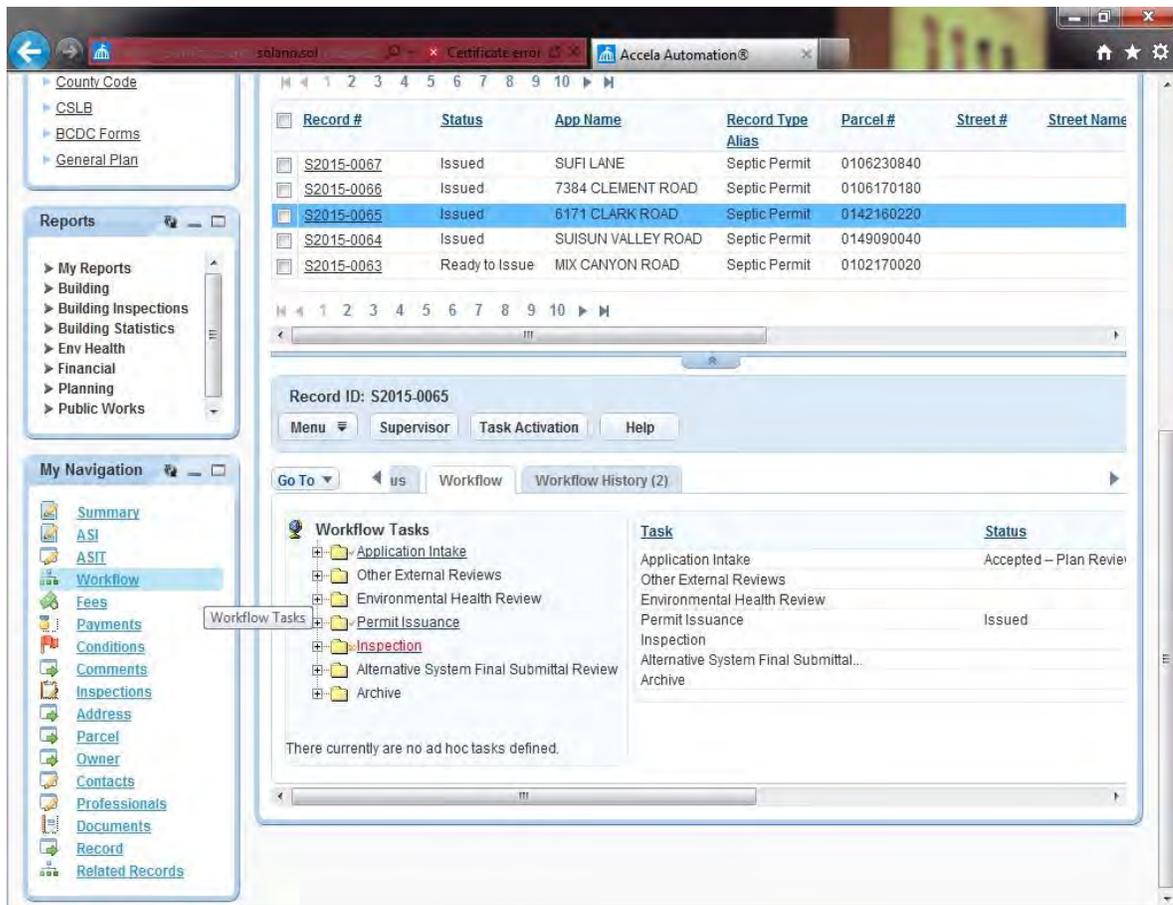
The Environmental Health Services Division will submit an Annual Summary Report by February 1, each year to the applicable California Regional Water Quality Control Board. The annual report will include the following:

1. The location and type of complaints investigated during the year and how the complaints were resolved
2. Discussion of the application and registration for septic tank cleaners ( Pumpers)

3. The number, location and description of new, modification/upgrade, and repair permits issued and under which Tier.

The Environmental Health Services Division will submit a Monitoring and Analysis or Water Quality report that includes the following:

1. The review of water quality data described above.
2. The review of complaints in the past five years that involve OWTS.
3. The review of OWTS failures (repairs).
4. The review of O&M inspection findings.
5. An assessment of the water quality within Solano County based on data from the water quality monitoring program.



Screen shot illustrating county database used for tracking septic construction permits and field activities

Solano County will provide requested documents/information to the applicable California Regional Water Quality Control Board according to the time lines specified in the State OWTS Policy and by State law.

#### IV. SUMMARY:

Solano County OWTS standards are protective of public health and environment and meet the POLICY's OWTS Tier 2 standards and the Basin Plan policies of the applicable California Regional Water Quality Control Boards by:

- Addressing areas vulnerable to OWTS Pollution;
- Identifying limiting conditions during site evaluations;
- Requiring site evaluations to be performed by licensed/registered consultants;
- Requiring septic designs to be performed by Certified Engineering Geologist, Registered Environmental Health Specialist, or a Professional Civil Engineer;
- Requiring enhanced protection by the use of advanced treatment and denitrification units;
- Responding to complaints of failing OWTS;
- Requiring failing OWTS to be destroyed, repaired, or replaced under permit;
- Addressing shallow soils, poor drained soils, and fractured bedrock;
- Addressing high OWTS density by requiring increased lot size and specifying the use of a hydrological study of the cumulative impact of a proposed subdivision;
- An established operation and maintenance program that requires permitting, annual maintenance, routine inspections, and triennial maintenance by a service provider;
- The use of holding tanks in environmental sensitive areas such as the Suisun Marsh; and
- Not allowing cesspools and seepage pits;

#### References

- *Water Quality Control Policy for Siting, Design, Operation, and Maintenance of Onsite Wastewater Treatment Systems*, State Water Resource Control Board, June 19, 2012
- *Onsite Wastewater Treatment System Policy, Draft Substitute Environmental Document*, State Water Resources Control Board, June 6, 2012
- *Environmental Engineering and Sanitation*, Joseph Salvato, 4<sup>th</sup> Edition
- *Design Manual --- Onsite Wastewater Treatment and Disposal Systems*, United State Environmental Protection Agency, October 1980
- *Onsite Wastewater Treatment Systems Manual*, United States Environmental Protection Agency, February 2002
- [http://www.waterboards.ca.gov/sanfranciscobay/water\\_issues/programs/planningtmdls/basin\\_plan/web/bp\\_ch5.shtml#5.2.7](http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/planningtmdls/basin_plan/web/bp_ch5.shtml#5.2.7)

- [http://www.waterboards.ca.gov/sanfranciscobay/water\\_issues/programs/planningtmdls/basin\\_plan/web/res/res\\_79-5.pdf](http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/planningtmdls/basin_plan/web/res/res_79-5.pdf)
- [http://www.waterboards.ca.gov/northcoast/water\\_issues/programs/basin\\_plan/083105-bp/05\\_implementation\\_plans.pdf](http://www.waterboards.ca.gov/northcoast/water_issues/programs/basin_plan/083105-bp/05_implementation_plans.pdf)
- <http://water.epa.gov/infrastructure/septic/manuals.cfm>

# POLICY AND PROCEDURES MANUAL

Solano County Department of Resource Management  
Environmental Health Services Division

CATEGORY: Liquid Waste/Local Agency Management Program	Effective Date 12-01-93	Policy Number LW-93-02	APR BY 
SUBJECT: Sizing and Construction, Onsite Sewage Disposal/Treatment Systems	Amended 03/30/16	Page 1 of 2	

Authority: Solano County Code, Chapter 6.4 and the Water Quality Control Policy for Siting, Design, Operation, and Maintenance of Onsite Wastewater Treatment Systems (OWTS POLICY), effective May 13, 2013.

1. Scope of Coverage:

- A. Pursuant to OWTS POLICY Section 9.2 the Environmental Health staff will only approve domestic type wastewater sent to OWTS systems with the projected flow of 10,000 gallons per day or less at residential and commercial facilities. The Environmental Health Staff will consider the California Regional Water Quality Control Boards approval of the Local Agency Management Program as authorization pursuant to Solano County Code, Section 6.4-12(a) for OWTS that exceed the projected flow of 2500 gallons per day. However, this does not preclude Environmental Health staff with supervisory and management concurrence on a case-by-case basis from contacting the applicable California Regional Water Quality Control Board and requesting their assistance or that they become the lead for the project because of the large projected flowrate of the OWTS design.
- B. The Environmental Health staff will not approve an application and design of production wastewater sent to an OWTS. The Environmental Health staff will inform the applicant and the representative that this wastewater is under the jurisdiction of the applicable California Regional Water Quality Control Board and provide them the appropriate contact including their telephone number and email address.
- C. The Environmental Health staff will not approve OWTS designs for high strength wastewater (e.g. wineries, breweries, distilleries, and food processing production.) Pursuant to the OWTS POLICY, the only exception is high strength waste from commercial food service that is less than 900 milligrams per liter (mg/l) of Biological Oxygen Demand (BOD) that is connected to an oil/grease interceptor. The Environmental Health staff will inform applicants proposing commercial facilities that

produce high strength wastewater from wineries, distilleries, and breweries that they are under the jurisdiction of the applicable California Regional Water Quality Control Board and provide them with the appropriate contact including their telephone number and email address. The Environmental Health staff will inform the applicant that at discretion of the Regional Board, Solano County will act as the Regional Board's representative and accept the application and design for high strength wastes going to an OWTS, issue a permit authorizing construction, and perform the necessary construction inspections.

- D. On proposed commercial projects where the production wastewater is separated from domestic type wastewater, the Environmental Health staff will contact the applicable California Regional Water Quality Control Board contact and determine whether they want to include the domestic wastewater OWTS under their jurisdiction along with the production wastewater treatment system.

## 2. Construction

The Environmental Health staff will ensure that the installation, modification - upgrade, repair, and destruction of OWTS conform to the requirements of Solano County Code, Chapter 6.4. The Environmental Health staff will ensure the applicable sections of Solano County Code Chapter 25, Chapter 26, and the OWTS POLICY including the following:

- A. Pursuant to Solano County Code, Chapter 6.4 and the OWTS POLICY Section 9.2.5, the Environmental Health staff will notify the OWTS Designer that before Solano County finalizes each permit for OWTS projects "As-Built" designs and an operation and maintenance manual must be provided to each owner and also to Solano County.
- B. The Environmental Health staff will inform OWTS Designers of the setbacks of at least 150 feet from public drinking water wells for the installation, modification - upgrade, and repair projects before they submit an application and design for review. Once the OWTS designer submits an application and design for review, the Environmental Health staff will verify that proper setbacks are denoted on the design. Staff will also verify proper setbacks during pre-construction meeting at the project site.
- C. If the project to modify-upgrade, repair, or replace the OWTS is on an existing lot and the 150 feet setback to a public drinking water well cannot be met, the Environmental Health staff will require supplemental treatment and other design criteria to mitigate the potential impact of OWTS to the public

drinking water well. The Environmental Health staff will also notify the Division of Drinking Water and the owner of public drinking water well as specified in Policy and Procedure LW-91-01.

LW-93-02 (amended)

# POLICY AND PROCEDURES MANUAL

Solano County Department of Resource Management  
Environmental Health Services Division

CATEGORY: Liquid Waste/Local Agency Management Program	Effective Date 06/05/91	Policy Number LW-91-01	APR BY 
SUBJECT: Liquid Waste Ordinance	Amended 03/30/16	Page 1 of 3	

Authority: Chapter 6.4 of Solano County Code and the California Water Quality Control Policy for Siting, Design, Operation, and Maintenance of Onsite Wastewater Treatment System (OWTS POLICY)

## 1. General Provisions:

Environmental Health staff will follow and enforce the provisions of Chapter 6.4 for the installation, modification - upgrade, repair, and destruction of OWTS and the Tier 2 provisions of the OWTS POLICY. Environmental Health staff shall follow and enforce the specified sections of Chapter 25 and Chapter 26 of Solano County Code for the installation, modifications - upgrade, repair, and destruction of OWTS. This policy and procedure is not meant to supersede Solano County Code and the OWTS POLICY and is designed for the reasonable application of all the requirements including the following provisions:

## 2. Failures - Repairs

- A. The OWTS POLICY Section 11.0 states that the repair of an OWTS is considered a failure and is classified as a Tier 4 until a design is reviewed, a permit is issued, and inspections correction occurs. The Environmental Health staff will properly classify the OWTS to the appropriate Tier. When the Environmental Health staff enters, reviews, and issues a permit, they will ensure repairs are classified as Tier 4 in the Accela database which will aid in reporting.
- B. Pursuant to Solano County Code, Section 6.4-30 and the OWTS POLICY Section 3.5 requirements, the Environmental Health staff will notify the State Water Resources Control Board, Division of Drinking Water, Region 2, Bob Brownwood, San Francisco District Engineer or designee at (510)620-3474 and the owner of the public drinking water system not later than 72 hours after the discovery of a failed septic system within the setbacks of a Public Water system (e.g., within 150 feet of a public water well.) The Environmental Health staff will provide all requested information to the Division of Drinking Water.

## 3. Reporting Setbacks to Public Supply Wells:

Solano County Code Sections 6.4-30 and 6.4-82 (f) authorize and OWTS POLICY Section 9.4.10 requires notification and setbacks to public water supplies. In unincorporated Solano County, public water supplies consist of public drinking water systems that use drinking water wells. In many cases the public drinking water well serves a facility with an OWTS. The Environmental Health staff will notify the applicant, the designer, and the contractor of the setback of at least 150 feet from a public drinking water well before submitting an application and design for an OWTS. The Environmental Health staff will review each application

produce high strength wastewater from wineries, distilleries, and breweries that they are under the jurisdiction of the applicable California Regional Water Quality Control Board and provide them with the appropriate contact including their telephone number and email address. The Environmental Health staff will inform the applicant that at discretion of the Regional Board, Solano County will act as the Regional Board's representative and accept the application and design for high strength wastes going to an OWTS, issue a permit authorizing construction, and perform the necessary construction inspections.

- D. On proposed commercial projects where the production wastewater is separated from domestic type wastewater, the Environmental Health staff will contact the applicable California Regional Water Quality Control Board contact and determine whether they want to include the domestic wastewater OWTS under their jurisdiction along with the production wastewater treatment system.

## 2. Construction

The Environmental Health staff will ensure that the installation, modification - upgrade, repair, and destruction of OWTS conform to the requirements of Solano County Code, Chapter 6.4. The Environmental Health staff will ensure the applicable sections of Solano County Code Chapter 25, Chapter 26, and the OWTS POLICY including the following:

- A. Pursuant to Solano County Code, Chapter 6.4 and the OWTS POLICY Section 9.2.5, the Environmental Health staff will notify the OWTS Designer that before Solano County finalizes each permit for OWTS projects "As-Built" designs and an operation and maintenance manual must be provided to each owner and also to Solano County.
- B. The Environmental Health staff will inform OWTS Designers of the setbacks of at least 150 feet from public drinking water wells for the installation, modification - upgrade, and repair projects before they submit an application and design for review. Once the OWTS designer submits an application and design for review, the Environmental Health staff will verify that proper setbacks are denoted on the design. Staff will also verify proper setbacks during pre-construction meeting at the project site.
- C. If the project to modify-upgrade, repair (?), or replace the OWTS is on an existing lot and the 150 feet setback to a public drinking water well cannot be met, the Environmental Health staff will require supplemental treatment and other design criteria to mitigate the potential impact of OWTS to the public

drinking water well. The Environmental Health staff will also notify the Division of Drinking Water and the owner of public drinking water well as specified in Policy and Procedure ~~LW~~91-01.

LW-93-02 (amended)

**CHAPTER 6.4**  
**SEWAGE STANDARDS**

**ARTICLE I. PURPOSE**

- 6.4-10. Purpose
- 6.4-11. Authority and Findings
- 6.4-12. Scope and Applicability

**ARTICLE II. CONNECTION TO SEWER**

- 6.4-20. Sewer Connection Required

**ARTICLE III. SUBDIVISION MAPS AND LOT LINE ADJUSTMENTS**

- 6.4-30. Applicability and Reporting
- 6.4-31. Minimum Lot Size
- 6.4-32. Required Information and Inspections
- 6.4-33. On-Site Sewage Disposal System Area Requirements
- 6.4-34. Cumulative Impacts
- 6.4-35. Approval

**ARTICLE IV. BUILDING PERMITS, NEW CONSTRUCTION, ADDITIONS, AND  
REPLACEMENT STRUCTURES**

- 6.4-40. Plans
- 6.4-41. Site Evaluation
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- 6.4-43. Disposal Area Sizing Criteria
- 6.4-44. Replacement Structures on Lots Served by On-Site Sewage  
Disposal Systems

**ARTICLE V. THE SEWAGE DISPOSAL PERMIT PORCESS IN SOLANO  
COUNTY**

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- 6.4-51. Construction Permit: General Provisions
- 6.4-52. Length of Validity and Renewal of the Construction Permit
- 6.4-53. Exceptions
- 6.4-54. Permit Application Process
- 6.4-55. Construction Inspections
- 6.4-56. Operation Permits
- 6.4-57. Permit Denial, Suspension, or Revocation

### **ARTICLE VI. APPEAL PROCESS**

- 6.4-60. Appeal Process
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- 6.4-62. Notice of Appeal Hearing

### **ARTICLE VII. ENFORCEMENT AND PENALTIES**

- 6.4-70. Enforcement
- 6.4-71. Penalties

### **ARTICLE VIII. ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS; SITING, DESIGN, AND CONSTRUCTION CRITERIA**

- 6.4-80. General Requirements
- 6.4-81. Site Evaluation Requirements for All Lots
- 6.4-81.1. On-Site Review
- 6.4-81.2. Soil Evaluation - Profiles, Percolation Tests, and Groundwater Determination
- 6.4-82. Disposal System Location and Placement
- 6.4-83. Intercept Drains
- 6.4-84. Materials
- 6.4-84.1. Septic Tank, Dosing Tank, and Interceptor on instruction, Inspection, Testing, and Capacity
- 6.4-84.2. Pump System
- 6.4-85. Destruction of Tanks
- 6.4-86. Piping, Joints and Connections
- 6.4-87. Absorption System: Infiltration Area and Sizing the System
- 6.4-88. Disposal Field: General Construction Practices
- 6.4-88.1. Disposal Field: Trenches
- 6.4-89. Alternative Systems - General Specifications
- 6.4-89.1. Alternative Systems - Specific Design Parameters

### **ARTICLE IX. DEFINITIONS**

- 6.4.90. Definitions

### **ARTICLE I. PURPOSE**

#### **Sec. 6.4-10. Purpose**

(a) This Chapter establishes a comprehensive, uniform set of standards for the review and approval of on-site sewage disposal systems for individual lots and subdivisions in Solano County.

The primary purpose of these standards is to protect the public health of the citizens and visitors of Solano County and protect the environment from

degradation by ensuring the proper treatment and disposal of liquid waste through the appropriate siting, design, installation, and maintenance of on-site sewage disposal systems.

(b) In addition, these standards are intended to bring Solano County into compliance with applicable Basin Plan policies adopted by the California Regional Water Quality Control Boards with jurisdiction over Solano County.

(Ord. No. 1609, §18)

**Sec. 6.4-11. Authority and findings**

(a) The Board of Supervisors adopts these standards pursuant to the Porter Cologne Water Quality Control Act (California Water Code section 13000 et seq.) which authorizes counties to adopt and enforce regulations, conditions, restrictions, and limitations regarding the disposal of waste. Furthermore, adoption of these standards is necessary to achieve compliance with applicable Basin Plan policies adopted by the California Regional Water Quality Control Boards with jurisdiction over Solano County.

(b) In addition, the Board of Supervisors adopts these standards pursuant to California Health and Safety Code sections 17958.5 and 17958.7 based upon the findings that these standards are reasonably necessary due to the local climatic, geological, and topographical conditions of Solano County.

(Ord. No. 1609, §18)

**Sec. 6.4-12. Scope and applicability**

(a) Except as allowed by section 6.4-12(c), the standards contained in this Chapter apply to the siting, design and construction of on-site sewage treatment, storage and disposal systems, or their components, whether proposed as part of a land subdivision, a building permit, a land-use permit, replacement or repair of an existing system, or special event. These standards shall apply to all on-site sewage disposal systems discharging 2500 gallons per day (gpd) or less. These standards shall also apply to on-site sewage disposal systems discharging over 2500 gpd with authorization from the Regional Water Quality Control Board having jurisdiction.

(b) These standards shall apply to on-site sewage disposal system work performed after the effective date of these standards and to existing on-site sewage disposal systems as specified in this Chapter.

(c) These standards shall not apply to the following:

(1) Individual sewage treatment plants that may be installed or designed for commercial development in areas not served by public sewer.

(2) A community sewage disposal system. This includes public sewer systems and community on-site sewage disposal systems.

(d) The Environmental Health Services Division may grant exceptions from the provisions of this Chapter for structures which have been destroyed due to fire or natural disaster and which cannot be reconstructed in compliance with these provisions.

(e) Nothing contained in this Chapter shall be construed to prevent the Environmental Health Services Division from requiring compliance with higher requirements than those contained herein, where such higher requirements are essential to maintain a safe and sanitary condition.

(Ord. No. 1609, §18; Ord. No. 1655, §1&2)

## **ARTICLE II. CONNECTION TO SEWER**

### **Sec. 6.4-20. Sewer connection required**

(a) Connection to a public sewer system shall be required for all proposed lots, new development, additions, or remodels that propose to generate wastewater, and for existing structures requiring repairs to the septic system if sewer is available. Sewer is available if: 1) it is within 200 feet of the property line, and 2) the structure to be served is within one thousand feet of the property line closest to the sewer or of another structure on the same property that is connected to the sewer, and 3) there is willingness by the agency in control of the sewer to permit connection to the sewer main.

(b) No permit for installation, repair, replacement or expansion of a septic system shall be issued if sewer is available. Exception: permits for repairs to the solid pipe of an on-site sewage disposal system shall be allowed if sewer is available provided that a nuisance is not created or maintained and the repair will comply with these standards.

(Ord. No. 1609, §18)

## **ARTICLE III. SUBDIVISION MAPS AND LOT LINE ADJUSTMENTS**

### **Sec. 6.4-30. Applicability and reporting**

This Article shall apply to all land divisions and lot line adjustments processed by or submitted to the Environmental Health Services Division for review or final approval after the effective date of these regulations. The Environmental Health Services Division shall review all tentative maps and proposed lot line adjustments. The Environmental Health Services Division shall report its conclusions together with any conditions necessary to ensure compliance with all applicable

Environmental Health rules and regulations to the Planning Division or other responsible agency.

(Ord. No. 1609, §18)

**Sec. 6.4-31. Minimum lot size**

Minimum lot size shall be in accordance with Chapter 26, section 26-82 of the Solano County Code.

(Ord. No. 1609, §18)

**Sec. 6.4-32. Required information and inspections**

The Environmental Health Services Division may require any and all information and/or inspections necessary to determine if subdivisions or lot line adjustments comply with these standards. The applicant and/or owner of the property shall be responsible for supplying all information and tests necessary for review. Such information includes, but is not limited to, the following:

(a) Site Plan Requirements:

Site plans shall contain the following information:

- (1) Address, if assigned, parcel number, and subdivision number
- (2) Name, address, and phone number of property owner, contact person, and person preparing plans
- (3) Vicinity map
- (4) Scale used
- (5) Lot dimensions, including all property lines
- (6) Setbacks
- (7) Paved areas and unpaved areas subject to vehicular traffic
- (8) Easements and rights-of-way, public and private
- (9) Structures, dwellings (including pools and auxiliary buildings)
- (10) Animal Enclosures
- (11) Fuel tanks, hazardous material storage
- (12) Water lines (public and private)

- (13) Areas subject to flooding, inundation, or storm water overflow
- (14) Existing and proposed wells, abandoned wells, springs, neighboring wells, streams, ditches, canals, culverts, ponds, lakes, swales, 10-year flood plains, or any body of water (intermittent or perennial) located within 100 feet of property lines
- (15) Existing and proposed on-site sewage disposal systems (including replacement areas), abandoned septic tanks, works treating or storing wastewater, sewer lines, storm sewers
- (16) Soil profile test holes, percolation test holes, groundwater observation wells
- (17) Percent and direction of slope in and adjacent to absorption system area
- (18) Topography of sewage disposal areas and 50 feet adjacent to these areas (on slopes show contour lines in maximum two feet increments). Indicate any proposed grading of sewage disposal areas
- (19) Trees within 10 feet of sewage disposal areas (including replacement areas)
- (20) Underground utilities within 10 feet of septic system (including replacement area)
- (21) Cut banks, unstable land forms, bluffs, and ravines
- (22) Written information required to determine availability of public sewer (see section 6.4-20).

(b) Site Evaluation: Each proposed and remainder lot shall have a site evaluation as indicated in Article VIII, Sections 6.4-81, 6.4-81.1, and 6.4-81.2 for on-site sewage disposal systems prior to approval of any tentative map or lot line adjustment. The site evaluation shall include a determination of the soil conditions in the area proposed for on-site sewage disposal systems and replacement areas.

(Ord. No. 1609, §18)

**Sec. 6.4-33. On-site sewage disposal system area requirements**

All lots utilizing or proposing to utilize an on-site sewage disposal system shall demonstrate an area that shall comply with the following:

- (a) All portions of the area shall have surface and subsurface characteristics suitable for the installation of an on-site sewage disposal system complying with these standards.

(b) The size of the area shall be based on site evaluation within the boundaries of the proposed disposal field, and on the maximum projected wastewater flow or 600 gallons per day, whichever is greater. The area shall contain sufficient room for a 100% replacement area in addition to the original disposal field. The replacement area may be in a different location than the original system provided a site evaluation in that location reveals the site complies with these standards and that there is the required space available to install a system that can treat and dispose of the maximum projected wastewater flow, or 600 gallons per day, whichever is greater.

(c) The boundaries and location of the area shall be clearly delineated on all maps submitted for review.

(d) The area shall remain free of pavement, vehicular traffic, improvement, or other activities that may affect its use for wastewater disposal.

(e) All requirements pertaining to the area shall remain in effect until such time as the structures or facilities served by the on-site sewage disposal system installed within the boundaries of the area are connected to a sanitary sewer, or another area for disposal of sewage is approved.

(Ord. No. 1609, §18)

**Sec. 6.4-34. Cumulative impacts**

(a) An applicant shall submit a hydrogeologic evaluation and/or report on the project's cumulative impact in an entire drainage basin to prevent significant degradation or elevation of groundwater or surface water supplies in those circumstances where the Environmental Health Services Division has determined there is potential for the increasing discharge of sewage effluent into a given drainage basin to result in significant elevation or degradation of groundwater or surface water.

(b) Groundwater evaluation shall identify existing and potential groundwater aquifers and focus primarily on those aquifers where there is greater potential for water quality impact from on-site sewage disposal systems. Information to be included in hydrogeology reports, when required, shall address each of the aquifers in the project area and shall include but not be limited to: drainage basin area, saturated thickness, transmissivity, flow contours, existing water quality, seasonal depth to the water table, ultimate density of soil absorption systems based on current land use planning for the groundwater basin being evaluated, and such other data as deemed necessary by the Environmental Health Services Division.

(Ord. No. 1609, §18)

**Sec. 6.4-35. Approval**

(a) The Environmental Health Services Division shall review the applicable information associated with the tentative map of the proposed subdivision or with the lot line adjustment and submit recommendations and/or conditions of approval to the Planning Division or other responsible agency. Any significant deviations or modifications to the project after Environmental Health Services Division review and prior to any approval affecting the tentative map or lot line adjustment on file with the Environmental Health Services Division shall be resubmitted for review to the Environmental Health Services Division to determine compliance with earlier Division recommendations and conditions.

(b) No subdivisions or lot line adjustments shall be approved unless each lot and remainder can be shown to have an area suitable for the installation of an individual on-site sewage disposal system and replacement area complying with the provisions of these standards. Exceptions to this subdivision are 1) lots that will be served by public sewer or a community on-site sewage disposal system, or 2) subdivisions or lot line adjustments for which development rights have been relinquished and can demonstrate good cause to have such testing exempted to the Environmental Health Services Division, or 3) lot line adjustments that do not create a more substandard condition for on-site sewage disposal for any lot than the previously existing lot boundaries, or 4) lot line adjustments that do not decrease any lot by more than 20% and do not impact the parcel's primary and reserve leach field to the ability to disperse sewage as determined by this department.

(c) Types of individual on-site sewage disposal systems that can be used for creation of new lots are:

(1) Standard systems, or

(2) Alternative systems as approved by the Environmental Health Services Division (refer to Article VIII, section 6.4-89(b)), or

(3) Standard or alternative systems as indicated above in combination with a graywater system complying with the requirements of the latest adopted version of the Uniform Plumbing Code and any other standard regarding graywater adopted by Solano County. The size of the sewage disposal system or replacement area shall not be decreased or affected by the graywater system, or

(4) Any system approved and under permit from the Regional Water Quality Control Board having authority.

(d) Any proposed subdivision requiring the use of alternative systems on one or more lots shall have a declaration recorded with the final map that states site evaluation data submitted at time of recordation requires the use of an alternative systems and that such a system must be operated, monitored, and maintained in

accordance with the standards set forth in this Chapter. The declaration shall also state on which lots site evaluation indicates an alternative system is necessary. The declaration may also state that a standard system may be provided if future site evaluation demonstrates a standard system can be installed in compliance with the standards set forth in this Chapter.

(Ord. No. 1609, §18; Ord. No. 1655, §3)

#### **ARTICLE IV. BUILDING PERMITS, NEW CONSTRUCTION, ADDITIONS, AND REPLACEMENT STRUCTURES**

##### **Sec. 6.4-40. Plans**

Any person proposing to develop any property utilizing an on-site sewage disposal system, whether for new construction, remodel, addition or replacement, must submit to the Environmental Health Services Division two (2) copies of the general site layout, of the detailed on-site sewage disposal plan drawn to scale (1:20 or 1:30), and of the floor plan for the proposed development. The plans must be complete, and must clearly show the exact locations of the following whether existing or proposed:

- (a) Parcel number and location address, if assigned,
- (b) Name, address, and phone number of property owner, contact person, and person preparing plans,
- (c) Vicinity map,
- (d) Scale used,
- (e) Lot dimensions, including all property lines,
- (f) Setbacks and side-yards,
- (g) Paved areas and unpaved areas subject to vehicular traffic,
- (h) Easements and rights-of-way, public and private,
- (i) Structures, dwellings (including pools and auxiliary buildings),
- (j) Animal enclosures,
- (k) Fuel tanks, hazardous material storage,
- (l) Plumbing stub-out,
- (m) Water lines (public and private),

- (n) Areas subject to flooding, inundation, storm water overflow, or ten-year storm event,
- (o) Existing and proposed wells, abandoned wells, springs, neighboring wells, streams, ditches, canals, culverts, ponds, lakes, swales, 10-year flood plains, or any body of water (intermittent or perennial) located within 100 feet of property lines,
- (p) Existing and proposed on-site sewage disposal systems (including replacement areas), abandoned septic tanks, pretreatment and storage devices, sewer lines, storm sewers,
- (q) Soil profile test holes, percolation test holes, groundwater observation wells,
- (r) Percent and direction of slope in absorption system area and 50 feet adjacent to it on all sides. A contour map is recommended and may be required by the Environmental Health Services Division depending on conditions observed at the site,
- (s) Trees within 10 feet of sewage disposal areas (including replacement areas),
- (t) Underground utilities within 10 feet of septic system (including replacement area),
- (u) Cut banks, unstable land forms, bluffs and ravines,
- (v) Written information required to determine availability of public sewer (see Section 6.4-20),
- (w) Floor plan (including number of bedrooms).

(Ord. No. 1609, §18)

**Sec. 6.4-41. Site evaluation**

Each proposed project shall be required to have a site evaluation as indicated in Article VIII, Sections 6.4-81, 6.4-81.1, and 6.4-81.2 for on-site sewage disposal systems. Exception: Unless indicated otherwise in this Chapter, projects that do not by themselves cause any increase in the potential generation of sewage, and where inspection by the Environmental Health Services Division verifies the project will not significantly impact initial or replacement area for the on-site sewage disposal system do not require site evaluation as indicated in Article VIII, Sections 6.4-81, 6.4-81.1, or 6.4-81.2.

(Ord. No. 1609, §18)

**Sec. 6.4-42. Requirement for on-site sewage disposal system installation or modification**

(a) For new construction that generates liquid waste and for which public sewer is not available, an on-site sewage disposal system complying with these standards shall be required.

(b) For additions or remodels that increase the projected or actual wastewater flow, including bedroom additions, increases in seating capacity, or changes in business use or occupancy, the existing on-site sewage disposal system shall be evaluated and,

(1) If currently permitted by the Environmental Health Services Division and is in good condition and operating properly, it must be modified and enlarged to accommodate the projected increase. This includes, but is not limited to, providing a larger septic tank, pretreatment device, and/or enlarging or replacing the disposal field. Any modifications to the on-site sewage disposal system shall comply with these standards, except that a one time only expansion of the existing sewage disposal system to accommodate a one bedroom addition may be allowed under the following conditions:

(A) A site evaluation demonstrates a minimum of 5 feet separation exists between the bottom of the sewage disposal system and seasonal high groundwater and the septic tank is sized or is upgraded to meet the size requirements of this code. The additional field required shall be based on the proportion of additional flow, or

(B) A site evaluation demonstrates 3 to 5 feet separation exists between the bottom of the sewage disposal system and seasonal high groundwater, the septic tank is sized or is upgraded to meet the size requirements of this code and, if gravity flow is being used, a pretreatment device is installed. The additional field required shall be based on the proportion of additional flow.

In all cases, a replacement area complying to current standards must be demonstrated, or

(2) If currently permitted by the Environmental Health Services Division and not in good condition or operating properly and cannot be corrected through minor repair of the system or replacement of tanks to be in conformance with provisions of 6.4-42(b)(1), then a new on-site sewage disposal system complying with these standards, including those for replacement area, must be provided, or

(3) If not currently permitted by the Environmental Health Services Division and does not comply with these standards then an on-site sewage disposal system complying with these standards, including those for replacement area must be provided.

(c) For additions or remodels that will not increase the projected wastewater flow but which will result in the reconstruction of or an addition to greater than 50% of the existing habitable floor space, an evaluation of the existing on-site sewage disposal system shall be required. The evaluation must include the location, condition and performance of all components of the on-site sewage disposal system and demonstrate that the system will function properly and not create a potential health, safety, or contamination hazard year round. Based upon the findings a site evaluation in conformance with Article VIII, sections 6.4-81, 6.4-81.1, and 6.4-81.2 of these standards may be required. On-site sewage disposal systems not in conformance with these standards at the time of application for the building permit shall be modified or enlarged consistent with the intent of these standards. This may include, but is not limited to, providing a larger septic tank, pretreatment device, and/or enlarging or replacing the disposal field.

(d) For building additions that encroach upon the existing disposal system or replacement area of a septic system otherwise meeting the requirements for new on-site sewage disposal systems detailed in these standards, only the impacted portion of the existing disposal system or replacement area shall be replaced.

(Ord. No. 1609, §18; Ord. No. 1655, §4)

**Sec. 6.4-43. Disposal area sizing criteria**

(a) The size of the area to be used to install and replace an on-site sewage disposal system shall be based on site evaluations and the requirements listed in section 6.4-87.

(b) The area shall contain sufficient room for a 100% replacement area for the on-site sewage disposal system sized to accommodate all existing and proposed structures. The replacement area shall meet all requirements for new on-site sewage disposal systems. The replacement area required shall be based on all proposed and existing structures, site and soil evaluation, and the sizing criteria outlined in section 6.4-87.

(c) The area shall meet all requirements of this Chapter.

(d) No further improvement of a lot shall be approved if the improvement will impact any existing on-site sewage disposal system, including replacement area, in a manner that cannot be corrected in conformance with this Chapter, or if any required new or expanded septic system, and replacement area, cannot be installed in accordance with these standards.

(Ord. No. 1609, §18)

**Sec. 6.4-44. Replacement structures on lots served by on-site sewage disposal systems**

(a) Replacement structures, including, but not limited to, single family residences and companion living units, may connect into an existing on-site sewage disposal system provided the following criteria can be met:

(1) The location of the replacement structure does not encroach upon the existing on-site sewage disposal system or replacement area;

(2) The replacement structure does not have the potential to generate more sewage than the previous structure; and

(3) The system was functioning properly before removal of the previous structure, and will continue to do so in all likelihood and will not pose a threat to public health or water quality.

(4) And either condition I or II below is met

Condition I: The existing on-site sewage disposal system is permitted by the Environmental Health Services Division and complies with the requirements of these standards, including those for replacement area.

Condition II: The existing on-site sewage disposal system is permitted by the Environmental Health Services Division but does not comply with the requirements of these standards provided that a replacement area sufficient to completely replace the disposal field to current standards can be demonstrated.

(b) If section 6.4-44(a) cannot be met, then the structure shall be considered new construction and may not connect into the existing on-site sewage disposal system. A new on-site sewage disposal system and replacement area complying with all provisions of these standards shall be required.

(c) Where necessary, a site evaluation may be used to verify the on-site sewage disposal system design and replacement area required for replacement structures.

(Ord. No. 1609, §18; Ord. No. 1655, §5)

**ARTICLE V. THE SEWAGE DISPOSAL PERMIT PROCESS IN SOLANO COUNTY**

**Sec. 6.4-50. Applications**

Application for an on-site sewage disposal system construction permit shall be made to the Environmental Health Services Division on forms approved by the Division. Each installation, repair, replacement, expansion, modification, or destruction in part, or in whole, of an on-site sewage disposal system shall require

a separate construction permit. Permits are non-transferable. No amendments to an issued permit or approved plans shall be made without prior written approval of the Environmental Health Services Division. Approved amendments shall be deemed part of the original permit or approved plans.

(Ord. No. 1609, §18)

**Sec. 6.4-51. Construction permit: general provisions**

The Environmental Health Services Division shall approve, conditionally approve, or deny the application, and issue or withhold the construction permit accordingly, on the basis of compliance with the Solano County Code and these standards and policies promulgated thereunder. Except as provided for in section 6.4-53:

- (a) It is illegal to install, repair, replace, expand, modify, or destroy any part of an on-site sewage disposal system without first obtaining an approved construction permit from the Environmental Health Services Division.
- (b) No contractor, property owner, or person shall violate or fail to comply with any construction permit condition imposed pursuant to these standards.
- (c) Only on-site sewage disposal system work specifically authorized by the construction permit may be performed. A copy of the approved permit and plans shall be kept at the job site while the work is in progress.

(Ord. No. 1609, §18; Ord. No. 1655; §6)

**Sec. 6.4-52. Length of validity and renewal of the construction permit**

A construction permit issued pursuant to this Chapter shall be valid for one year from the date of issuance. Prior to expiration, permits that have not been issued final construction approval may be renewed by the Environmental Health Services Division upon payment of the required fee and satisfaction of required conditions. The work authorized by the permit must meet all the provisions of these standards, or latest revision thereof, in order for the permit to be renewed.

(Ord. No. 1609, §18)

**Sec. 6.4-53. Exceptions**

- (a) A permit is not required to clear stoppages in pipes, provided the on-site sewage disposal system is undisturbed.
- (b) A permit is not required for cleaning of each individual septic tank, dosing tank, interceptor, holding tank, or other sewage receptacle that is pumped or cleaned by a sewage disposal service having a valid permit to conduct such activities from the Environmental Health Services Division.

(c) A permit is not required for the property owner or his/her contractor or consultant to expose portions of the on-site sewage disposal system for purpose of evaluating its performance or operation, provided that the on-site sewage disposal system is not damaged, altered, modified, or repaired as part of the evaluation.

(d) A permit is not required to add or replace the following components to an on-site sewage disposal system provided the property owner or contractor notified the department in writing that the modification was made:

- (1) Risers and or lids to a septic tank if the septic tank is not located in an area that is subject to vehicular traffic;
- (2) Effluent filters;
- (3) Sanitary fees;
- (4) Distribution boxes.

Nothing in this section shall provide an exemption from the material, structural and installation requirements of this Chapter.

(Ord. No. 1609, §18; Ord. No. 1655, §7)

**Sec. 6.4-54. Permit application process**

(a) Applications for new on-site sewage disposal systems, and for expansions or additions to existing systems to accommodate additional development or new uses, shall comply with the following:

- (1) The applicant shall develop an accurate plot plan containing the details set forth in Section 6.4-40.
- (2) The applicant must complete and submit a Solano County sewage disposal system permit application with two copies of the plot plan, a site evaluation report, and the required fee. Refer to Sections 6.4-81, 6.4-81.1, and 6.4-81.2 for required site evaluations and information to be reported in order to obtain a permit.
- (3) The applicant must schedule an inspection with the Environmental Health Services Division to verify the plot plan is accurate and that the proposed on-site sewage disposal system will comply with these standards. The property address must be clearly visible from the roadway or, if no address has yet been assigned, specific and clear directions to the site must be provided. The Environmental Health Services Division may require marking the layout of the sewage disposal system on the property before plan or permit approval, or before beginning construction. The Environmental Health Services Division may require revisions to

the plans to maximize the efficiency of the proposed sewage system or to comply with these standards.

(4) Upon approval of the on-site sewage disposal system design by the Environmental Health Services Division, one signed copy of the approved plot plan and permit shall be returned to the applicant. Exception: if the on-site sewage disposal system permit is necessary for issuance of a building permit, then the approved on-site sewage disposal system permit will be given to the Building Division and will be issued to the applicant by the Building Division with the approved building permit. The approved signed copy of the plans must be kept on site during the construction of the system.

(b) Sewage System Repairs (system malfunction, poor performance or failure):

(1) No person shall discharge sewage to the ground surface, into surface waters, into ground waters, or have or maintain an improperly functioning sewage disposal system. It is the responsibility of the property owner to ensure the prompt correction of any failure or malfunction resulting in any discharge or any threat to human health and safety.

(2) Except as allowed by Section 6.4-53 a permit is required for modification, addition, repair or replacement of a leachfield, septic tank or sewage disposal system which is malfunctioning, failing or discharging sewage or sewage effluent to the ground, into groundwater, or into surface water. It is the responsibility of the property owner to ensure a permit is obtained for any modification, addition, repair, or replacement.

(3) Repair Permit Process:

(A) Step one: The applicant shall complete a sewage disposal system repair permit application, and pay the required permit fee. Copies of records, plans, soil tests or drawings of the existing sewage disposal system may be required to be attached to the application if not on record with the Environmental Health Services Division.

(B) Step two: A site evaluation inspection with the Environmental Health Services Division must be performed. The site evaluation shall consist of a review of surface features on the lot and at least a soil profile. For residential structures, after completion of soil evaluation by the Environmental Health Services Division, the Division may provide a standard design for the applicant's consideration if a standard system is warranted. Some residential systems and commercial operations may require an alternative system for the repair. In this case, a qualified consultant must develop an appropriate repair plan. The Environmental Health Services Division may waive certain soil analysis requirements typically required

for new construction based on knowledge of the site. Typically, at least a soil profile will be required.

(C) Step 3: Once it has been demonstrated that the proposed system will comply with these standards to the greatest extent possible, the Environmental Health Services Division shall issue a permit, provided that the proposed system will not pose a nuisance, hazard, or threat to human health and safety or to the environment.

(4) Only plans approved by the Environmental Health Services Division may be used for repair. A copy of the signed, approved plans shall be kept on site during all phases of repair construction.

(Ord. No. 1609, §18)

**Sec. 6.4-55. Construction inspections**

(a) To ensure installation of a safe, effective sewage disposal system and conformance with these standards and all terms and conditions of the permit, the Environmental Health Services Division shall perform construction inspections.

(b) No portion of the on-site sewage disposal system shall be covered without inspection by the Environmental Health Services Division unless the Division has given specific authorization.

(c) Notification: Installers are required to provide at least 24 hours advance notice prior to reaching specified construction steps. Notification must include applicant's name, Assessor's parcel number, street address, and permit number. Failure to provide sufficient notice may result in delay of construction or duplication of work. (Ord. No. 1655, §8)

(d) Required Construction Inspections: The inspection steps required for the installation of on-site sewage disposal systems will vary with the type and complexity of the sewage disposal system installed. The following inspections shall be required unless the applicant demonstrates good cause for not requiring a particular inspection:

(1) Preconstruction meeting, including marked layout of the disposal system onto the ground.

(2) Open trench (or in the case of above ground systems, ripping of the ground surface).

(3) Rock and pipe, including connection of the septic tank and all distribution piping (this includes inspection of the dosing tank, pump and filter assembly, and hydraulic squirt test for pressurized systems).

(4) Final construction inspection- occurs when all portions of the on-site sewage disposal system and all other construction features required by these standards or by permit conditions have been installed, e.g.- septic tank dosing tank and leach field are in the ground and connected, performance wells and required ground cover installed, protective barricades in place, etc. The final construction inspection is required prior to occupancy of any new structure served by an on-site sewage disposal system. Failure to schedule final inspections may delay occupancy until system conformance with the approved design standards can be verified by inspection.

(5) Other inspections that are specifically outlined in these standards or are required as a permit condition by the Environmental Health Services Division depending upon the type of system proposed. Refer to sections pertaining to alternative systems for specific inspections required on these systems.

(6) The Environmental Health Services Division may combine one or more required inspections into a single field visit.

(e) Final approval of the construction permit shall be granted only after the Environmental Health Services Division has completed all necessary inspections, and the on-site sewage disposal system has been installed in conformance to these standards and all permit conditions. For alternative systems, approval of an operation permit is required prior to final construction approval being issued.

(Ord. No. 1609, §18)

**Sec. 6.4-56. Operation permits**

(a) Prior to final construction approval of an alternative system the property owner shall obtain an operation permit from the Environmental Health Services Division.

(b) An alternative system shall be operated, maintained, and monitored pursuant to the requirements of these standards and the operation permit. Under terms of the operation permit, Division personnel shall conduct annual review of the performance and condition of the system. This review may include on-site inspections, sampling, review of submitted maintenance and sampling reports, and other activity deemed necessary to assure the proper maintenance and operation of the system. The operation permit shall also require maintenance and performance monitoring to be performed by the property owner or the property owner's agent, a licensed contractor or registered consultant at a frequency of once per year or more often as determined by the Environmental Health Services Division. At least once every three years the maintenance and performance monitoring shall be performed by a registered consultant or licenses contractor with knowledge of on-site systems. At least one monitoring event shall occur during the wet weather testing period as defined in Section 6.4-81.2(f) of these standards.

All data collected must be submitted to the Environmental Health Services Division within thirty (30) days.

(c) The operation permit shall be renewed annually and any required fees shall be paid. The owner of the property shall keep the operation permit valid for the life of the system.

(d) The Environmental Health Services Division may suspend or revoke an operation permit for failure to comply with any operational, monitoring, or maintenance requirements. Upon revocation or suspension of an operation permit further operation of the alternative system shall cease until the suspension is lifted or a new permit is issued.

(e) Performance Reporting.

The property owner or his/her agent must submit an annual report to the Environmental Health Services Division for review with the following information as a condition of any operating permit:

(1) Twelve months actual flows into the sewage disposal system. If this cannot be obtained, then the best reasonable estimate shall be provided.

(2) Inspection findings of the dosing tank and pump system, including:

(A) Elapsed time meter readings;

(B) Dosing counter meter readings;

(C) Pump run cycle time;

(D) Proper operation of the alarm system; and

(E) Proper water tightness of all tanks.

(3) Inspection findings of the on-site sewage disposal system for:

(A) Breakout or surfacing of sewage effluent onto the ground;

(B) Testing and condition of adjusting and purge valves;

(C) Testing and condition of performance wells;

(D) Groundwater elevations and samples taken by the property owner or his/her contractor or consultant from performance wells. The property owner or his/her contractor or consultant shall have the samples analyzed for total coliform,

fecal coliform, and other chemical constituents of concern as specified by the operation permit conditions.

(Ord. No. 1609, §18; Ord. No. 6155, §9)

**Sec. 6.4-57. Permit denial, suspension, or revocation**

The Environmental Health Services Division may deny, suspend, or revoke a permit if:

- (a) The application or any supporting documents, including but not limited to, site evaluation reports and plot plans, contain false, inaccurate, or insufficient information; or
- (b) The proposed work will not comply with these standards, or any other applicable law or regulation; or
- (c) The proposed work will pose a threat to human health and safety or to the environment; or
- (d) A sanitary sewer is available to the subject property; or
- (e) There are failing, failed, or abandoned on-site sewage disposal systems on the property and no application for permits have been made to repair said failing or failed systems or destroy said abandoned systems; or
- (f) Failure to comply with any operation, monitoring, or maintenance requirements imposed by the Environmental Health Services Division.

(Ord. No. 1609, §18)

**ARTICLE VI. APPEAL PROCESS**

**Sec. 6.4-60. Appeal process**

Any person affected by a decision of the Environmental Health Services Division may appeal the decision to the Manager of the Environmental Health Services Division. Any person affected by a decision of the Manager of the Environmental Health Services Division may appeal the decision to the Director of the Environmental Management. Any person affected by the decision of the Director of the Department of Environmental Management may appeal the decision to the Solano County Board of Supervisors.

(Ord. No. 1609, §18; Ord. No. 1655, §10)

**Sec. 6.4-61. Submission of appeal**

All appeals must be submitted in writing to the Environmental Health Division within ten (10) days of the decision. The appeal shall contain reasons and pertinent

documentation why the appellant believes the decision to be unwarranted. Failure to submit a written appeal within ten days of the date of the decision shall waive the appellant's right to appeal. The required filing fee, if any, shall also accompany appeals.

(Ord. No. 1609, §18)

**Sec. 6.4-62. Notice of appeal hearing**

The appellant shall be given notice as to the time, date, and location of the hearing. When appeals are to the Board of Supervisors, the Clerk of the Board shall set the time and place of the hearing and give notice to the appellant and the Manager. Notice for other appeal hearings shall be given by the Environmental Health Services Division.

(Ord. No. 1609, §18; Ord. No. 1655, §11)

**ARTICLE VII. ENFORCEMENT AND PENALTIES**

**Sec. 6.4-70. Enforcement**

The Environmental Health Services Division Manager or his/her designees shall perform enforcement of these standards.

(Ord. No. 1609, §18; Ord. No. 1655, §11)

**Sec. 6.4-71. Penalties**

(a) Any person, firm, corporation, or other entity violating any provision of these standards shall be deemed to be guilty of an infraction and may be subject to a fine. Each violation shall be considered a separate offense. Each separate day or any portion thereof, during which any violation of these standards occurs or continues, shall be deemed to be a separate offense.

(b) In addition to the punishment set forth in this section, any person guilty of a violation of these standards shall be liable for such costs, expenses and disbursements paid or incurred by the county in abatement and prosecution of the violation.

(Ord. No. 1609, §18)

**ARTICLE VIII. ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS:  
SITING, DESIGN, AND CONSTRUCTION CRITERIA**

**Sec. 6.4-80. General requirements**

(a) All new, expanded, modified, repaired, or replacement systems must be placed in the specific location approved for such use by the Environmental Health Services Division. This location is that for which the applicant has obtained site

evaluation data that has been approved by the Environmental Health Services Division for use in the design and installation of an on-site sewage disposal system.

(b) A replacement area equivalent to 100% of the initial system area conforming to these standards is required for every lot served by an on-site sewage disposal system. No division of a lot, boundary line modification, erection of structures, or improvement shall be made if such division, structure, or improvement impairs the usefulness of the replacement area. The replacement area shall be separate and distinct from the initial disposal field.

(c) The on-site sewage disposal system shall be designed to receive all sanitary sewage (bathroom, kitchen, and laundry) from the structures. Basement, footing, roof, water softener, swimming pool filter backwash, or surface drainage shall not be allowed to discharge to or enter any part of the system.

(d) Every on-site sewage disposal system shall be designed, located, constructed, and maintained so as to function in a sanitary manner, not create a nuisance or health hazard, and prevent any discharge of wastewater onto the ground surface, into the structure serviced, into surface water, or into groundwater, whether permanent, perched, or temporary, including zones of seasonal saturation.

(e) The on-site sewage disposal system shall consist of a building sewer, a septic tank, an acceptable distribution and absorption system and any required dosing tank, treatment device or other appurtenances required for standard or alternative treatment and disposal of sewage. Exception: The Environmental Health Services Division may waive the requirement for an alternative sewage disposal systems utilizing an aerobic treatment unit to include a septic tank as a separate treatment process if so recommended by the manufacturer of the aerobic treatment unit or registered consultant for the proper operation of the aerobic treatment unit.

(f) On-site sewage disposal systems shall be located so as to be accessible for maintenance or repair. Septic tanks, dosing tanks and interceptors shall be located so as to readily allow pumping and maintenance. Pressure distribution lines shall be located to accommodate monitoring and flushing of the lines.

(g) No portion of a disposal field or replacement area shall be paved over, subject to vehicular traffic, planted with vegetation that might damage an on-site sewage disposal system, or otherwise modified in a manner that may detrimentally affect the usefulness of these areas as part of the septic system.

(h) An individual on-site sewage disposal system shall only be installed on the same lot as the structure to which it is connected.

(i) Disposal fields and replacement areas shall be maintained so as to facilitate aerobic treatment and the evapotranspiration of wastewater.

(j) A waste well, as used or referred to in Section 117020, California Health and Safety Code, is prohibited.

(k) On-site sewage disposal systems may be standard, alternative, or experimental. Experimental systems cannot be used as a method for individual on-site sewage disposal for proposed lots except if approved by the Environmental Health Services Division and under permit by the Regional Water Quality Control Board. Experimental systems may be approved as the method of individual on-site sewage disposal on existing lots created prior to the effective date of these standards provided:

(1) Their use will not create a potential health hazard, or contaminate the environment and,

(2) 200% replacement area exists on the lot to install a conventional or alternative system in conformance to these standards, or

(3) They are used as a repair of an existing, failing individual on-site sewage disposal systems, or

(4) They are used as a pretreatment device for a standard or alternative system where no pretreatment device is required, or as an additional pretreatment device in conjunction with a non-experimental system already utilizing a non-experimental pretreatment device.

(Ord. No. 1609, §18; Ord. No. 1655, §13)

**Sec. 6.4-81. Site evaluation requirements for all lots**

(a) A site evaluation is required prior to construction of any on-site sewage disposal system or expansion, alteration, or replacement of an existing system in order to determine compliance with these standards. The site evaluation shall be completed prior to issuance of permits to construct, expand, alter, or replace an on-site sewage disposal system or approval of a lot line adjustment or tentative subdivision map. Site evaluations shall be completed under inspection from the Environmental Health Services Division. All aspects of a site evaluation prepared for on-site sewage disposal shall be performed by a registered consultant. A registered consultant is a Registered Civil Engineer, Registered Geologist, Certified Engineering Geologist, Registered Environmental Health Specialist, or Certified Professional Soil Scientist. NOTE: a site evaluation is not required for the placement of portable watertight facilities associated with a temporary work site or a special event.

(b) A site evaluation shall consist of on-site review of surface features and conditions and of one or more soil evaluations within the boundaries of the absorption area of the on-site sewage disposal system proposed for construction, expansion, alteration, replacement, or repair.

(c) The registered consultant shall provide a minimum of 24-hour advance notice to the Environmental Health Services Division prior to beginning any portion of a site evaluation. If the site evaluation is proposed to occur after normal business hours of the Environmental Health Services Division then notice must be given and the time of the evaluation arranged through mutual consent with the Environmental Health Services Division at least 48 hours prior to the evaluation. All required site evaluation fees must be paid prior to commencement of evaluations. Additional fees may be required for work performed outside of normal business hours.

(d) On-site sewage disposal systems shall not be installed in areas known to be subject to erosion or landslide. Installations in low swampy areas, in areas with permanent or intermittent springs, in areas with a high groundwater (permanent, fluctuating, seasonal, or perched) within two feet of the ground surface, in areas which are subject to standing water, or in areas which are subject to flooding by storms having a recurrence interval of less than ten (10) years shall not be acceptable. No portion of the lot in which there is ledge rock, hard pan, soils with a percolation test results greater than 120 mpi, or other impervious formations within two feet of ground surface will be acceptable as an area for installation, expansion, or replacement of an individual sewage disposal system. Installations into areas with fractured rock, or with 50% or more rock, within two feet of ground surface shall be prohibited. Installation into areas with percolation test results less than 1 mpi or areas of excessive slopes shall be unacceptable.

(e) The site evaluation report shall include all data relative to the proper placement, design and operation of an on-site sewage disposal system, including, but not limited to, percolation tests, soil profiles, hydrometer tests, depth to groundwater, slope measurements and surface water flow for each proposed sewage disposal system or lot to demonstrate compliance with these standards. All data, whether used in the final design of the disposal field, or whether rejected, shall be included in the report submitted as documentation with the permit application or with information required for lot line adjustments and tentative subdivision maps unless already on file at the Environmental Health Services Division. The report shall be signed by the registered consultant responsible for the site evaluation and include the registration number.

(f) The Environmental Health Services Division may require any additional information necessary to evaluate the proposed system. If, in the opinion of the Environmental Health Services Division, the land proposed for individual sewage disposal has severe soil limitations, or introduction of sewage effluent into the soil may create slope instability, submission of a technical report prepared at the applicant's expense by a Certified Professional Soils Scientist, Certified

Engineering Geologist, Registered Geologist or Registered Civil Engineer shall be required.

(Ord. No. 1609, §18; Ord. No. 1655, §§14, 15)

**Sec. 6.4-81.1. On-site review**

(a) An on-site review of surface features by the registered consultant shall be conducted prior to any soil evaluation to determine that the area proposed for placement of the on-site sewage disposal system complies with these standards. The on-site review shall verify and describe general site features on each lot, including landform type, slope, location of cut banks, sharp breaks in grade, rock outcroppings and unstable land within 100 feet of locations proposed for the on-site sewage disposal system construction. The evaluation shall also identify the location of all wells, streams, drainage courses, and ponds within 200 feet of the proposed on-site sewage disposal system. The findings of the on-site review shall be detailed in the site evaluation report. The Environmental Health Services Division shall conduct a verification inspection during or after the on-site review by the registered consultant, or after receipt of the site evaluation report, to ensure that the findings of the on-site review are accurate and complete.

(b) It shall be the responsibility of the applicant to mark all property lines within fifty (50') feet of the proposed on-site sewage disposal system including replacement area prior to any on-site review by the registered consultant, or verification inspection by the Environmental Health Services Division. If the lot boundaries are not marked during the verification inspection of the on-site review by the Environmental Health Services Division, and it is determined it is necessary to do so, the applicant shall mark the boundaries, and reschedule another inspection.

(c) No portion of the lot shall be cut or filled until the on-site review has been completed and written approval to grade the lot is obtained from the Environmental Health Services Division and, if required by code, the Building Division of the Environmental Management Department.

(Ord. No. 1609, §18)

**Sec. 6.4-81.2. Soil evaluation - profiles, percolation tests, and groundwater determination**

(a) Soil evaluation shall occur within the boundaries of the proposed on-site sewage disposal system.

(b) Soil profile description:

(1) Soil characteristics shall be evaluated by profile observation within the boundaries of each proposed sewage disposal field. To properly evaluate soil permeability characteristics, excavation using a backhoe (or similar equipment) is

required. At least one excavation in the primary disposal field, and one in the replacement field shall be required for this purpose. Soil profile excavations shall be made to a depth of at least eight (8') feet, or five (5') feet below the proposed disposal field trench, whichever is greater, or until a limiting condition is reached, and be at least two (2') feet wide. The profile description shall evaluate soil features as follow:

(A) Soil texture, color, structure, consistency, plasticity, and porosity, for each soil horizon in the excavation utilizing the United States Department of Agriculture (USDA) soil classification system.

(B) Depth and type of limiting condition, including but not limited to bedrock, hardpan, impermeable soil layers, observed free water, saturated soils, or groundwater.

(C) Depth of soil mottling, gleying or other evidence of periodic soil saturation.

(D) Other prominent soil features including, but not limited to, percentage of rock or coarse fragments, root porosity, dampness, or depth and type of fill or imported soil in the profile.

(2) Test holes dug by augur shall be an acceptable alternative upon written approval from the Environmental Health Services Division: (a) where use of a backhoe or other similar equipment is impractical because of access or because of the fragile nature of the soils, or (b) when necessary to verify conditions expected on the basis of prior soil investigations. When the auger method is used, at least three test holes in the primary disposal field and three in the reserve field are required.

(c) Soil Classification.

(1) The registered consultant shall field classify the soil using UDSA soil classification system and be responsible for collecting and retaining samples from the most limiting soil layer within the proposed active leaching layers observed in the sidewall of the excavated profile.

(2) Soils classified as sand and loamy sand shall be considered to have minimal treatment capacity unless it can be demonstrated by percolation testing after standard presoaking methods that the percolation test result is 5mpi (12 inches per hour) or greater. Percolation rates from 1 mpi to 5 mpi shall require increased depth to groundwater as per Table 1.

(3) Soils classified as sandy loam, sandy clay loam, and loam may be considered suitable for effluent disposal without additional percolation testing provided that the texture is confirmed using a hydrometer test. If an alternative system is necessary, percolation testing under fully saturated conditions may be

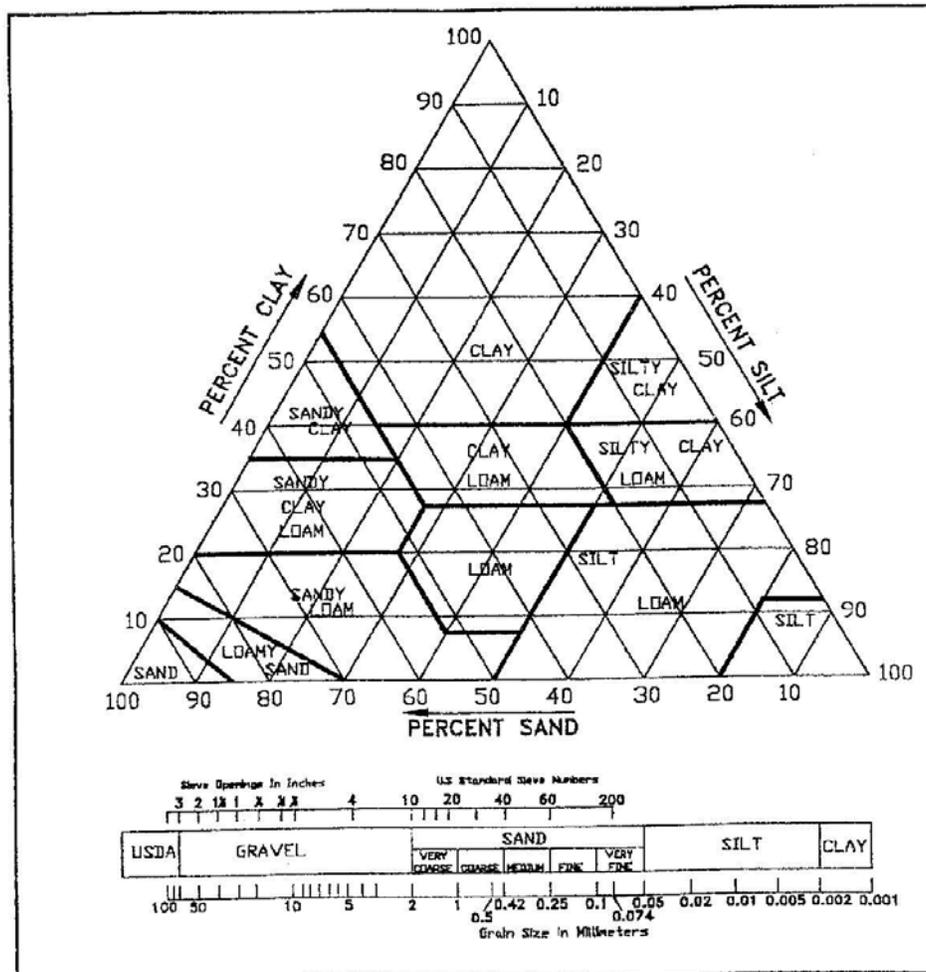
required to determine design parameters. If multiple soil profiles are evaluated, then only one soil sample needs to be analyzed using a hydrometer test, provided the soil sample is taken from the most limiting soil layer observed from all soil profiles evaluated. All samples shall be appropriately labeled, and analyzed for soil texture and bulk density by the approved ASTM method or California Test Method. The tests shall demonstrate the presence of the minimum effective soil depth required beneath the trench or absorption bed. The test results shall be plotted on a soils textural triangle as shown in Figure 1.

(4) Soils classified as sandy clay, clay loam, silt loam, silty clay, silty clay loam, silt, and clay shall be considered marginal to unacceptable and will require percolation testing to determine whether the soils are suitable.

(5) If the classification of the soil is in question, then the Environmental Health Services Division shall require the consultant to provide hydrometer and bulk density test data to verify the actual classification of the soil on the soils textural triangle in Figure 1 to determine if percolation testing is required.

(d) Percolation testing.

Figure 1: USDA Soil Textural Triangle

**INSTRUCTIONS:**

1. Plot texture on triangle based percent sand, silt, and clay as determined by hydrometer analysis.
2. Adjust for coarse fragments by moving the plotted point in the 100 percent sand direction an additional 2 percent for each 10 percent (by volume) of fragments greater than 2mm in diameter.
3. Adjust for compactness of soil by moving the plotted point in the 100 percent clay direction an additional 15 percent for soils having a bulk-density greater than 1.7 gm/cc.

Note: For soils falling in sand, loamy sand, or sandy loam classification bulk density analysis will generally not affect suitability, and analysis is not necessary.

(1) When required by these standards to demonstrate adequate infiltrative capacity at a proposed on-site sewage disposal system location, percolation testing shall be performed or supervised by a registered consultant in compliance

with Solano County's approved percolation test procedures. The applicant shall notify the Environmental Health Services Division at least 24 hours prior to constructing percolation test holes, presoaking the test holes, and conducting the test.

Percolation test holes shall be constructed during normal business hours unless prior arrangements have been made with the Environmental Health Services Division. The Environmental Health Services Division may require inspection of the percolation test hole construction process and/or presoak method, and percolation test. Failure to comply with these requirements may result in the need to reconstruct the test holes, and/or conduct a new presoak, and/or perform a new percolation test. All applicable fees shall be paid prior to construction of the percolation test holes.

(2) When deemed necessary by the Environmental Health Services Division, percolation tests may be required for any on-site sewage disposal permit application involving new construction, increases in the projected wastewater flow, relocation or expansion of an existing systems, and for land divisions or lot line adjustments, which do, or will, use on-site sewage disposal systems. The Environmental Health Services Division may require percolation tests prior to the issuance of permits to repair failing on-site sewage disposal systems, or prior to approving building additions on lots served by on-site sewage disposal systems.

(3) Percolation Test Hole Construction

(A) Percolation test holes shall be placed uniformly into the undisturbed soil horizons in the proposed location of the initial and replacement on-site sewage disposal system's absorption field. At least three holes shall be placed in each proposed disposal field and in each reserve area location. Test holes shall be constructed to the depth of the bottom of the proposed leachfield. For Mounds and At-Grade Mounds, the depth of the leachfield for purposes of test hole depth, shall be considered 1 foot below grade. The registered consultant may construct one or more percolation holes at the midpoint elevation of the minimum effective soil depth for the purpose of application rate determination in conformance with section 6.4-87.2. For tests deeper than one foot a backhoe may be used to dig a bench to within one foot of the bottom of the test hole, provided the backhoe pit is left open. The registered consultant running the test is responsible for any needed shoring in deeper tests.

(B) Percolation test holes shall be at least four (4") inches to twelve (12") inches in diameter. The bottom and sides of the percolation test holes shall be carefully scratched with a sharp instrument to remove any smeared soil surfaces and provide a natural soil interface into which water may percolate. All loose soil must be removed from the hole.

(C) Not more than two (2") inches of coarse sand or pea gravel must be placed in the bottom of the hole to protect from scouring and sediment that may impact the test.

(D) The hole shall be left open, or a minimum four (4") inch perforated pipe with approved drain rock between the pipe and wall of the hole shall be placed in the test holes. The backhoe pit, if used for deep percolation tests, shall remain open and unfilled.

#### (4) Presoaking the Test Holes

The intent of this section is to provide sufficient presoaking that will result in soil conditions that represent, as closely as possible, those conditions encountered during the wettest months of the year.

##### (A) Standard Procedure.

Each percolation test hole shall be presoaked for a minimum of six (6) hours prior to the start of the percolation test or until the soils are completely swollen, whichever is longer. The six hour presoak shall not begin more than 24 hours prior to the start of the test. The Registered Consultant shall consider the soil texture and type in selecting an appropriate presoak period.-Underestimating the presoak time period will result in an extended rate measurement period. Many soils in Solano County will require a presoaking time period greater than six (6) hours. The Environmental Health Services Division may approve a shorter presoak period for soils with textures of sand, loamy sand or sandy loam.

(B) Presoak procedures shall result in complete wetting and swelling of the soil being tested. This shall be accomplished by thoroughly saturating each hole until the soil is fully swollen (this may require many gallons of water).

The water level in the percolation hole shall be maintained at least 12" above the sand or pea gravel at the bottom of the hole as required for the soil to achieve a swollen condition prior to the start of the percolation rate measurement. Only clean water without additives shall be used in the presoak and percolation tests.

(C) Failure to follow the presoak procedures may result in the requirement to begin the presoak procedure again, or lack of approval of the percolation test results.

#### (5) Percolation Rate Measurement

The intent of this section is to provide precise and accurate percolation rate measurements, of sufficient time, that represent to the greatest extent possible, the soil conditions encountered during the wettest months of the year.

(A) At the beginning of the percolation test, the depth of the percolation hole shall be recorded and the water shall be adjusted so that it is between 4 and 8 inches above the sand or pea gravel at the bottom of the hole.

(B) A fixed reference point over the hole, or on the side of the perforated pipe if used, must be established. All readings shall be taken from this fixed reference point to the top of the water in the hole. Floats with securely attached measuring devices may be utilized provided that the floats do not absorb water. The distance between the water and ground surface shall be recorded.

(C) Water level shall be measured to a minimum accuracy of one-eighth (1/8") inch every thirty (30) minutes for a minimum of four (4) hours and until three (3) consecutive stabilized measurements are made that are within 1/4th inch of the final measurement. If water cannot be maintained in the hole for the first two (2) thirty (30) minute readings, then the water level shall be adjusted to six (6") inches over the sand or pea gravel at the bottom of the hole, and readings shall be taken every ten (10) minutes for two (2) hours or until three (3) consecutive stabilized measurements are made, whichever is longer.

(D) For test holes with a permeability faster than 30 mpi after the required test period that do not have rates for a final three readings that are within 1/4" of the last reading, an average of the last three readings will be used as the percolation rate.

(E) Inadequate presoaking of the test holes may result in unstabilized percolation rates at the end of a percolation test. In no case shall the percolation test end until the minimum percolation rate period has been reached and a stabilized rate has been achieved, as defined in section 6.4-81.2(d)(6)(c), unless the consultant chooses to repeat the test. Percolation test data that does not achieve a stabilized rate shall not be utilized in the design of sewage disposal systems.

#### (6) Percolation Test Data

(A) All data obtained from any percolation test shall be included in the site evaluation report submitted to the Environmental Health Services Division on the standard form provided. All test results, both passing and failing, shall be submitted.

(B) The completed report shall be accompanied by a scaled plot plan identifying the exact location of the percolation holes, along with other pertinent details such as the location of soil profiles, wells, water courses, structures, slopes, cut banks, property lines, etc.

(C) All data submitted must be stamped and signed by the registered consultant supervising or performing the tests.

(D) Groundwater determination.

(1) The highest anticipated level of groundwater shall be estimated by the highest extent of soil mottling to natural grade observed in a soil profile, or by direct observation of stabilized groundwater levels.

(2) Direct observations, if used or required, shall occur during wet weather conditions as defined below. Measurements shall occur every 2 weeks during the wet weather period. The Environmental Health Services Division may accept alternate wet weather groundwater plans from registered consultants provided the groundwater monitoring plan will capture seasonal high groundwater elevation in the proposed primary and reserve disposal fields. Direct observation of groundwater shall utilize performance wells or piezometers. At least one well shall be constructed in each initial and replacement area. Approval of the monitoring program shall be obtained from the Environmental Health Services Division. The location of the well(s) shall be accurately depicted on all site plans submitted to the Environmental Health Services Division for approval of the on-site sewage disposal system. Where a conflict exists between the depth of groundwater observed through direct observation during wet weather conditions and the depth at which soil mottles are observed, the direct observation of actual groundwater levels shall govern.

(3) Some soils, such as sandy river soils, will not exhibit mottling. In cases where the soil lacks the necessary iron compounds to exhibit mottling, direct observation during wet weather conditions may be exclusively required.

(e) Wet weather testing period.

(1) The wet weather testing period for groundwater determination and, where required, for wet-weather percolation testing shall be determined annually by the Environmental Health Services Division on the basis of rainfall occurrence as measured by the following schedule:

(A) Beginning: On the occurrence of fifty (50%) percent of the annual normal rainfall or after 8 inches of rainfall in any 30 day period, whichever occurs first.

(B) Ending: On March 15, or later as determined by the Environmental Health Services Division in the event of unusually heavy springtime rainfall.

(C) Extensions: The wet weather testing period may be started earlier or extended later than the above-noted beginning and ending points if it is determined by the Environmental Health Services Division, through a monitoring program, that shallow groundwater tables are fully charged.

(f) Soil test results completed pursuant to these standards shall be valid as long as the conditions on the lot remain essentially unaltered by grading,

construction, drainage, structures, well, cuts, landslides, etc. Testing may be invalidated if subsequent site evaluations reveal site conditions that are more limiting than noted during original tests, or that were misrepresented or ignored during original testing.

(g) Nothing in this Chapter shall prohibit a registered consultant from conducting percolation testing in accordance with these standards prior to soil profile evaluation.

(Ord. No. 1609, §18; Ord. No. 1655, §16)

**Sec. 6.4-82. Disposal system location and placement**

(a) Soil depth.

(1) On-site sewage disposal systems shall be placed within and above effective soil. The effective soil depth below the bottom of the disposal field shall be as indicated in Table 1.

(2) Soil Texture Zones are those described in Figure 1, USDA Soil Textural Triangle. Increased depth of permeable soil may be required for systems proposed on sloping terrain. All horizons of the soil must comply with criteria established by these standards in order to be considered effective soil.

(b) Percentage of Rock. The percentage of coarse fragments throughout the effective soil depth shall not exceed fifty (50%) percent by volume as retained on a #10 sieve.

(c) Percolation Rates. The disposal field shall not be placed in an area with failing percolation test results. Percolation test results throughout the disposal field area and required effective soil depth shall not be less than one minute per inch or more than 60 minutes per inch. Exception: for alternative and experimental sewage disposal systems the percolation test results throughout the disposal field area and required effective soil depth shall not be less than one minute per inch or more than 120 minutes per inch.

(d) Slope. The native slope of any portion of a standard disposal field area shall not exceed twenty five (25%) percent. Other slope limitations may apply depending on the type of on-site sewage disposal system proposed. Lots may not be graded or altered in any manner to accommodate the slope requirements (except as indicated for areas of fill in section 6.4-82(e) below). Leach lines shall not be installed in areas of excessively concave slopes.

(e) Areas of filled soil or unstable soil formations shall not be used for a disposal field site. The on-site sewage disposal system shall be located and installed in natural, undisturbed and unobstructed ground or earth. Exception: fill placed for ten or more years that are stable and soil evaluation indicates

characteristics acceptable for installation of an on-site sewage disposal system such as approved structure, texture, consistency, pore space, percolation rate, etc., may be utilized for an on-site sewage disposal system. No grading shall occur in the area of the proposed or installed on-site sewage disposal system or replacement area without the written approval of the Environmental Health Services Division.

(f) The minimum horizontal separation between the components of the system, including the required reserve area, and the subjects listed below shall be as shown in Table 2: Minimum Setback Requirements.

Where adverse conditions exist, the minimum horizontal separation distances specified by this section may be increased or a special means, particularly in the construction of the on-site sewage disposal system, may be required by the Environmental Health Services Division.

**Table 1. Soil Depth below Absorption Field to Limiting Condition.**

<b>Soil texture<sup>1</sup></b>	<b>Percolation Rate</b>	<b>Depth to groundwater</b>	<b>Depth to other limiting factor</b>
Sand, Loamy Sand	1 mpi - 5 mpi	20 feet <sup>2</sup>	5 feet <sup>3</sup>
	6 mpi- 60 mpi	5 feet <sup>3</sup>	5 feet <sup>3</sup>
Sandy Loam, Sandy Clay Loam, Loam	6 mpi - 60 mpi	5 feet <sup>3</sup>	5 feet <sup>3</sup>
	61 mpi- 120mpi	3 feet <sup>4</sup>	3 feet <sup>4</sup>
Sandy Clay, Clay Loam, Clay, Silty Clay, Silty Clay Loam, Silt Loam, Silt	6 mpi - 60 mpi	5 feet <sup>3</sup>	5 feet <sup>3</sup>
	61 mpi- 120mpi	3 feet <sup>4</sup>	3 feet <sup>4</sup>

1. Soil texture of most limiting soil layer in the active leaching layers directly below proposed disposal fields (within two (2') feet to five (5') feet below trench bottom depending on type of system).

2. Unless an alternative system is utilized, then depth may be reduced to two (2') feet to five (5') dependent on the alternative system proposed. Pretreatment and denitrification may be required for any allowed reduction of setback.

3. Separation distances may be reduced to three (3') feet if pressure distribution is used, or to two (2') feet if a pretreatment device approved by the Environmental Health Services Division is used prior to disposal of effluent into the soil through pressure distribution.

4. Applies only to sites approved for alternative sewage disposal systems utilizing pressure distribution methods. Can be reduced to two (2') feet if a pretreat-

ment device approved by the Environmental Health Services Division is used prior to disposal of effluent into the soil.

**Table 2. Minimum Setback Requirements.  
(Distance in feet)**

	<b>Septic Tank, Interceptor, Dosing Tank, Holding Tank, Distribution Box</b>	<b>Disposal Field, Replacement Area</b>	<b>Solid Piping (ABS or Cast Iron)</b>	<b>Solid Piping (PVC or other)</b>
Wells, abandoned wells, springs	100 feet <sup>(1)</sup>	100 feet	25 feet	50 feet
Bays, streams, rivers, ditches, canals, culverts or 10 year flood plains (2)	100 feet <sup>(1)</sup>	100 feet	25 feet <sup>(3)</sup>	50 feet
Ephemeral streams, rivers, unlined ditches, unlined canals, or unlined culverts (2)	50 feet	50 feet	25 feet <sup>(3)</sup>	50 feet
Lined ditches, lined canals, or watertight culverts or conduits	15 feet	15 feet	10 feet <sup>(3)</sup>	10 feet
Lake or reservoir (2)	100 feet	100 feet	25 feet	50 feet
Property line (public water supply and no on-site well)	10 feet	10 feet	10 feet	10 feet
Property line (neighboring lot on-site well or spring water supply)	25 feet	25 feet	10 feet	10 feet

**Table 2. Minimum Setback Requirements.  
(Distance in feet)**

	<b>Septic Tank, Interceptor, Dosing Tank, Holding Tank, Distribution Box</b>	<b>Disposal Field, Replacement Area</b>	<b>Solid Piping (ABS or Cast Iron)</b>	<b>Solid Piping (PVC or other)</b>
Structures and foundations	5 feet	10 feet	0 feet	5 feet
Swimming Pool. Lined pond or lined basin	15 feet	15 feet	5 feet	5 feet
Areas subject to vehicular traffic	5 feet	5 feet	0 feet if sand packed	5 feet
Cut or fill banks, cuts, or steep slopes(4)	4 x height (50 feet maximum)	4 x height (100 feet maximum)	0 feet	10 feet
Easements and rights of way (5)	5 feet	5 feet	5 feet	5 feet

Notes:

- (1) May be reduced to fifty (50') feet if the tank passes a field test to verify it is water tight.
- (2) As measured from the highest water level obtained.
- (3) Variance may be granted for creek crossings if pipe is pressure tested and adequately protected.
- (4) Distance in feet equals four times the vertical height of the cut bank, fill bank, or escarpment.
- (5) Unless easement is specifically and solely designated for an on-site sewage disposal system.

See Uniform Plumbing Code for parallel crossings.

(Ord. No. 1609, §18; Ord. No. 6155, §17)

**Sec. 6.4-83. Intercept drains**

(a) Intercept drains are trenches filled with gravel and drainage pipe installed below ground up slope from the disposal field for the purpose of intercepting, diverting, and discharging perched groundwater away from the disposal field. The goal is to eliminate completely, or significantly lower, the perched groundwater in the area of the disposal field to accommodate a specific design of on-site sewage disposal system.

(b) Intercept drains may be used to eliminate or lower perched water tables to allow a site to be used for sewage disposal when all of the following criteria can be met:

(1) The native slope exceeds 5%.

(2) The water table is shallow and perched on an impermeable subsurface feature such as bedrock, hardpan, or impermeable clay.

(3) The bottom of the intercept drain can be keyed into the impermeable feature.

(4) Monitoring to verify that the intercept drain is lowering the groundwater to approved levels shall be required. Performance wells shall be installed between the intercept drain and the absorption field to verify groundwater levels. The owner of the property shall be responsible for paying fees associated with ongoing monitoring and evaluation. The Environmental Health Services Division shall condition the on-site sewage disposal system permit with the provisions for monitoring.

(c) No portion of an intercept drain shall be located less than 10 feet up gradient, 15 feet laterally, or less than 50 feet down gradient from any septic tank or disposal field, replacement area, or less than 5 feet from any property line. Detailed plans prepared by a registered geologist, registered civil engineer or registered environmental health specialist must be submitted to and approved by the Environmental Health Services Division prior to installation of an intercept drain.

(Ord. No. 1609, §18; Ord. No. 1655, §18)

**Sec. 6.4-84. Materials**

(a) Materials used in construction of the septic system shall be in good condition, durable, sound, free from defects, capable of withstanding normal installation and operational stresses, and resistant to corrosion or decay.

(b) All materials, fixtures, pipe, fittings, distribution boxes, and devices used to construct a septic system must be IAPMO approved and listed, or be approved by the Environmental Health Services Division for the use intended. Approval by the

Environmental Health Services Division may only be given after submission of detailed engineered designs that demonstrate compliance with all applicable standards.

(Ord. No. 1609, §18)

**Sec. 6.4-84.1. Septic tank, dosing tank, and interceptor construction, inspection, testing, and capacity**

(a) Each septic tank, dosing tank, and interceptor shall be designed, installed and maintained so as to prevent the entrance of rain, groundwater, or surface water drainage.

(b) All septic tanks, dosing tanks, interceptors, distribution boxes, risers, seams, joints and unions shall be made watertight. The Environmental Health Services Division may require a leak test in the field to confirm water tightness. When a leak test is required, water shall be placed two inches above the seam of the tank and riser. The water level must remain static within one (1") inch for a twenty four-hour period.

(c) Minimum septic tank capacity for single family residences shall be as follows:

Residences with 1 to 3 bedrooms:	1200 gallons
Residences with 4 bedrooms:	1500 gallons
Residences with 5 bedrooms:	1800 gallons
Each additional bedroom:	150 gallons

Commercial establishments (including residential care facilities)

Vol.= 1.5 Q + 1000 where Q' maximum daily flow.

(d) Approved Septic Tanks: Septic tanks shall be designed to provide clarified effluent consistent with accepted standards and shall provide adequate space for sludge and scum accumulations. Designs shall assure uniform flow through the entire length of the septic tank. The interior of all concrete tanks, above the liquid level, shall be coated with a bituminous coating or other approved material to prevent the degradation of concrete by sewage gases. The tank shall be permanently marked with the capacity and manufacturer and be accessible for cleaning and inspection.

(e) Compartments: The septic tanks shall be of two-compartment construction. The first compartment shall be twice the capacity of the second compartment and be separated from the second compartment by a baffle. The first compartment shall be at least three feet wide and five feet long with a liquid depth between 2 1/2 feet and six feet. In septic tanks greater than 1500 gallons the

second compartment may not be less than five feet in length. Side walls of the septic tank shall extend at least nine (9") inches above the liquid level. The baffle shall extend at least four (4") inches above the liquid level. A four (4") inch inverted fitting with the opening extending midway into the liquid level of the septic tank shall be installed in the inlet compartment side of the baffle.

(f) The invert of the inlet opening into the septic tank shall be at least two (2") inches above the invert of the outlet opening. The inlet and outlet pipe openings shall not be less in size than the connecting sewer pipe. The inlet and outlet pipes shall be provided with sanitary tees of equal internal diameter. The portion of the sanitary tee on the outlet extending into and above the liquid level may be larger than the outlet pipe to accommodate an effluent filter. Sanitary tees shall extend at least four (4") inches above and twelve (12") inches below the liquid level of the tank. Sanitary tees shall be located under the access openings. Ventilation shall be provided through the sanitary tees by means of a two-inch minimum space between the underside of the septic tank top and the top of the sanitary tee fitting. All pipe fitting and compartment partitions shall have a free vent area equal to or larger than the required cross sectional area of the house sewer discharging into the tank to provide free ventilation above the liquid level from the disposal field to the septic tank, house sewer and stack into the air.

(g) The top of the tank shall be located no greater than thirty-six (36") inches below grade unless otherwise approved in writing by the Environmental Health Services Division.

(h) Access to each compartment of a tank shall be provided by an access opening twenty (20") inches in minimum dimension into the top of the tank. A riser shall extend to two (2") inches above grade from each access opening of the tank to allow for inspection and maintenance of the tank. The risers shall be centered over the access openings into the tank. The riser shall be of sufficient size to protect access openings of the tank and allow for removal of any below grade covers if present. Watertight, airtight, vermin tight, securely fastened covers shall be installed over the risers. The covers must be removable with standard hand held tools. Risers and covers shall be constructed of durable materials approved by the Environmental Health Services Division. The riser shall be fastened to the septic tank with a durable, watertight seal that is either cast in place or retrofitted. The risers and lids shall be specifically manufactured for the use intended and shall be capable of withstanding all anticipated loads. Wherever the first compartment exceeds twelve (12') feet in length, an additional access opening with riser shall be provided over the baffle wall.

(i) Construction Materials. Unless otherwise approved in writing by the Environmental Health Services Division, septic tanks shall be constructed of reinforced concrete. Fiberglass or polyethylene tanks may be permitted only in circumstances where the placement of a concrete tank is not feasible because of access limitations, steep slopes, safety concerns or remote sites unless written

approval is obtained from the Environmental Health Services Division. Fiberglass or polyethylene tanks are prohibited in areas of shallow groundwater where buoyancy is a concern. When fiberglass or polyethylene tanks are used, they must be installed and bedded in strict conformance with the manufacturer's instructions.

(j) Structural and Material Strength. The tank shall be capable of withstanding anticipated structural loads. The tank top must be capable of supporting an earth load of not less than three hundred (300 lbs) pounds per square foot when maximum coverage does not exceed three (3') feet. The minimum compressive strength of any concrete tank wall, top and covers, or floor is two thousand five hundred (2500 lbs) pounds per square inch.

(k) Installation: Concrete tanks shall be installed level and on a solid bed of at least 90% compacted earth or rock. Soil around the tank shall be hard-compacted or jetted. The depth of tank placement and additional installation details shall be as specified in the approved on-site sewage disposal system permit. Each of the following components of an on-site sewage disposal system shall be located at least two (2') feet from each other and five (5') feet from a distribution box and/or an absorption field as measured horizontally:

- (1) Grease interceptor
- (2) Septic tank
- (3) Dosing tank

(l) When installed in locations where the seasonal groundwater is less than six (6') feet from the ground surface, tanks shall be made non-buoyant by the addition of concrete to the bottom or top surface of the tank, or by other means approved by the Environmental Health Services Division.

(m) The Environmental Health Services Division shall conduct inspection of the tank at the time of installation. Tanks that are cracked, caved, or structurally deficient shall not be approved.

(n) An effluent filter approved by the Environmental Health Services Division shall be required in the outlet of all newly installed septic tanks, except if a dosing tank with a screened pump vault is being used immediately after the septic tank.

(o) Grease Interceptors

(1) Wastewater discharge from fixtures and equipment in commercial establishments which may contain grease, including but not limited to scullery sinks, pot and pan sinks, dishwashing machines, soup kettles and floor drains located in areas of food preparation shall only be drained to an on-site sewage disposal system through a grease interceptor.

(2) Any commercial food establishments using an on-site sewage disposal system except those serving drinks and/or prepackaged food only, shall have an interceptor installed pursuant to the provisions of these regulations prior to any transfer of operating permit by the Environmental Health Services Division.

(3) General Grease Interceptor Requirements

(A) Toilets, urinals, and other similar fixtures shall not discharge through an interceptor.

(B) An interceptor shall be identical to a septic tank designed pursuant to the provisions of these regulations except that the sanitary tees shall extend to a level of 12 inches from the bottom of the tank and an effluent filter is not required.

(C) All interceptors shall have risers provided over each access port as indicated in section 6.4-84.1(h).

(D) The interceptors shall be located outside of the structure and as close as possible to the source of grease. The location shall allow for ease of access for removal of the interceptor's contents.

(E) Interceptors shall discharge to a septic tank or sewer.

(F) Interceptors shall be at least 1000 gallons or sized based upon the following formulas below, whichever is greater:

(i) Commercial Kitchen:

Capacity = Number of meals per hour multiplied by the waste flow rate multiplied by retention time multiplied by storage factor.

(ii) Laundries and laundromats:

Capacity = number of machines multiplied by 2 cycles per hour multiplied by waste flow rate multiplied by retention time multiplied by storage factor.

(G) Retention times and storage factors shall be equal to or greater than those listed in Table 3 or as determined by the Environmental Health Services Division if not listed. Waste flow rates are those listed in Table 4 or as determined by the Environmental Health Services Division if not listed.

(p) Distribution box specifications

(1) Distribution boxes shall be watertight and designed to accommodate the necessary distribution laterals and expected flows.

(2) Distribution boxes shall be constructed of durable, non-porous materials such as Class "A" concrete or other materials approved by the Environmental Health Services Division. The top, walls, and bottom of concrete distribution boxes shall be at least two (2") inches thick.

**Table 3: Retention Time and Storage Factor for Interceptor Sizing.**

<b>FACILITY</b>	<b>RETENTION TIME</b>	<b>STORAGE FACTOR</b>
Commercial Kitchen	Dishwasher and/or disposal unit = 2.5 hours. Single serving with disposal = 1.5 hours	Fully equipped kitchen: 8 hour operation = 1 16 hour operation = 2 24 hour operation = 3 Single service kitchen = 1.5
Laundry	2.0 hours	1.5

(3) Distribution boxes shall be constructed with a baffle or similar design.

(4) The inside of concrete distribution boxes shall be coated with a bituminous or other approved coating above the level of the sewage effluent.

(5) The invert of the inlet pipe shall be at least one (1") inch higher than the invert of the outlet pipes. The inverts of all outlet pipes shall be level.

(Ord. No. 1609, §18; Ord. No. 1655, §19)

**Sec. 6.4-84.2. Pump systems**

(a) A licensed Civil Engineer, Certified Engineering Geologist or a Registered Environmental Health Specialist shall design all pump systems. Plans detailing the dosing tank, pump, and all component features, including a cross section of the tank complete with elevations of control switches, measured in inches, from the bottom of the chamber must be provided to the Environmental Health Services Division for review. Dosing tanks shall only receive clarified effluent that has been treated by a septic tank or pretreatment device.

(b) Dosing tank design is to include the following:

(1) Emergency storage volume shall be 150 gallons or 1/3 of the design flow rate, whichever is greater and is measured from the invert of the inlet tee and the point of high water alarm activation.

(2) In order to prevent floatation in areas where ground water will come into contact with the dosing tank the design must account for the volume of effluent required to remain in the tank after dosing occurs, or anti-flotation devices must be used.

(3) The access opening(s) into the top of the dosing tank and risers shall comply with section 6.4-84.1(h) and shall be designed and sized to allow ease of maintenance and removal of the pump, pump vault, screens, floats, and other components that may be within the dosing tank.

(4) Dosing tanks shall be vented back through the septic tank, or have a separate vent.

(5) A check valve shall be required unless the leach field or absorption system is located downhill from the pump.

(c) Requirements pertaining to the pump and associated controls are as follow:

(1) The pump off switch shall be set per manufacturer's specifications. A redundant "off" switch shall be used.

(2) The pump shall be placed so that it remains submerged to allow for cooling and prevent contact with sewer gas. The pump shall be set a minimum of four (4") inches above the bottom of the dosing tank.

(3) Float control switches shall be set to pump small, frequent doses. Timed dosages may be utilized in addition to on/off switches. The use of a dosing timer may be required in order not to exceed maximum allowable dosages for the specific on-site sewage disposal system proposed.

(4) The pump in the dosing tank shall be protected by either an effluent filter located in the septic tank, or by placement within a screened vault located in the dosing tank, or both.

(5) The pump shall be designed for sewage effluent and shall be U.L. approved. Pump curves and other required test certification shall be submitted to the Environmental Health Services Division for approval.

(6) The alarm system is to contain an audible and visual alarm that will remain on once activated until turned off by the owner or maintenance person. The alarm must be installed on a separate circuit from the pump.

(7) The high water alarm switch shall be set two inches above the pump "on" switch.

(8) Alternating pumps are required for systems generating over 1500 gallons per day, or for commercial systems.

(9) A single family dwelling may use duplex pumps or a single pump. For using a single pump, the following criteria shall be used:

- (A) The single pump is to be commercially engineered and capable of continuous duty.
- (B) The pump must be capable of handling the total design flow of the on-site sewage disposal system.
- (10) The control panel shall have a method to count the number of doses and elapsed time the pump is running.
- (d) Requirements for the force main are:
  - (1) The force main is to be from one and one-quarter (1 1/4") to two (2") inches in diameter, rated for the head loss calculated pressure and velocity, and made of approved materials.
  - (2) The connection between the pumps and the force main shall allow for ease of pump removal and maintenance.
  - (3) Head loss calculations addressing all fittings and elevation differences must be provided with plan submittal to the Environmental Health Services Division.
- (e) Exception: a separate dosing tank shall not be required if both of the following conditions are met:
  - (1) The pump system is being installed to repair an existing failed or failing on-site sewage disposal system, and the installation of a dosing tank is not possible or practical given site conditions, and
  - (2) If possible the pump shall be placed in a pump vault separate from the septic tank. However, if the pump is proposed to be placed in the septic tank for repair to a failed or failing on-site sewage disposal system, then the following criteria must be met:
    - (A) The pump flow rate and dose batch size shall be kept to a minimum to prevent surging of liquid levels in the septic tank.
    - (B) The pump shall be placed in the second compartment within a screened pump vault.
    - (C) The pump intake shall be equal distance between the liquid operating level and the bottom of the septic tank.

(D) The pump “off” switch must be set four (4") inches above the crossover pipe within the baffle to prevent first compartment scum from entering the second compartment.

(Ord. No. 1609, §18; Ord. No. 1655, §20, §21)

**Sec. 6.4-85. Destruction of tanks**

(a) Every cesspool, septic tank, interceptor, dosing tank, holding tank, or pit privy which has been abandoned, or has been discontinued from further use, or to which no building drain or building sewer from a plumbing fixture is connected, shall be immediately destroyed by filling with compact earth, sand, gravel, concrete or other material approved by the Environmental Health Services Division. Prior to filling, the top cover or arch over the cesspool, interceptor, septic tank, dosing tank, holding tank or pit privy shall be completely removed, the wastewater removed by an approved septage hauler, and at least five holes shall be broken into the bottom. Fill material shall not be placed above the top of the sidewalls, or above the level of any outlet pipe, until inspection and approval by the Environmental Health Services Division. After approval by the Environmental Health Services Division, the cesspool, septic tank, dosing tank, holding tank or pit privy shall be filled at least to grade level. An adequate fill cap shall be provided to account for future settling. Complete removal of the tank and backfill and compaction of the hole after its removal, is an acceptable alternative to destruction of the septic tank in place.

(b) Where on-site sewage disposal systems are abandoned after connecting any premises to a sanitary sewer, all abandoned on-site sewage disposal systems shall be destroyed within 30 days of the time of connecting to the sanitary sewer.

(Ord. No. 1609, §18; Ord. No. 1655, §22)

**Sec. 6.4-86. Piping, joints, and connections**

(a) All piping, joints and connections shall: (1) be at least three (3") inches internal diameter except as otherwise specified by the Environmental Health Services Division for piping subject to pressure; (2) have watertight joints; (3) be laid on stabilized, compacted earth, except for perforated piping within disposal area; (4) be installed pursuant to the requirements of these standards and IAPMO and the manufacturer’s specifications; (5) be backfilled by soil free of large rocks and debris that may damage the piping, joints, and/or connections; (6) shall meet the minimum requirements of the Uniform Plumbing Code; and (7) shall be marked by an approved listing agency.

(b) Pipe under driveways or other areas subject to heavy loads shall be installed to withstand the imposed loads.

(c) The Environmental Health Services Division may require the use of tracer wire for the location of piping systems.

- (d) The building sewer shall have no tight ells or bends of 90 degrees.
- (e) Cleanouts
  - (1) Cleanouts extending to grade shall be provided between the structure served by an on-site sewage disposal system and any septic tank or interceptor every 100 feet, or fraction thereof, of straight runs of building sewer and for each bend less than 1350 between pipes.
  - (2) All cleanouts shall extend to grade and shall be installed so as to allow cleaning in both directions.
  - (3) Cleanouts installed under concrete or asphalt paving shall be made accessible through risers or by extending flush with paving and shall be adequately protected.
- (f) All piping, joints, and connections shall be ABS or cast iron, except for pipe subject to pressure and perforated pipe in the disposal field, which may be PVC.
- (g) The fall between the structure and the septic tank or aerobic treatment unit if not preceded by a septic tank shall be at least one-quarter (1/4") inch per foot. Between the septic tank and the distribution box the fall shall be at least one (1") inch in ten (10') feet.

(Ord. No. 1609, §18; Ord. No. 1655, §23)

**Sec. 6.4-87. Absorption system: infiltration area and sizing the system**

- (a) Typical Standard Leach Field Design
  - (1) The typical standard leach field design for an on-site sewage disposal system may be used under the following conditions:
    - (A) There is gravity flow from the septic tank to all other portions of the on-site sewage disposal system.
    - (B) Soil evaluation has shown that:
      - (i) Groundwater, fractured rock, hardpan, bedrock, or other limiting condition is not encountered from natural ground surface to five (5') feet below the proposed trench bottom, and
      - (ii) The soil from ground surface to five (5') feet below trench bottom is classified as a sandy loam, sandy clay loam, or loam or, if classified as a sand, loamy sand, clay loam, sandy clay, or silt loam has a percolation rate from 6 to 60 mpi, and

- (iii) The soil is not classified as a clay, silty clay, silty clay loam, or silt.
- (C) The system serves a residential dwelling with four (4) bedrooms or less and the wastewater generated does not exceed six hundred (600) gallons per day.

(2) The typical standard leach field design shall be: six hundred (600') lineal feet of trench, not more than thirty-six (36") inches deep by thirty-six (36") inches wide; a three (3") inch minimum diameter perforated pipe shall run the entire length of each trench; twelve (12") to eighteen (18") inches of gravel under the pipe and two (2") inches of gravel over the pipe shall be installed. Chamber systems that provide equivalent treatment may be substituted for the gravel trenches. No reduction in length of the total lineal feet required will be allowed for the use of a chamber system. Gravel trenches and chamber systems shall have twelve to eighteen inches of cover soil. The top of the gravel layer or chamber may be installed as high as flush with grade.

(b) Non-Typical Standard Leach Field Design and Alternative Systems.

For systems that do not meet the requirements for a typical standard leach field design, or if the owner decides to pursue a non-typical standard design or alternative system design on a site where a typical standard design would normally be allowed, then a Registered Civil Engineer, Certified Engineering Geologist or Registered Environmental Health Specialist shall prepare and design an on-site sewage disposal system complying to these standards for the proposed building. Any design shall incorporate the following criteria:

(1) The total length of leach line required shall be calculated using the infiltrative area as specified in this section. For calculation purposes the infiltrative area per lineal foot shall not exceed 3 square feet per lineal foot unless the effective soil below the leachfield consists of loam, sandy loam or sandy clay loam in which case the maximum infiltrative surface area shall not exceed 5 square feet per lineal foot. For systems utilizing more than 3 square feet per lineal foot, only side wall shall be used in the calculation of infiltrative surface area. The infiltrative area used to calculate the size of absorption beds or trenches for alternative systems shall not exceed the specifications established by these standards for the specific type of disposal system proposed.

(2) Projected wastewater flows. On-site sewage disposal system designs shall be determined based upon site evaluation and the determination of the projected maximum daily flow. The minimum design capacity of any on-site sewage disposal system designed by a licensed consultant serving new construction of a residential structure or project shall not be less than 450 gallons per day. Projected wastewater flow for single family dwelling units with more than three bedrooms shall be increased by 150 gallons per day for each additional bedroom. (Exception: Legal second dwelling units with a separate septic system shall have a minimum design capacity of not less than 150 gallons per day per bedroom.) For repairs or

additions to on-site sewage disposal systems for residential occupancies the sewage flow shall be based on 150 gallons per bedroom per day. For other types of occupancies, the projected sewage flow shall be based upon 150 gallons per day, or Table 4, or if not listed in Table 4, as approved by the Environmental Health Services Division, whichever is greater. For multiple residences, establishments, or occupancies in the same.

**Table 4: Projected Daily Sewage Flow**

<b>TYPE OF OCCUPANCY</b>	<b>GALLONS PER DAY</b>
Airports	5 per passenger
Campgrounds:	
Campground with central comfort station	35 per person
Campground with flush toilets, no showers	25 per person
Day Camps (no meals served)	15 per person
Summer and seasonal	50 per person
Churches (sanctuary)	5 per seat
With kitchen wastes	7 per seat
Factories	35 per person per shift
Hospitals	250 per bed space
Kitchen waste only	25 per bed
Laundry waste only	40 per bed
Hotels/Motels with private bathroom (No kitchen waste)	60 per two person room
Hotels/Motels without private bathroom (No kitchen waste)	50 per two person room
Hotels/Motels with private bathroom and kitchen	75 gallons per person
Institutions other than hospitals	125 per bed space
Movie Theaters	5 per seat
Offices	20 per employee
Picnic Parks with toilets and showers	10 per person
Picnic parks with toilet waste only	5 gallons per person
Resort Camps with limited plumbing	50 gallons per person
Restaurants: Kitchen wastes (multi use utensil)	5 per meal served
Kitchen wastes disposable utensil	3 per meal served
And add the following for type of facility present:	
Conventional sit down	10 per person
Short Order	8 per person
Bar and Cocktail	3 per person
Schools (non-boarding)	20 per student

**Table 4: Projected Daily Sewage Flow**

<b>TYPE OF OCCUPANCY</b>	<b>GALLONS PER DAY</b>
With gym and showers add	5 per student
With cafeteria using disposable utensils	3 per meal served
Self service laundries	50 gallons per wash
Service Stations	10 gallons per vehicle served
Retail Stores	20 per employee
For public restroom add	1 per 10 square feet
Swimming pools and bathhouses	10 per person
Tourist camps or mobile home parks with individual bath units	100 per person
Tourist camps or trailer parks with central bathhouse	75 per person
Work or construction camps (semi-permanent)	50 per person
Wine Tasting Facility (no meals served)	3 per person

Note: Employee use shall be added to all above occupancies at a volume of 20 gallons per day per employee establishment, the cumulative projected wastewater flow as determined by the Environmental Health Services Division shall be used.

For intermittently used on-site sewage disposal systems, the design capacity shall be based on the maximum projected daily flow during the period of use. Waste flow values that incorporate periods of non-use shall not be used in the design. Seating or occupant capacity of any establishment shall be based on the maximum occupancy permitted by the local fire marshal.

(B) The on-site sewage disposal system's disposal field shall be sized according to the infiltration rates listed in Table 5 or Table 6. The table used shall be based on the final test method utilized to determine infiltration rate.

(C) Hydrometer test and percolation rates.

If percolation tests are required, then typical and non-typical standard disposal fields may be used only if percolation test results are between 6 mpi and 60 mpi, inclusive. Typical and non-typical standard systems may be used in soils with percolation test results from 1 mpi to 5 mpi, inclusive, if groundwater is more than 20 feet below the bottom of the trench. Alternative systems shall be used if percolation test results are 61 mpi to 120 mpi, and may be required if the percolation test result is from 1 mpi to 5 mpi. On sites having sandy soils with percolation test results from 1 mpi to 5 mpi and groundwater closer than 20 feet below the bottom of the disposal field, or that have slowly permeable soils with percolation test results from 90 mpi to 120 mpi, pretreatment before discharge into the disposal field may be required.

(3) A non-typical standard leach field design may include a dosing tank to provide lift to a gravity disposal field.

(4) Nothing in this chapter shall prohibit a Registered Environmental Health Specialist, Registered Civil Engineer or Certified Engineering Geologist from designing an alternative sewage disposal system in an area that meets all the requirements of this chapter for a standard or non-typical standard system. An alternative sewage disposal system installed in an area that meets the minimum requirements for a standard or non-typical standard system does not require an annual operation permit.

(Ord. No. 1609, §18; Ord. No. 1655, §24, §25, §26, §27, §28, §29)

**Sec. 6.4-87.1. Disposal field: minimum effective soil depth by system type**

Disposal fields shall be placed above the minimum effective soil depth as described in the following table:

<b>System Type</b>	<b>Minimum Effective Soil Depth (ft)</b>
Typical and Non-Typical Standard	5
Pressurized Disposal Field without pretreatment	3
Pressurized Disposal Field with pretreatment	2

(Ord. No. 1655, §30)

**Sec. 6.4-87.2. Disposal field infiltration area requirements: sewage application rates**

The leachfield design shall be based on the average of the soil application rates at the elevation of the trench and the midpoint elevation of the effective soil depth below the leachfield. For above grade systems, the elevation of the trench for testing purposes shall be considered 1 foot below grade.

(a) The application rate at the base of the trench shall be determined by conducting a percolation test or hydrometer test as described in section 6.4-81.2.

(b) The application rate at the midpoint elevation of the effective soil depth below the leachfield shall be determined by perrometer testing, hydrometer analysis or texture by feel and structure at the registered consultant's discretion and in conformance with Table 5 or Table 6 in section 6.4-88.

(Ord. No. 1655, §31)

**Sec. 6.4-88. Disposal field: general construction practices**

(a) The disposal field shall consist of one or more leach lines consisting of drain rock, perforated pipe, and untreated building paper or filter fabric, or chamber system components that provide equivalent treatment, and appurtenant components. Unless otherwise approved by the Environmental Health Services Division, the disposal field shall be preceded by a septic tank and if required, a dosing tank. Pretreatment devices may also be required. Alternative material or methods of disposal field construction may be approved by the Environmental Health Services Division for use in alternative or experimental systems.

(b) Disposal fields shall be designed, installed, and maintained so as to maximize equal distribution of wastewater throughout the entire disposal field. The maximum difference in length between any two leach lines in a disposal field shall not exceed ten (10%) percent unless a pressure distribution disposal field is used. Standard systems with two or more leach lines shall use a distribution box secured to a base of concrete over undisturbed or compacted earth. All pipes must be secured into the distribution box with non-shrink cement grout or other approved method. The terminal ends of the perforated pipe in the leach line shall be capped. Alternative systems that use pressurized distribution of effluent shall have an interconnected system of tightline manifold laid on undisturbed soil connected to perforated pipe within the disposal field.

(c) Installation of the septic system during seasonal wet conditions shall be prohibited without the written authorization of the Environmental Health Services Division. Excavation or backfill of the septic system shall be prohibited when the soil is frozen or so wet that soil material rolled between the hands will form a soil wire.

(d) All smeared or compacted soil surfaces in the sidewalls or bottom of leach line excavation shall be scarified to the depth of smearing or compaction and the loose material removed prior to placement of drain rock.

(e) Once excavated and approved by the Environmental Health Services Division, trenches shall be evenly filled with drain rock, chamber leaching components that provide equivalent treatment, or other material approved by the Environmental Health Services Division. Drain rock used in the trenches shall be 3/4" inch to 2 1/2" inch washed river rock, gravel, or other approved hard rock. Rock and gravel that are easily decomposed are prohibited. Rock and gravel that has not been washed or that is contaminated with fine particles is prohibited. Rock and gravel shall contain no more than one percent (1%) fines, dust, sand, or clay by weight (less than one (1%) percent by weight passing the #200 sieve). The Environmental Health Services Division may require testing of the rock to verify its

cleanliness. If chamber system components are used no reduction in length of the total lineal feet required will be allowed.

**Table 5: Infiltration Rates (gallons/ft<sup>2</sup>/day) based on soil profile.**

Soil Texture Class	Single Grain	Granular	Strong: Angular, Subangular Blocky	Moderate: Angular, Subangular Blocky	Weak: Angular, Subangular Blocky	Structureless, Massive, Friable, Very Friable	Structureless, Massive, Compact, Firm, Very Firm
Sand	1.2	N/A	N/A	N/A	N/A	N/A	N/A
Loamy Sand	1.2	0.729	N/A	N/A	0.729	N/A	N/A
Sandy Loam	N/A	0.729	N/A	0.56	0.56	0.56	N/A
Sandy Clay Loam	N/A	0.487	0.487	0.417	0.417	0.417	0.0
Loam	N/A	0.487	0.487	0.417	0.35	0.35	0.0
Silt Loam	N/A	0.417	0.417	0.35	0.2	0.2	0.0
Silty Clay Loam	N/A	0.35	0.35	0.2	0.2	0.2	0.0
Clay Loam	N/A	0.35	0.35	0.2	0.2	0.2	0.0
Sandy Clay	N/A	0.35	0.35	0.2	0.2	0.2	0.0
Silty Clay	N/A	0.2	0.2	0.2	0.2	0.0	0.0
Clay	N/A	0.2	0.2	0.2	0.2	0.0	0.0

**Table 6: Infiltration rates based on percolation tests.**

Minutes/Inch	Inches/Hour	Gal/Ft <sup>2</sup> /Day		Minutes/Inch	Inches/Hour	Gal/Ft <sup>2</sup> /Day
1-3	20	1.2		47	1.3	0.437
4	15	1.143		48	1.3	0.430
5	12	1.086		49	1.2	0.423
6	10	1.029		50	1.2	0.417
7	8.6	0.971		51	1.2	0.410
8	7.5	0.914		52	1.2	0.403
9	6.7	0.857		53	1.1	0.397
10	6	0.800		54	1.1	0.390
11	5.5	0.786		55	1.1	0.383
12	5	0.771		56	1.1	0.377
13	4.6	0.757		57	1.1	0.370
14	4.3	0.743		58	1.0	0.363
15	4	0.729		59	1.0	0.357
16	3.75	0.714		60	1.0	0.350
17	3.5	0.700		61	1.0	0.345
18	3.3	0.686		62	1.0	0.340
19	3.2	0.671		63	1.0	0.335
20	3	0.657		64	0.9	0.330
21	2.9	0.643		65	0.9	0.325

**Table 6: Infiltration rates based on percolation tests.**

Minutes/Inch	Inches/Hour	Gal/Ft2/Day		Minutes/Inch	Inches/Hour	Gal/Ft2/Day
22	2.7	0.629		66	0.9	0.320
23	2.6	0.614		67	0.9	0.315
24	2.5	0.600		68	0.9	0.310
25	2.4	0.593		69	0.9	0.305
26	2.3	0.587		70	0.9	0.300
27	2.2	0.580		71	0.8	0.295
28	2.1	0.573		72	0.8	0.290
29	2.1	0.567		73	0.8	0.285
30	2.0	0.560		74	0.8	0.280
31	1.9	0.553		75	0.8	0.275
32	1.9	0.545		76	0.8	0.270
33	1.8	0.538		77	0.8	0.265
34	1.8	0.531		78	0.8	0.260
35	1.7	0.523		79	0.8	0.255
36	1.7	0.516		80	0.8	0.250
37	1.6	0.509		81	0.7	0.245
38	1.6	0.501		82	0.7	0.240
39	1.5	0.494		83	0.7	0.235
40	1.5	0.487		84	0.7	0.230
41	1.5	0.479		85	0.7	0.225
42	1.4	0.472		86	0.7	0.220
43	1.4	0.465		87	0.7	0.215
44	1.4	0.457		88	0.7	0.210
45	1.3	0.450		89	0.7	0.205
46	1.3	0.443		90-120	0.7-0.5	0.2

Where there is more than one application rate for the same inches/hour rate, the lowest application rate shall be used.

(f) Perforated pipe shall be centered in the leach line trench over the drain rock. Perforated piping shall be installed level to within a tolerance of three (3") inches per one hundred (100') feet. Leach lines shall be installed with the aid of a transit and shall follow the natural contour of the ground. The orifices in all perforated pipe shall face downward, except for pressure distribution fields in which case the orifices may face upwards provided they are protected by properly installed shielding. The terminal ends of the distribution pipe shall be capped. Drain rock and perforated pipe shall extend the entire length of the leach line.

(g) Once the installation of the gravel and pipe, or chamber system components, are approved by the Environmental Health Services Division, if

perforated pipe is used the filter material shall be placed to completely fill the absorption system to a height of two (2") inches over the top of the perforated pipes and the remainder of the absorption system shall be backfilled with excavated soil. If chambers are used, then dirt backfill shall be placed over the chamber components.

(h) Prior to backfilling, drain rock shall be covered with untreated building paper, clean straw, geo-textile fabric, or other approved, similar, porous material that will allow air movement, moisture to evaporate and prevent closure of rock voids by earth backfill.

(i) Leach line trenches shall not be constructed in a manner that allows wastewater to flow backwards from the perforated pipe or to undermine the distribution box, manifold, header pipe, septic tank, or any other portion of the septic system. Distribution boxes and tightline shall be set on compact undisturbed earth.

(j) Leach line trench cover

(1) The installer shall assume responsibility for backfilling the system. Backfill shall be carefully placed to minimize compaction and prevent damage to the system.

(2) The quality of the backfill shall be consistent in structure and texture with the topsoil already existing on the site. Backfill shall be free of any materials that could damage the system, including, but not limited to, rocks, construction materials, and wood.

(3) Leach lines of standard on-site sewage disposal systems shall be backfilled to a level that will match grade after settling of the backfill.

(k) Heavy equipment or vehicular traffic shall not be driven over the absorption system during construction or after completion of the on-site sewage disposal system. The Environmental Health Services Division may require the installation of an approved traffic barrier or fence around a disposal field and/or replacement areas to protect from vehicular traffic and large animals including, but not limited to, cows, horses, and llamas.

(l) Standard leach lines shall not branch or tee off, except for a single bend with a minimum inside angle of 135 degrees.

(m) The cross section of the transmission line and the beginning of the leach line trench shall be stepped so as to prevent seepage of effluent from trench to trench.

(n) Each leach field shall have an inspection well installed at the terminal end of at least one leach line per distribution box. The pipe shall be 4-inch diameter, perforated in the horizon of the leach line, and extend vertically from the bottom of the leach line to grade. Leaching chambers shall be provided with inspection wells at the end of each leach line. A secure, insect-proof and vermin-proof, water-tight cap shall be provided over each inspection well.

(o) For standard systems installed into sloping ground, effluent shall be distributed evenly across the slope.

(p) Dual systems connected by a diversion valve may be required for large systems or systems installed in high clay content or heavily compacted soils.

(Ord. No. 1609, §18; Ord. No. 1655, §32)

**Sec. 6.4-88.1. Disposal field: trenches**

Leachfields shall meet the construction requirements of Table 7.

**Table 7: Construction requirements for leach lines.**

	<b>Minimum</b>	<b>Maximum</b>
Leach Lines per field	1	No limit
Length of leach line		
Standard System	25 ft.	100 ft.
Alternative System	25 ft.	100 ft.
Bottom width of trench	18 inches	36 inches
Spacing of trenches <sup>1</sup>	5 ft.	No maximum
Earth cover over rock or chamber	12 inches	18 inches
Grade of trench and piping	Level	3 inches/100 feet
Depth of gravel under pipe	18 inches <sup>2</sup>	42 inches <sup>3</sup>
Depth of gravel over pipe	2 inches	3 inches

1. Plus an additional one (1') foot for each six (6") inches of depth, or portion thereof, of leach line beyond eighteen (18") inches.

2. May be reduced for some types of alternative systems

3. Maximum depth of trench is five (5') feet below grade.

(Ord. No. 1609, §18)

**Sec. 6.4-89. Alternative systems - general specifications**

(a) An alternative system may be approved as specified in this section by the Environmental Health Services Division provided it complies with this Chapter. All

alternative systems associated with subdivision of land, new construction, including additions and remodels, repairs to on-site sewage disposal systems on lots created after the effective date of these standards, and for any repair using pretreatment devices, shall be subject to a program of monitoring and oversight as required by the Environmental Health Services Division.

(b) Alternative systems that may be proposed for existing lots and subdivision of land in Solano County are listed below.

(1) Pressure Distribution (PD) systems.

These below ground systems allow wastewater disposal on sites with shallow or slowly permeable soil over impermeable soil, fractured rock or bedrock, or sites with high groundwater on slopes up to twenty five (25%) percent. Required minimum separation for Pressure Distribution systems to a limiting condition is thirty-six (36") inches below the trench bottom, unless an approved pretreatment device is provided, then it may be reduced to twenty-four (24") inches. The design shall comply with these standards. See section 6.4-89.1(a) for specific details on Pressure Distribution system design.

(2) At-Grade systems. These above ground systems allow wastewater disposal on sites with shallow or slowly permeable soil over impermeable soil, fractured rock or bedrock, high groundwater, or other limiting condition within three (3') feet of the ground surface and on slopes up to twenty-five (25%) percent. Pretreatment of effluent may be required prior to disposal. If pretreatment is used, twenty-four (24") inches of native soil is required above a limiting condition. The design shall comply with these standards. See section 6.4-89.1(b) for specific details on At-Grade system design.

(3) Mound systems. These above ground systems allow wastewater disposal on sites with shallow or slowly permeable soil over impermeable soil, fractured rock or bedrock, high groundwater, or other limiting condition within two (2') feet of the ground surface and on slopes up to 12 1/2 percent. The mound design and minimum area requirements shall comply with these standards. See section 6.4-89.1(c) for specific details on Mound design.

(4) Sand Filtration systems. Are appropriate on lots and commercial operations where additional treatment is necessary to reduce waste strength. Pressure Distribution trenches and At-Grade systems receiving effluent from a sand filter must be located at least two (2') feet above groundwater or other limiting conditions. The design shall comply with these standards. See section 6.4-89.1(d) for specific details on Sand Filter system design.

(5) Aerobic treatment units (ATU) or synthetic filter media units. These are proprietary devices that treat the sewage effluent prior to disposal. They are used instead of sand filters. Pressure Distribution trenches and At-Grade systems

receiving effluent from these devices must be located at least two (2') feet above groundwater or other limiting conditions. ATU's must comply with section 6.4-89.1(e). Construction inspection requirements for synthetic filter media units shall be those described for ATU's in section 6.4-89.1(e). In addition the use of aerobic treatment units or synthetic filter media units may only be approved under the following conditions:

(A) There exists adequate area meeting all setbacks on the lot for installation of an appropriately sized intermittent sand filter, and

(B) Documentation acceptable to the Environmental Health Services Division is provided to demonstrate the unit will provide effluent quality equal to, or better than that produced by an intermittent sand filter, and

(C) The Environmental Health Services Division may require installation of an intermittent sand filter should performance monitoring of the unit after installation indicate it is not providing the required effluent quality.

(D) The owner may be required to maintain a maintenance agreement with the proprietor, the proprietor's distributor, or other contractor knowledgeable in the repair and maintenance of the unit.

(6) Any alternative system that is approved and under permit from the Regional Water Quality Control Board having jurisdiction and where the Regional Water Quality Control Board has approved the system's use in a subdivision.

(c) Alternative On-site sewage disposal systems approved for use only on existing lots are:

(1) Alternative systems approved by the Regional Water Quality Control Boards in Region 2 or Region 5, whichever is appropriate.

(2) Experimental systems under the following criteria:

(A) Repair of existing, failing on-site sewage disposal systems, or

(B) As an additional pretreatment device in conjunction with another non-experimental alternative system utilizing pretreatment, or

(C) As a pretreatment device in conjunction with an alternative system or conventional system not requiring pretreatment by these standards, or

(D) On lots where 200% replacement area exists, provided that a conventional system or non-experimental alternative system can be installed into the replacement area, and

(E) Documentation is provided and acceptable to the Environmental Health Services Division that demonstrates the experimental system will function to mitigate the existing site constraints.

(3) Constructed wetlands. These are an experimental system and may be used only after all other options for correction of sewage system failure on existing developed lots have been exhausted. Wetlands are generally not suitable for new construction.

(d) Vaulting systems and holding tanks: Sealed vaults, including portable toilets, may be used only in the following circumstances:

(1) Temporary work sites, such as construction sites, special events, agriculture operations.

(2) Campgrounds, rest stops, fishing piers, or similar facilities that are remote or where the site is not suitable for an on-site sewage disposal system and where the facility is operated and maintained by a government agency.

(3) Existing residential or commercial operations where a severe sewage disposal failure has occurred and there is no feasible alternative for repair.

(4) Intermittently used non-residential, non-commercial structures such as duck clubs in the primary area of the Suisun Marsh where site evaluation demonstrates conditions that prohibit the installation of an on-site sewage disposal system and where the operators have installed appropriate high-level alarms and have shown evidence of a maintenance contract with a licensed septage pumper.

(e) Unacceptable designs: The following are systems that are not acceptable in Solano County:

(1) Evapotranspiration systems: any system that depends, as part of the design calculation, on evaporation or transpiration for proper performance. Exception: these systems may be allowed if the effluent quality meets public health standards as prescribed by the California Department of Health Services and Regional Water Quality Control Board for reuse provided the system is designed by an individual listed in subdivision (f) below and storage of sufficient size is provided to account for wet weather periods.

(2) Leach pits: below ground soil infiltration systems with width greater than three (3') feet or depth greater than five (5') feet.

(3) Cesspools.

(4) Composting toilets.

(5) Incineration systems.

(f) Designs for alternative on-site sewage disposal systems must be prepared by a California Registered Civil Engineer, Certified Engineering Geological or California Registered Environmental Health Specialist. Designs for alternative systems shall include such technical data as necessary to support and demonstrate that the system will function as designed, will not adversely affect surface or groundwater quality, and will not create a potential health hazard. Designs proposed for any use other than repair of a failing or failed system must have demonstrated satisfactory performance in soil conditions similar to those encountered in the proposed application.

(g) In areas with elevated nitrate levels in the soil and groundwater, the Environmental Health Services Division may require systems in soils having percolation rates from 1-5 minutes per inch and having groundwater within twenty (20') feet of the trench bottom to utilize enhanced treatment devices that effectively reduce nitrogen in the effluent prior to discharge to the underlying soil. In such cases, the Environmental Health Services Division shall determine the amount of nitrogen removal required to protect ground water from significant increase in nitrate load.

(h) Conditions for approval to construct and operate an alternative on-site sewage disposal system shall include, but not be limited to, the following:

(1) When required, the property owner shall obtain an operation permit, and maintain it valid, including paying any required fee and complying with any required conditions of the operation permit;

(2) The property owner or his/her contractor or consultant must monitor the performance of the alternative system as required by the Environmental Health Services Division;

(3) The property owner shall allow Solano County Environmental Health Services personnel and its agents entry onto the real property for purposes of inspection, sampling, testing and monitoring of the alternative system upon reasonable notice;

(4) The property owner shall maintain the system in conformance with the approved plans and permits, and any requirements of the operating permit;

(5) The property owner, in the event of failure or inadequate performance of the alternative system, shall repair the system and/or cease the discharge of sewage, if necessary;

(6) The property owner shall give a copy of the operation permit and all conditions thereto to any subsequent purchaser or tenant, and shall notify a

purchaser of the need to renew the operating permit within 60 days of the date of transfer of the property;

(7) Any other provisions as necessary to protect public health and the environment.

(i) Construction of the alternative system must be inspected during installation by the design consultant and the Environmental Health Services Division for its conformance with the design. The Environmental Health Services Division prior to final approval of the installation shall require written certification from the design consultant that the system has been constructed in conformance with the design and that it is functioning properly.

(j) All persons required to hold an operation permit shall provide to the Environmental Health Services Division an evaluation of each alternative septic system under their control at least once every calendar year. The evaluation shall include an on-site inspection, results of sampling, and monitoring and maintenance records. The Environmental Health Services Division may also perform evaluation inspections to determine the performance or operation of alternative systems.

(k) The application rates used in alternative soil absorption systems shall not exceed those listed in Table 5 or Table 6 depending upon the test method required, unless specifically authorized in writing by the Environmental Health Services Division. Where soil evaluation procedures indicate different acceptable design standards, the more conservative standard or measure shall be used.

(l) Performance Standards for Alternative systems

(1) Performance wells

(A) Performance wells shall be provided to verify performance of alternative systems. A concrete annular seal of twelve (12") inches deep between the earthen sidewall and solid portion of the pipe is required for all performance wells. Performance wells shall be protected and encased within plastic, concrete, or other approved type box to provide easy access. The soil shall be scarified to remove compaction or smeared soil that may seal the performance well. Performance wells shall be constructed to a depth that will allow verification that the system is functioning properly and not contaminating groundwater. Performance wells shall be placed up gradient, within, laterally, and down gradient from alternative systems.

(B) Performance wells may be sampled for coliform bacteria, fecal bacteria, nitrate, or other chemical or physical constituents that act as indicators of sewage contamination.

(2) Sample Results

(A) An alternative system with sample results exceeding 240,000/100 ml most probable number (MPN) total coliform bacteria and/or 2.2 MPN fecal coliform from purged wells located twenty five (25') feet or further down gradient shall be deemed to be in a state of failure. Exception: if the up gradient performance wells have similar contamination levels as down gradient wells, then the contamination shall be deemed to be background in the area.

(B) An alternative system with sample results exceeding 3,000/100 ml MPN but less than 240,000/100 ml MPN total coliform bacteria and/or less than 2.2 MPN fecal coliform from purged wells located twenty five (25') feet or further down gradient shall be deemed to be in a state of marginal operation. Exception: if the up gradient performance wells have similar contamination levels as down gradient wells, then the contamination shall be deemed to be background in the area.

(Ord. No. 1609, §18; Ord. No. 1655, §33, §34, §35)

**Sec. 6.4-89.1. Alternative systems - specific design parameters**

(a) Pressure Distribution Systems

(1) Unless otherwise approved by the Environmental Health Services Division, the components of a Pressure Distribution system are a septic tank, dosing tank, pump with associated controls, and small diameter piping with small diameter perforations laid in gravel or inside chamber components. The system distributes septic tank effluent uniformly throughout the disposal field under pressure through intermittent, small volume, doses. A timer may also be used to discharge the effluent to the disposal field evenly throughout the day instead of in surges.

(2) Pressure Distribution systems can be utilized alone or after a pretreatment device if site conditions warrant.

(3) Pressure Distribution Site Criteria

(A) Pressure Distribution system can be placed in all soil types with percolation rates ranging from 1 to 120 mpi. Pretreatment may be required in some soil types.

(B) The minimum effective soil depth under the bottom of the trench shall be thirty six (36") inches unless an approved pretreatment device is utilized, in which case it may be reduced to twenty four (24") inches.

(C) To maximize evapotranspiration, Pressure Distribution systems may not be installed below non-permeable type soils such as high shrink swell clays, highly compacted soils, and/or massive or platy soil structures.

(4) Pressure Distribution Design Requirements

- (A) The depth of the trench shall be between 12" and 60"
- (B) Spacing of the distribution lines shall be based upon slope and depth of the system. Minimum trench spacing shall be five (5') feet edge-to-edge on slopes of 20% or less. Greater spacing may be required for steeper slopes.
- (C) Distribution trenches shall follow the natural contours of the ground. The bottom of the trench shall remain level within a tolerance of three (3") inches per one hundred (100') feet. Trenches shall be angled or curved to stay on contour. The distribution field shall not be placed on concave landforms.
- (D) Distribution Piping
- (i) Pressurized perforated distribution pipe shall be PVC schedule 40 type pipe of at least 3/4" diameter laid within rock or inside chamber components. The maximum distance between perforations shall be 36". The first and last perforation must start half of the distance used between orifices from the beginning and end of the perforated distribution line. The orifice hole diameter shall not be less than 1/8" if sixty inches of lift is provided, or less than 3/16" diameter if twenty-four to forty-eight inches of lift is provided. If sixty inches of lift is proposed, then the orifices must be pointed upwards and protected by an orifice shield. If chamber components are used, the pressure distribution line shall be suspended from the top with the orifices facing up. Orifice shields do not need to be utilized within chambers. The end of the perforated distribution line shall have a sweep. A purge valve and method to conduct a squirt test once backfield shall be provided at the end of each distribution line.
- (ii) Pressurized distribution manifold shall be 1 1/4" to 3" diameter PVC schedule 40 or better. Balancing valves shall be provided to each perforated distribution line.
- (iii) The maximum length of run for pressurized perforated distribution piping shall be 100 feet.
- (iv) There shall be a minimum three (3') feet separation from the transmission line to the beginning of the aggregate portion of the trench. The cross section of the transmission line and the beginning of the distribution line shall be stepped so as to prevent seepage of effluent from trench to trench.
- (5) Balancing Valves and Purge Valves
- (A) The system shall have a balancing valve at the beginning of each distribution line and a purge valve at the end.
- (B) All balancing and purge valves shall be encased in plastic or concrete boxes that extend to grade and have a secure cover. The boxes shall be 10 inches

across or larger, round or square, and be of adequate size to allow for maintenance and installation of a standpipe on the end of the purge valve.

- (C) Balancing valves shall be schedule 40, or higher, gate or ball valves.
  - (D) Purge valves shall be schedule 40, or higher, gate or ball valves. They must have, or be capable of having placed, a removable fitting that will allow a squirt test to be conducted.
- (6) Designers shall calculate the total dynamic head loss as feet of elevation of the entire distribution system. The calculation shall include:
- (A) Vertical Differences
  - (B) Length of the entire piping
  - (C) Head loss of all valves, tees, elbows, and appurtenances
  - (D) Hydraulic orifice discharge
- (7) Dose Volume:

Small, frequent doses not exceeding 10% of the projected daily flow being discharged from the orifices used per dose after charging the manifold and laterals is recommended. A timer may be utilized to meet this. The maximum dose volume allowed shall not exceed 20% of the maximum potential daily flow being discharged from the orifices during the dose cycle after charging the manifold and laterals. Devices that will utilize the disposal trenches of a field in an alternating series may be approved to achieve low flow volumes while disposing of the required daily volume, provided that the application rate per day is not exceeded in any one location.

(8) Soil cover shall be the same in structure and texture as the topsoil already existing at the site, except if clay then the soil cover shall be loam. A minimum depth of cover of 12" is required over the gravel.

(9) Shallow In Ground systems are Pressure Distribution systems where the drain rock extends close, or all the way, to grade, and the backfill cover is mounded above ground to provide at least 12" of soil cover over the leach field. Shallow In Ground systems may be approved in the following conditions:

(A) Percolation rate of 1-120 mpi on slopes 20% or less, or from 1-90 mpi on slopes from 21% to 25%. Pretreatment is required on sites with percolation rates from 90 to 120 mpi, inclusive, and for installation on slopes from 21% to 25%, and may be required for sites with percolation rates from 1 to 5 mpi depending upon depth to groundwater.

(B) Shallow In Ground systems shall have a minimum effective soil depth of twenty-four (24") inches below the bottom of the trench with the use of a pretreatment, or thirty-six (36") inches if no pretreatment is provided.

(C) Minimum 8 feet on center for 0-12 1/2% slope, 12 feet on center for 12 1/2% to 20% slope, inclusive.

(10) Performance wells

(A) A minimum of six performance wells shall be installed within and around the system. One or more performance wells shall be installed between the trenches in the middle of the leach field. Two performance wells shall be installed twenty-five feet down slope of the lowest trench line. One or more performance well shall be installed ten (10') feet up slope of the highest trench. The Environmental Health Services Division may require additional performance wells or different locations than specified.

(B) Performance well construction shall be in conformance with section 6.4-89(l)(1).

(11) Construction Requirements for Pressure Distribution Systems

(A) Construction shall only occur if soil moisture conditions will allow installation of the system without compaction or smearing of the soil, and weather conditions during the construction process will not cause unsuitable soil moisture conditions.

(B) Construction staking or marking of all components of the system shall occur prior to commencement of construction so that configuration, location, and system details may be verified.

(C) Placement of the transmission line from the dosing tank to the first manifold shall be a minimum of twenty-four inches below ground.

(D) Trenches shall be constructed with strict attention to proper depth and contour.

(E) Side wall and bottom of trenches shall be scarified to remove all smearing.

(F) Distribution to and through all laterals shall be balanced so all laterals and orifices receive an equal volume. The difference in head between any two lines, and the beginning and end orifice of the same line shall not exceed ten percent.

(G) For shallow systems a track vehicle may be required.

(H) The following meetings and inspection shall be required prior to commencing construction or covering any portion of the system. All meetings and inspections shall be scheduled with the Solano County Environmental Health Services Division at least 48 hours in advance and shall occur during normal business hours:

(i) Pre-construction meeting

Verification that the soil moisture is acceptable and that long term weather conditions will allow installation of the system. Verification that the construction stakes or marks are set to properly delineate all components of the system per approved plans.

(ii) General Construction Inspections

(aa) Function and settings of any control devices including but not limited to, floats, timers, counters, alarms, valves, and switches.

(bb) Open trench inspections.

(cc) Hydraulic testing (squirt test) of any pump and distribution system to ensure that the pump is adequate for design flows and delivers effluent equally to all orifices.

(dd) Depth and placement of gravel and lines in trench.

(ee) All the remaining elements for completion of the system shall be on site at time of the general construction inspection for verification of conformance with the plans and specifications.

(ff) Water tightness of septic tank and dosing tank.

(iii) Final Inspection

(aa) All construction elements are in general conformance with the approved plans and specifications. All performance wells are installed and erosion control has been completed.

(bb) A letter from the designer that the Pressure Distribution system has been installed and is operating in conformance with the design specifications shall be provided.

(b) At-Grade System

(1) At-Grade Site Criteria

(A) At-Grade systems shall not be installed in concave landscape formations, areas of seasonal saturation such as flood plains, vernal pools, drainage areas, areas that have been filled to artificially raise the separation to ground water or other limiting condition, cut or filled sites, or hummocky terrain.

(B) Areas proposed for the At-Grade system shall be undisturbed. Placement of the At-Grade system into areas where removal of large trees, boulders, or rock outcroppings is required is not permitted.

(C) The minimum effective soil depth below the At-Grade system is thirty-six (36") inches except if an approved pretreatment device is provided it may be reduced to twenty-four (24") inches.

(D) On sloping terrain, a minimum thirty six (36") inches effective soil depth shall extend a horizontal distance of at least twenty five (25') feet down gradient from the down slope edge of the proposed perimeter of the gravel bed. If an approved pretreatment device is used, the soil depth may be reduced to twenty-four (24") inches extending a horizontal distance of twenty-five (25') feet down slope from the edge of the gravel. On flat terrain the required effective soil depth shall be required on all sides and ends of the At-Grade system for a horizontal distance of twenty-five (25') feet.

(E) The slope in the area of the At-Grade system shall not exceed the following:

- (i) Twenty-five (25%) percent for percolation rates ranging from 1 to 60 mpi.
- (ii) Six (6%) percent for percolation rates from 61 to 89 mpi.
- (iii) Twenty (20%) percent for percolation rates ranging from 61 to 120 mpi if approved pretreatment device is used before distribution into the At-Grade system.

(F) The percolation rate of the soil thirty six (36") inches and less below the At-Grade system shall be from 1 to 120 mpi, except if an approved pretreatment device is provided the required soil depth with these percolation rates can be reduced to twenty four (24") inches.

(G) In addition to the other setbacks required by these standards, At-Grade Systems shall also comply with the following setbacks (as measured from the toe of the soil cover):

- (i) Buildings and Structures
 

Up gradient and laterally	10 feet
Down gradient	25 feet
- (ii) Property Lines or Underground Utility Easements

	Up gradient and Laterally	10 feet
	Down gradient	25 feet
(iii)	Areas of Geologic Instability	100 feet

(2) At-Grade Design Requirements

(A) Unless otherwise approved by the Environmental Health Services Division, At-Grade systems shall consist of at least a septic tank discharging to a dosing tank, which then pumps the sewage effluent under pressure through one or more pressure distribution laterals installed within a gravel bed placed upon the ground surface. The gravel bed is then covered with filter fabric and soil.

(B) Pretreatment of effluent before disposal into an At-Grade system is required for soils with percolation rates ranging from 90 mpi to 120 mpi, or on slopes greater than 6% with a percolation rate between 61 mpi and 120 mpi, inclusive, or for some types of commercial operations that generate high wastewater strengths.

(C) The gravel bed and soil cover shall follow natural contour of the ground. The bed must be installed within a tolerance of three (3") inches vertically per one hundred (100') feet horizontally. Only single gravel beds are acceptable.

(D) The maximum width of any gravel bed is ten feet. However, every effort shall be made to make the gravel bed long and narrow for best performance of the At-Grade system.

(E) The dimension of the gravel bed shall be determined using the linear loading rates in Figure 2.

(i) When depth to a limiting condition is only twenty-four (24") inches, the linear loading rate shall not exceed four (4 gal/ft/day) gallons per lineal foot per day. Exception: if it can be demonstrated that wastewater flow will be vertical, as well as horizontal, a higher loading rate based on figure 2 can be proposed.

(ii) Emphasis shall be placed on making the gravel bed long and narrow.

(F) The depth of the gravel bed shall be nine (9") inches total depth (six (6") inches below the laterals) for residential systems and twelve (12") inches total depth (nine (9") inches below the laterals) for commercial systems.

(G) The gravel bed configuration shall extend a minimum of twenty-four (24") inches from the edge of the pressure dosed laterals on all sides. On slopes greater than two (2%) percent, this distance may be reduced to twelve (12") inches on the uphill side.

(H) Drain rock used shall be double washed to reduce fines and range in size from 3/8" to 2" inches in diameter. The outer layer of the gravel bed shall be covered with Mirafi 140N geotextile fabric or equivalent.

(I) Soil Cover

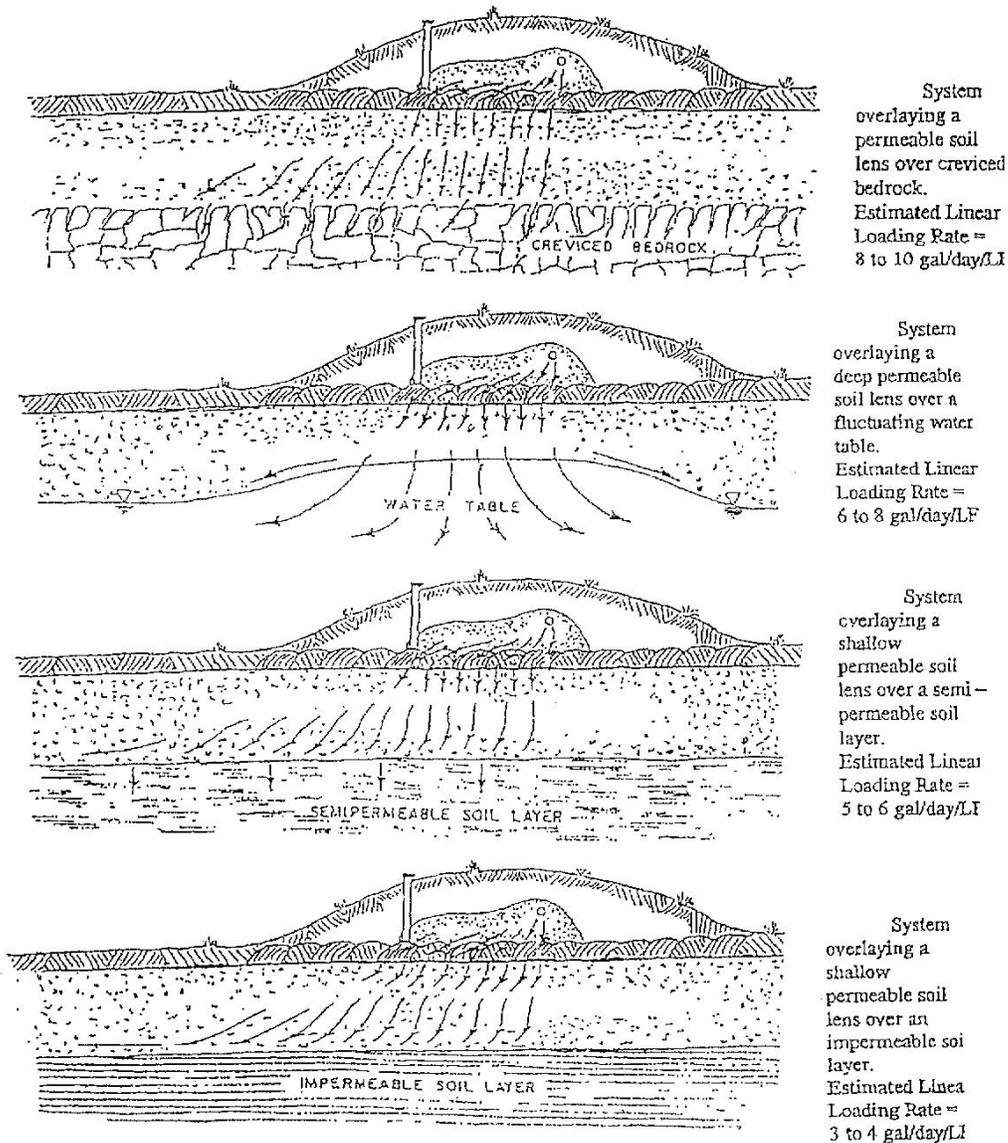
(i) Texture and structure of the soil cover shall be equal to or better than the soil existing at the site. Use of manufactured soil or high clay content soils that do not allow gas exchange to occur is prohibited.

(ii) A minimum depth of cover of twelve (12") inches, mounded to eighteen (18") inches directly over the center is required over the gravel.

(iii) Soil cover shall extend a minimum of four feet uphill and on both sides of the system. Soil cover on the downhill toe shall extend a minimum width of:

4 feet -	0-2% slope
6 feet -	>2-4% slope
8 feet -	>4-6% slope
10 feet	>6-8% slope
16 feet	>12.5-16% slope
20 feet	>16% - 20% slope

**Figure 2: Linear Loading Rates for an At-Grade System.**



(J) Distribution Piping System

- (1) The distribution piping shall comply with the requirements listed in Section 6.4-89.1(a)(4)(d) for Pressure Distribution piping.
- (2) The pressure dosed laterals must be placed at the upper edge of the gravel beds on sloping sites, and equidistant throughout the gravel on level sites.

(3) Spacing of the perforated pressurized lines shall be based on the width of the gravel bed. The minimum number of pressurized lines based on the width of the gravel bed is as listed below:

(A) On slopes 1% or less:

<b>WIDTH OF BED</b>	<b>NUMBER OF LINES</b>
3' - 4'	1
>4' - 6'	2
>6' - 8'	3
>8' - 10'	4

(B) On slopes greater than 1%:

<b>WIDTH OF BED</b>	<b>NUMBER OF LINES</b>
3' - 5'	1
>5' - 10'	2

The manifold may feed the lines either at one end or in the center.

(K) Dose Quantities

Small, frequent doses not exceeding 10% of the projected daily flow being discharged from the orifices used per dose after charging the manifold and laterals is recommended. A timer may be utilized to meet this. The maximum dose volume allowed shall not exceed 20% of the potential daily flow being discharged from the orifices during the dose cycle after charging the manifold and laterals. Devices that will utilize the disposal trenches of a field in an alternating series may be approved to achieve low flow volumes while disposing of the required daily volume, provided that the application rate per day is not exceeded in any one location.

(3) Sizing the At-Grade system.

(A) Effective absorption area required shall equal the maximum projected sewage flow from the building divided by the infiltration rate of the soil.

(B) Width of the gravel bed shall be determined by dividing the Linear Loading Rate by the soil infiltration rate, but shall not exceed ten (10') feet.

(C) The length of the gravel bed shall be determined by dividing the projected sewage flow by the Linear Loading Rate.

(D) Effective width and length are those dimensions of the gravel bed located down slope from the distribution pipe. Gravel placed uphill from the distribution pipe

shall not be included in the required dimension. The area provided by the effective width and length shall be equal to or exceed the effective absorption area required. If the area provided does not equal or exceed the effective absorption area required, then the length of the At-Grade system shall be adjusted until the required effective absorption area is obtained or exceeded.

(4) Construction requirements for At-Grade systems

(A) The use of wheeled vehicles is prohibited for the purposes of ripping or chisel plowing, driving on areas that have been ripped or chisel plowed, moving the soil cover, or anytime the soil conditions are wet, moist, or saturated.

(B) Surface vegetation shall be mowed to native ground and the clippings removed.

(C) Construction staking or marking shall be provided of all components of the system prior to construction. The Environmental Health Services Division shall conduct a verification inspection of the construction staking or marking to confirm that the system will be constructed as designed.

(D) The soil surface shall be ripped or chisel plowed to a depth of eight (8") inches to ten (10") inches, with rippers set eight (8") inches to ten (10") inches apart. Initial ripping shall be performed in a path parallel to the contours of the land and only within the limits of the gravel bed. The interface of the native soil and the At-Grade soil shall be ripped after the gravel has been placed and just prior to At-Grade soil cover placement.

(E) No traffic is permitted on any ripped surface until after the gravel or soil cover has been placed.

(F) Temporary form boards required for the placement of material shall be removed prior to placement of the cover.

(G) Distribution to and through all laterals shall be balanced so all laterals and orifices receive an equal volume. The difference in head between any two lines, and the beginning and end orifice of the same line shall not exceed ten percent.

(H) Finished grade of the At-Grade system shall be established by track rolling and grooming by hand. Soil cover shall be conditioned with sufficient moisture to allow track rolling to a firm cohesive surface. All drainage work and erosion control shall be completed prior to final construction inspection. The soil cover shall be landscaped or seeded.

(I) The following minimum inspections prior to commencing construction or covering any elements of the system shall be required. Joint inspection by the designer, contractor, and Environmental Health Services Division may be required.

All meetings and inspections shall be scheduled with the Solano County Environmental Health Services Division at least 48 hours in advance and shall occur during normal business hours:

- (i) Pre-construction inspection where the following items shall be verified:
  - (aa) Imminent weather conditions are such that they will not create unsuitable soil conditions during construction.
  - (bb) Soil moisture in the area of the proposed At-Grade system is not so high as to cause smearing or compaction as a result of construction activities.
  - (cc) Layout and staking or marking of all components of the At-Grade system.
  - (dd) The source of soil fill material shall be designated and a sample made available.
- (ii) Ripping of the soil.
- (iii) Gravel placement and Hydraulic Test:
  - (aa) Function and setting of all control devices.
  - (bb) Squirt test of system.
  - (cc) Depth and location of gravel.
  - (dd) Water tightness of septic tank and dosing tank.
- (iv) Final Inspection:
  - (aa) Depth and texture of final soil cover over the At-Grade system is verified. All construction elements are in general conformance with the approved plans and specifications. All performance wells are installed and erosion control has been completed.
  - (bb) A letter from the designer that the At-Grade system has been installed and is operating in conformance with the design specifications must be provided.
- (5) Performance wells
  - (A) Performance well construction shall be in conformance with section 6.4-89(l)(1).
  - (B) A minimum of six (6) performance wells shall be installed. Two (2) performance wells shall be installed at the center of the gravel bed during

construction. Two (2) performance wells shall be placed twenty-five (25') feet down gradient from the gravel bed, and two (2) performance wells shall be placed ten (10') feet up gradient from the gravel bed.

(c) Mound Systems

(1) Mound Siting Criteria

(A) A Mound systems shall not be installed in concave landscape formations, areas of seasonal saturation such as flood plains, vernal pools, drainage areas, areas that have been filled to artificially raise the separation to ground water or other limiting condition, cut or filled sites, or hummocky terrain.

(B) Areas proposed for the Mound system shall be undisturbed. Placement of Mound Systems into areas where removal of large trees, boulders, or rock outcroppings is required is not permitted.

(C) The minimum effective soil depth below the Mound System is twenty four (24") inches. A minimum twenty four (24") inches effective soil depth shall also extend a horizontal distance of at least twenty five (25') feet down gradient from the down slope edge of the proposed perimeter of the sand bed on sites with sloping terrain. On sites with flat terrain the required effective soil depth shall extend for twenty five (25') feet beyond the sand basal area on all sides and ends of the mound. Increasing the sand depth of a mound system beyond one (1') foot does not allow a decrease in the minimum effective soil depth below the mound system.

(D) The slope in the area of the mound system shall not exceed twelve and one-half (12 1/2 %) percent.

(E) The percolation rate of the soil twenty four (24") inches or less below the mound system shall be from 1 to 120 mpi.

(F) In addition to the other setbacks required by these standards, Mound Systems shall also comply with the following setbacks:

- |       |   |          |
|-------|---|----------|
| (i)   | Buildings and Structures                        |          |
|       | Up gradient and laterally                       | 10 feet  |
|       | Down gradient                                   | 25 feet  |
| (ii)  | Property Lines or Underground Utility Easements |          |
|       | Up gradient and laterally                       | 10 feet  |
|       | Down gradient                                   | 25 feet  |
| (iii) | Areas of Geologic Instability                   | 100 feet |

(2) Mound Design Requirements

(A) Unless otherwise approved by the Environmental Health Services Division, a Mound system shall consist of at least a septic tank discharging to a dosing tank, which then pumps the sewage effluent under pressure through one or more pressure distribution laterals installed within the gravel of a distribution bed placed upon the ground surface. Exception: The Environmental Health Services Division may waive the requirement for a mound system utilizing an aerobic treatment unit to include a septic tank as a separate treatment process if so recommended or required by the manufacturer of the aerobic treatment unit or registered consultant. The mound shall be covered with soil.

(B) For commercial systems the wastewater quality in terms of BOD, soluble BOD, suspended solids, grease and oils, temperature, and volatile suspended solids shall be given. If the strength of the wastewater exceeds 5 day BOD mean value of 185 ppm and Total Suspended Solids mean value of 75 TSS, then pretreatment of the wastewater prior to disposal in the Mound System is required.

(C) Distribution Bed

(i) The distribution bed shall consist of a gravel bed placed upon a portion of a sand bed. The required area of the sand bed is known as the sand basal area.

(ii) Distribution beds shall follow natural contour of the ground. The distribution bed must be installed within a tolerance of three (3") inches vertically per one hundred (100') feet horizontally.

(iii) Only single distribution beds are acceptable.

(iv) Gravel Bed

(aa) The maximum width of any gravel bed is ten feet. However, every effort shall be made to make the gravel bed long and narrow for best performance of the Mound system.

(bb) The width dimension of the gravel bed shall be determined using the linear loading rates in Figure 3. When depth to a limiting condition is only twenty-four (24") inches, the linear loading rate shall not exceed four (4 gal/ft/day) gallons per lineal foot per day. Exception: If it can be demonstrated that wastewater flow will be vertical, as well as horizontal, a higher loading rate based on Figure 3 can be proposed.

(cc) The depth of the gravel bed shall be nine (9") inches total depth (six (6") inches below the laterals) for residential systems and twelve (12") inches total depth (nine (9") inches below the laterals) for commercial systems.

(dd) Drain rock used shall be double washed to reduce fines and range in size from 3/8 to 2 inches in diameter. The outer layer of the gravel bed shall be covered with Mirafi 140N geotextile fabric or equivalent. The infiltration rate of effluent onto the gravel shall not exceed the following:

- (1) Residential Systems: 1.2 gallons/square foot/day
- (2) Commercial Systems: 1.0 gallons/square foot/day

Lower values are encouraged.

(v) Sand Basal Area

(aa) Sand basal area is based upon the average percolation rate, soil morphological conditions, and projected daily sewage flow.

(bb) The sand fill shall be level and extend a minimum of twenty-four (24") inches horizontally level beyond the edge of the gravel bed on all sides, and then uniformly slope as determined by the mound dimensions. On slopes greater than two (2%) percent, the twenty-four (24") inch dimension may be reduced to twelve (12") inches on the uphill side of the distribution bed.

(cc) On slopes greater than one (1%) percent, the sand basal area uphill and beyond the longitudinal ends from the gravel bed shall not be included in the calculations for the required absorption area.

(dd) Sand shall comply with the specifications in figure 4, or as otherwise approved by the Environmental Health Services Division.

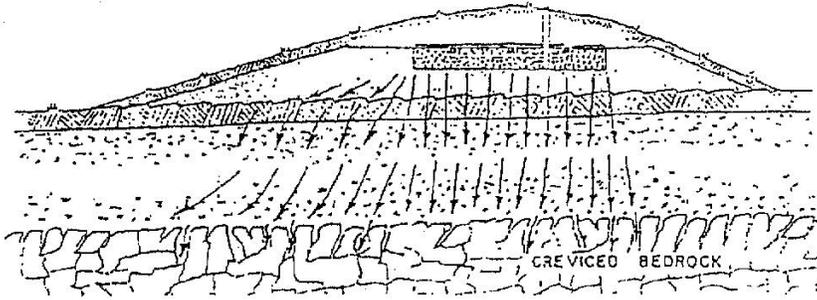
(vi) Distribution Piping System

The distribution piping shall comply with the requirements listed in Section 6.4-89.1(a)(4)(d) for Pressure Distribution piping.

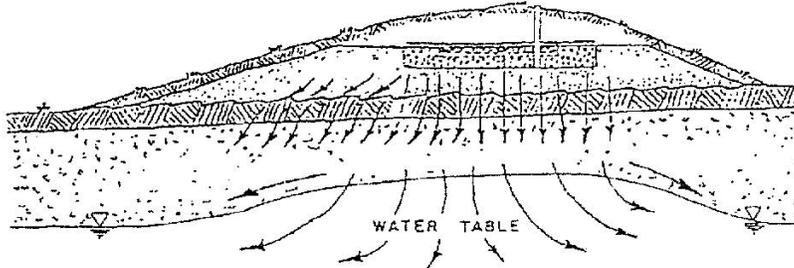
Spacing of the perforated pressurized lines shall be based on the width of the gravel bed. The minimum number of pressurized lines based on the width of the gravel bed are as listed below:

<b>WIDTH OF BED</b>	<b>NUMBER OF LINES</b>
3' - 4'	1
>4' - 6'	2
>6' - 8'	3
>8' -10'	4

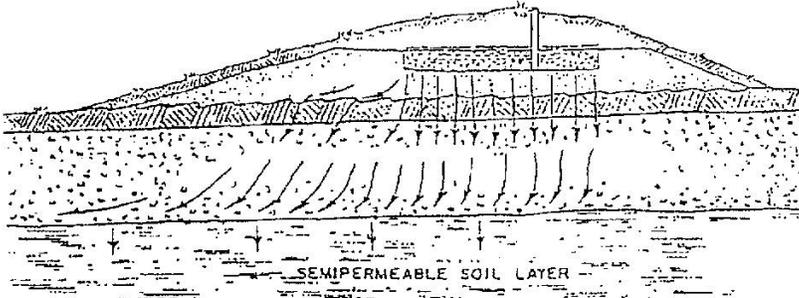
**Figure 3: Linear Loading Rates for Mound Systems**



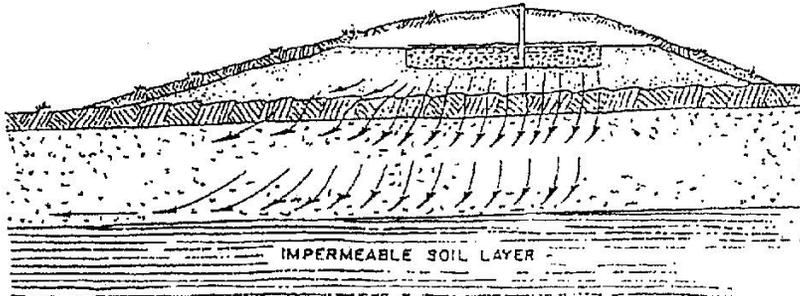
Mound System overlaying a permeable soil lens over creviced bedrock.  
Estimated Linear Loading Rate = 8 to 10 gal/day/LF



Mound System overlaying a deep permeable soil lens over a fluctuating water table.  
Estimated Linear Loading Rate = 6 to 8 gal/day/LF

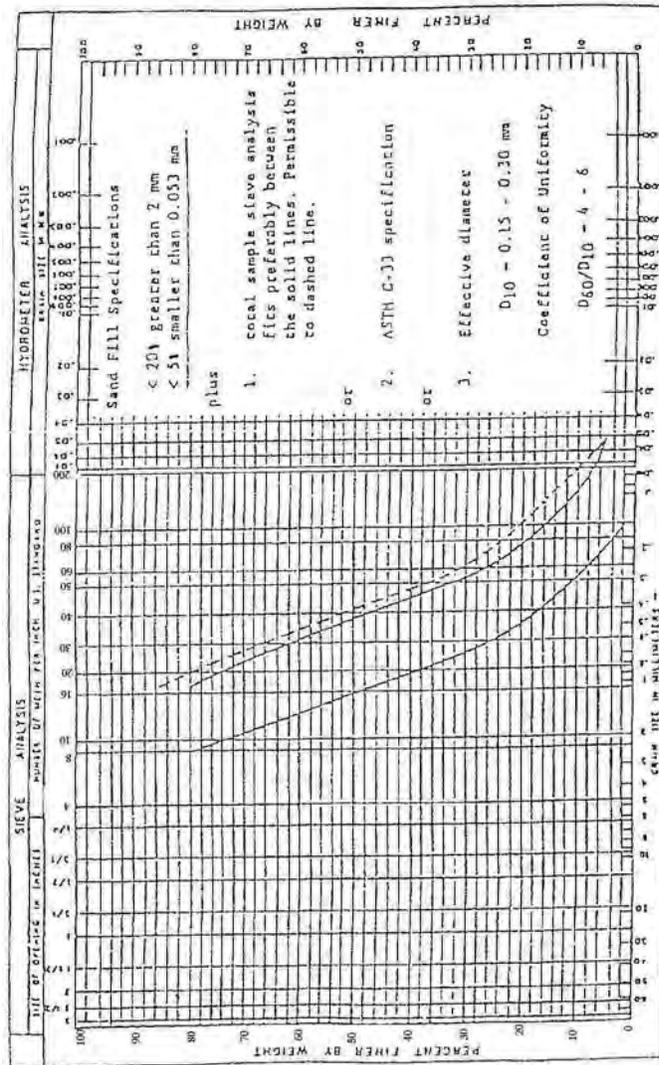


Mound System overlaying a shallow permeable soil lens over a semi-permeable soil layer.  
Estimated Linear Loading Rate = 5 to 6 gal/day/LF



Mound System overlaying a shallow permeable soil lens over an impermeable soil layer.  
Estimated Linear Loading Rate = 3 to 4 gal/day/LF

Figure 4: Sand Specifications for Mound Systems.



A guideline for the selection of the sand fill for Wisconsin mounds. The total sample sieve analysis contains 20% or less material larger than 2.0 mm and contains 5% or less material finer than 0.05 mm plus one of three additional specifications listed in figure. The fraction greater than 2 mm can have stones, and cobbles

#### (D) Soil Cover

(i) Texture and structure of the soil cover shall be equal or better than the soil existing at the site. The permeability range shall be between 10 - 60 mpi. Use of manufactured soil or high clay content soils that do not allow gas exchange to occur is prohibited.

(ii) The soil cover shall be mounded to a height of twelve (12") inches above the distribution bed, with a peak of eighteen (18") inches at the center of the mound. The soil cover shall extend beyond the mound a minimum of four (4') feet

beyond the uphill side and longitudinal ends of the distribution bed, and on the downhill side, a minimum of:

4'	on slopes from	0 - 2%
6'	on slopes from	>2 - 4%
8'	on slopes from	>4 - 6%
10'	on slopes from	>6 - 8%
12'	on slopes from	>8 - 12 1/2 %

(E) Dose Quantities

Small, frequent doses not exceeding 10% of the projected daily flow being discharged from the orifices used per dose after charging the manifold and laterals is recommended. A timer may be utilized to meet this. The maximum dose volume allowed shall not exceed 20% of the potential daily flow being discharged from the orifices during the dose cycle after charging the manifold and laterals. Devices that will utilize the disposal trenches of a field in an alternating series may be approved to achieve low flow volumes while disposing of the required daily volume, provided that the application rate per day is not exceeded in any one location.

(3) Sizing the mound system (refer to Figures 5 and 6).

(A) Effective absorption area of gravel required shall equal the projected sewage flow from the building divided by the infiltration rate of the gravel.

(B) Taking the linear loading rate and dividing it by the infiltration rate of the gravel shall determine effective width of the gravel bed.

(C) Taking the effective absorption area of gravel required and dividing it by the width of the gravel bed shall determine the effective length of the gravel bed.

(D) Uphill fill depth of sand shall be one (1') foot.

(E) Downhill fill depth of sand shall be the uphill fill depth added to the gravel bed width multiplied by the slope, i.e.: uphill fill + (%slope)(gravel bed width).

(F) Vertical depth of gravel bed is as indicated in section 6.4-89.1(c)(2)(c)4(c).

(G) Down slope width is the sum of the downhill fill depth plus the vertical depth of the gravel plus one, multiplied by three, multiplied by the down slope correction factor of Table 8, i.e.:  $\{(e)+(f)+1\}(3)(\text{down slope correction factor})$

(H) Upslope width is the sum of uphill fill depth plus the vertical depth of the gravel plus one, multiplied by three, multiplied by the up slope correction factor, i.e.:  $\{(d)+(f)+1\}(3)(\text{up slope correction factor})$ .

(I) End width is the sum of the average of uphill and downhill sand fill depth plus the vertical depth of the gravel plus one multiplied by three, i.e.:  $\frac{(d)+(e)}{2} + (f) + (i)(3)$ .

(J) Required sand basal area is the projected daily flow from the building divided by the infiltration capacity of the soil.

(K) Available sand basal area shall be greater than the required sand basal area. Available sand basal area is

(i) On flat ground: the length of the gravel bed multiplied by the total width of the sand bed.

(ii) On sloped ground: the length of the gravel bed multiplied by the sum of the width of the gravel plus the down slope width, i.e.  $(c)\{(b)+(g)\}$ .

(M) If sufficient area is not available, then the down slope width or gravel bed length shall be increased.

**Table 8: Slope Correction Factor for Mound System Calculations**

Slope %	Down slope Correction Factor	Up slope Correction Factor
0	1.00	1.00
2	1.06	0.94
4	1.14	0.89
6	1.22	0.86
8	1.32	0.80
10	1.44	0.77
12 1/2	1.57	0.73

(4) Construction requirements for a mound system

(A) The use of wheeled vehicles is prohibited for the purpose of ripping or chisel plowing, driving on areas that have been ripped or chisel plowed, driving on the sand fill, placing or moving the soil cover, or anytime the soil conditions are wet, moist, or saturated.

(B) Surface vegetation shall be mowed to native ground and the clippings removed.

(C) Construction staking or marking shall be provided of all components of the system prior to construction. The Environmental Health Services Division shall conduct a verification inspection of the construction staking or marking to confirm that the system will be constructed as designed.

(D) The soil surface shall be ripped or chisel plowed to a depth of eight (8") inches to ten (10") inches, with rippers set eight (8") inches to ten (10") inches apart. Initial ripping shall be performed in a path parallel to the contours of the land, and only within the limits of the sand base. The interface of the native soil and the mound soil shall be ripped after all the sand has been placed and just prior to mound cover placement. No traffic is permitted on any ripped surface until after the sand or soil cover has been placed.

(E) The sand fill shall be uniformly placed and compressed by track rolling to a neat line and to a grade of 3:1, with a horizontal tolerance not exceeding one quarter (1/4') foot horizontally.

(F) Temporary form boards required for placement of material shall be removed prior to placement of cover.

(G) Distribution to and through all laterals shall be balanced so all laterals and orifices receive an equal volume. The difference in head between any two lines, and the beginning and end orifice of the same line shall not exceed ten percent.

(H) Finished grade of the mound shall be established by track rolling and grooming by hand. Soil cover shall be conditioned with sufficient moisture to allow track rolling to a firm cohesive surface. All drainage work and erosion control shall be completed prior to final construction inspection. The soil cover shall be landscaped or seeded.

(I) The following minimum inspections prior to commencing construction or covering any elements of the system shall be required. Joint inspection by the designer, contractor, and Environmental Health Services Division may be required. All meetings shall be scheduled with the Solano County Environmental Health Services Division at least 48 hours in advance and shall occur during normal business hours:

(i) Pre-construction inspection where the following items shall be verified:

(aa) Imminent weather conditions are such that they will not create unsuitable soil conditions during construction.

(bb) Soil moisture in the area of the proposed mound system is not so high as to cause smearing or compaction as a result of construction activities.

(cc) Layout and staking or marking of all components of the mound system.

The source of soil fill material shall be designated and a sample made available.

(ii) Sand Placement: Ripping of the soil, sand quality, placement, and depth.

- (iii) Gravel placement and Hydraulic Test:
  - (aa) Function and setting of all control devices.
  - (bb) Squirt test of system.
  - (cc) Depth of gravel.
  - (dd) Water tightness of septic tank and dosing tank.
- (iv) Final Inspection:
  - (aa) Depth and texture of final soil cover is verified. All construction elements are in general conformance with the approved plans and specifications. All performance wells are installed and erosion control has been completed.
  - (bb) A letter from the designer that the Mound system has been installed and is operating in conformance with the design specifications must be provided.
- (5) Performance wells
  - (A) Performance well construction shall be in conformance with section 6.4-89(l)1.
  - (B) A minimum of eight (8) performance wells shall be installed. Two (2) performance wells shall be installed in the gravel bed extending to the sand bed during construction of the distribution bed. Two performance wells shall be placed at the toe of the sand bed. Two (2) performance wells shall be placed twenty-five (25') feet down gradient from the sand bed, and two (2) performance wells shall be placed ten (10') feet up gradient from the sand bed.
- (d) Sand Filter Systems
  - (1) Sand filters receive septic tank effluent under pressure. There are currently two approved types of sand filter systems. They are:
    - (A) Intermittent Sand Filter System (ISF). Wastewater passes through the filter once to achieve the total and fecal coliform reductions.
    - (B) Recirculating Sand Filter System (RSF). In addition to reducing the coliform content of the wastewater, the RSF also reduces the nitrate content of the wastewater. Wastewater is recirculated up to four (4) times through the RSF to achieve the reduction of the total and fecal coliforms and nitrate contents. Each time the wastewater is circulated through the RSF, 75 to 80 percent is recirculated through the unit and 20 to 25 percent of the wastewater exits the unit.

(2) The components of a Sand Filter are a containment pit or structure with a waterproof liner, distribution piping, gravel, sand, collection drain system, and a pump.

(3) A Sand Filter is used prior to disposal of effluent into a Pressure Distribution system, At-Grade system, Mound system or other alternative system requiring pretreatment of effluent prior to disposal. Refer to the appropriate sections of these standards for these specific methods of sewage disposal.

(4) A Sand Filter is an approved pretreatment device if built according to these standards. The minimum effective soil depth below an At-Grade, Pressure Distribution, or Mound system preceded by a sand filter is twenty-four (24") inches. No further reduction in setback from a limiting condition is granted for use of a sand filter with a Mound system. Increasing the sand depth of a sand filter beyond two (2') feet does not allow a decrease in the required depth of the minimum effective soil above a limiting condition.

(5) Placement of a sand filter shall comply with all setbacks established in these standards for the placement of septic tanks.

(6) Sand Filter Design Criteria

(A) Containment Pit or Structure

(i) A pit shall be dug into the ground for installation of the sand filter.

(ii) The pit shall have walls constructed of at least pressure treated or redwood heart grade materials of at least 1/2" thickness. All fasteners shall be flush, counter sunk or recessed.

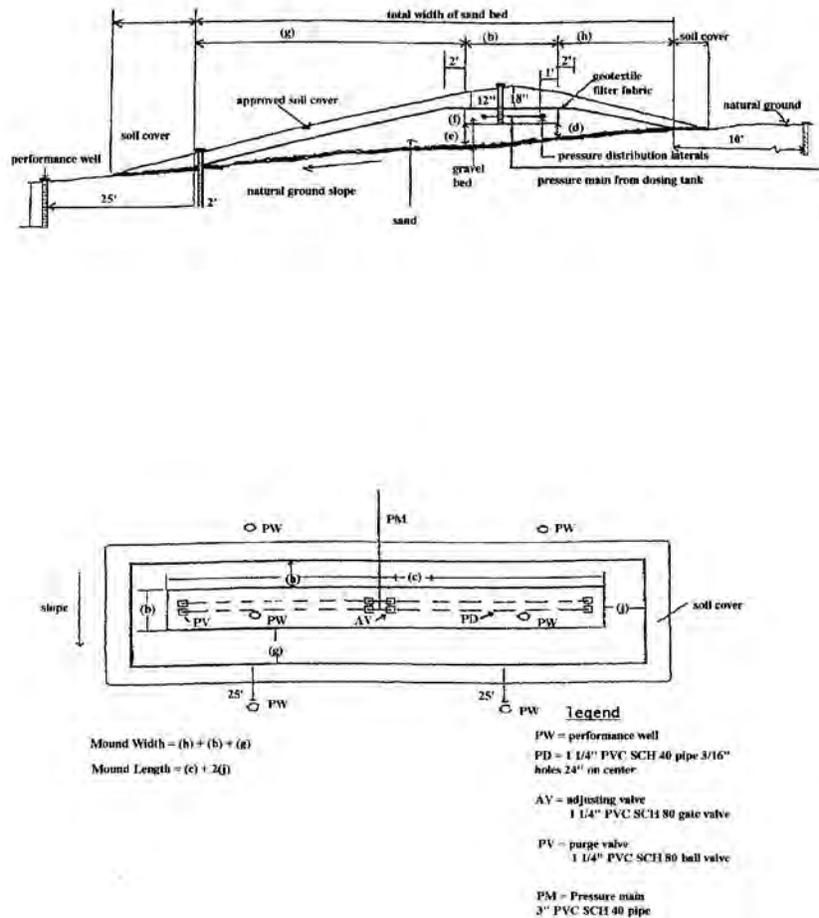
(iii) The walls shall be constructed so that the top is at least six (6") inches above natural grade.

(iv) A geotextile fabric in a thickness appropriate to protect the liner shall be placed over all wood surfaces.

(v) The bottom of the pit must have a bedding layer of sand installed. The sand must be graded to provide a slope from the outer edges towards the point of the under drain system.

(vi) At least a 30 mil PVC liner shall be installed. All seams of the liner must be factory heat or solvent welded. Factory fabricated boots must be used where any plumbing lines pass through the liner. The boots must extend into the liner and be watertight. The liner must be large enough to cover the bottom and extend up the sides of the support structure with enough excess to allow the liner to be firmly anchored.

Figure 5: Plan and profile view of Mound System



(vii) The liner must be covered with adequate sand to bed the liner and protect it from puncture.

#### (B) Filter Bed Sizing

(i) Loading rate shall not exceed 1.2 gallons /day/square foot for an intermittent sand filter and 4 gallons/sq.ft./day for a recirculating sand filter.

(ii) The surface area required for the filter bed shall be determined by dividing the wastewater flow by the loading rate.

(C) Depth of sand shall be a minimum of twenty-four (24") inches. Unless approved otherwise by the Environmental Health Services Division, sand specifications in intermittent sand filters shall comply with the following:

<b>Sieve Size</b>	<b>Percent Passing</b>
# 3/8	100
# 4	95-100
# 8	80-100
# 16	45-85
# 30	15-60
# 50	3-10
# 100	0-2
# 200	0-1

Effective size and uniformity:

$$D_{10} = 1.5 - 2.5\text{mm}$$

$$C_u = 1 - 4$$

and sand specifications for a recirculating sand filter shall comply to the following:

<b>Sieve Size</b>	<b>Percent Passing</b>
3/8	100
# 4	70-100
# 8	5-78
# 16	0-4
# 30	0-2
# 50	0-1
# 100	0-1
#200	0-1

Effective size and uniformity:

$$D_{10} = 1.5 - 2.5\text{mm}$$

$$U_c = 1-3$$

The sand shall be analyzed by wet-sieve analysis using ASTM method C-117 or equivalent. Prior to placement of the sand, the Environmental Health Services Division must be provided with a copy of the sieve analysis, certified as to conformance with the standards by the consultant.

(D) Small, frequent doses not exceeding 10% of the projected daily flow being discharged from the orifices used per dose after charging the manifold and laterals is recommended. A timer may be utilized to meet this. The maximum dose volume allowed shall not exceed 20% of the potential daily flow being discharged from the orifices during the dose cycle after charging the manifold and laterals. Devices that will utilize the disposal trenches of a field in an alternating series may be approved to achieve low flow volumes while disposing of the required daily volume, provided that the application rate per day is not exceeded in any one location.

(E) The distribution piping shall comply with the requirements listed in Section 6.4-89.1(a)(4)(d) for Pressure Distribution piping.

(F) Slotted under drain pipe must be at least four (4") inch diameter PVC collection pipe. The under drain pipe must be properly positioned within the lower gravel layer.

(G) Pressure distribution must be used from the sand filter to the disposal field. Effluent from the sand filter may gravity flow into a separate dosing tank, or into a pump chamber located within the sand filter.

(7) Performance wells shall be required in the sand filter. At least two wells shall be provided. One well shall extend to the bottom of the sand layer, the other to the top.

(8) The following minimum inspections prior to commencing construction or covering any elements of the system shall be required. Joint inspection by the designer, contractor, and Environmental Health Services Division may be required. All meetings shall be scheduled with the Solano County Environmental Health Services Division at least 48 hours in advance and shall occur during normal business hours:

(A) Pre-construction inspection where the construction staking or marking of the sand filter is provided and construction procedures are discussed.

(B) Sand Placement and quality.

(C) Hydraulic Test:

(i) Function and setting of all control devices.

(ii) Squirt test of system.

(iii) Water tightness of septic tank and dosing tank.

(D) Final Inspection

(i) All construction elements are in general conformance with the approved plans and specifications. All performance wells are installed and erosion control has been completed.

(ii) A letter from the designer that the Sand Filter system has been installed and is operating in conformance with the design specifications must be provided.

(e) Aerobic Treatment Unit (ATU)

(1) ATUs provide biological reduction of wastewater strength through pretreatment prior to disposal of sewage into a Pressure Distribution, At-Grade, Mound, or other alternative system. They typically use fixed or suspended films that support biological growth, and air blowers.

(2) Construction Requirements

(A) The ATU shall be listed by NSF as meeting the NSF Standard 40, Class 1 performance evaluation, or have certification by a third party listing agency as complying with NSF Standard 40. The ATU shall be manufactured and installed in accordance with the design specifications used to determine compliance to NSF Standard 40.

(B) All tanks housing an ATU shall be structurally sound, water tight and capable of withstanding 1,000 pounds of weight.

(C) The designer and installer shall follow the manufacturer's design, installation, construction, and operations procedure.

(D) The applicant must demonstrate that a written maintenance contract has been obtained for the proposed ATU to assure satisfactory post construction operation and maintenance. A maintenance agreement must be maintained valid for the life of the ATU.

(E) The ATU shall be preceded by a septic tank unless it can be demonstrated that such a requirement will adversely affect the performance of the ATU.

(3) The following minimum inspections prior to commencing construction or covering any elements of the system shall be required. Joint inspection by the designer, contractor, and Environmental Health Services Division may be required. All meetings shall be scheduled with the Solano County Environmental Health Services Division at least 48 hours in advance and shall occur during normal business hours:

(A) Pre-construction inspection where the construction staking or marking of the ATU is in place and installation procedures is discussed.

- (B) Test of the ATU:
    - (1) Function and setting of all control devices and alarms.
    - (2) Water tightness of septic tank, ATU, and any dosing tank.
  - (C) Final Inspection
    - (i) A letter from the designer that the ATU system has been installed and is operating in conformance with the design specifications shall be provided.
    - (ii) A valid, signed maintenance agreement between the applicant/property owner and service provider must be provided.
- (Ord. No. 1609, §18; Ord. No. 1655, §§36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47)

### **ARTICLE IX. DEFINITIONS**

#### **Sec. 6.4-90. Definitions**

- (a) The definitions contained in this section shall only apply to this Chapter.
- (b) The following words and phrases, whenever used in this Chapter, shall have the meaning hereafter defined:
  - (1) **Abandoned On-Site Sewage Disposal System** - A cesspool, septic tank, holding tank, pit privy, dosing tank, or interceptor that is no longer used, or that is not connected to a structure or building drain, or that receives no wastewater and has not been destroyed in a manner approved by the Environmental Health Services Division.
  - (2) **Alternative System** - A sewage disposal system that uses an advanced method of effluent treatment and/or distribution and is designed by a Civil Engineer, Certified Engineering Geologist or Environmental Health Specialist registered in the State of California. An alternative system is designed to mitigate soil and/or groundwater conditions which render a lot inappropriate for a standard septic system, or to mitigate severely inadequate replacement area for repair or replacement of an existing, improperly functioning on-site sewage disposal system. An alternative system does not include a standard system that only uses a pump to deliver effluent to a non-pressurized disposal field complying with all surface and subsurface set back requirements.
  - (3) **Approved On-Site Sewage Disposal System** - is a system for which an approved final permit is on file with the Environmental Health Services Division and for which the conditions upon which the permit was approved have not changed.
  - (4) **ASTM** - American Society for Testing Materials.

- (5) **Bedrock** - Solid rock, which may have fractures, and that lies beneath soils or other unconsolidated material. Material is considered to be rock when over fifty (50%) percent by volume is composed of coarse fragments that are retained on a #10 sieve.
- (6) **Bedroom** - Any room that can be used for sleeping purposes. For purposes of sizing the on-site sewage disposal system, habitable rooms with a floor area equal to or greater than 70 square feet and designed to provide privacy to the occupant will typically be considered bedrooms. Such rooms include, but are not limited to, those designated on plans as bedrooms, lofts, sewing rooms, dens, offices, and game rooms. A closet, or lack thereof, shall not determine whether a room is considered a bedroom. Kitchens, bathrooms, laundry rooms, rooms with large entry ways lacking doors and designed that the installation of a door would require a building permit, rooms with a fuel-burning water heater, and rooms not meeting the Uniform Housing Code as approved by Solano County requirements for a bedroom may not be considered bedrooms at the discretion of the Environmental Health Services Division.
- (7) **Bulk Density** - The mass of dry soil per unit of bulk volume.
- (8) **Building Sewer** - The solid pipe connecting the building drain to a septic tank, interceptor, or sanitary sewer.
- (9) **Cesspool** - A lined or unlined excavation in the ground that receives wastewater, allows the separation of solids and liquids, retains the solids and allows liquids to seep into the surrounding soil.
- (10) **Chemical Toilet** - A non-flushing, non-recirculating toilet facility wherein waste is deposited directly into a chamber that may contain a solution of water and chemicals.
- (11) **Cleanout** - A fitting inserted into a piping system, with a removable plug whereby access to the pipe is obtained for the purposes of cleaning or unstopping.
- (12) **Coarse Fragments** - Rock or consolidated mineral particles greater than 2.00 mm in diameter.
- (13) **Community Sewage Disposal System** - a system that accepts sewage from two or more separate lots. Includes public sewer and community on-site sewage disposal system.
- (14) **Construction permit**: Gives approval for specific on-site sewage disposal system work as detailed and conditioned in the construction permit and these standards.

- (15) Cumulative impacts - The persistent and/or increasing effects of on-site sewage disposal systems resulting from the density of the discharges from such systems in relation to the assimilative capacity of the ground environment. Examples include salt or nitrate additions to groundwater, nutrient enrichment of surface water, and hydraulic interference both with groundwater and between adjacent on-site sewage disposal systems.
- (16) Cutbank - Any naturally occurring or man-made slope that has greater than 30 percent slope and extends vertically at least 3 feet from the toe of the slope to the top of the slope. Includes cuts supported by retaining walls.
- (17) Disposal Field - The portion of the on-site sewage disposal system and the surrounding area used for dispersion of the liquid portion of wastewater into the soil. Consists of one or more leachlines or other methods approved by the Environmental Health Services Division for wastewater dispersion.
- (18) Distribution Box - A watertight structure that receives effluent from the septic tank and distributes it to two or more header pipes to the disposal field.
- (19) Diversion Valve - A device that receives wastewater through one inlet and distributes it to two (2) or more outlets, only one of which is used at a given time.
- (20) Domestic Water Supply Reservoir - An existing or proposed open, uncovered reservoir used or intended to impound water for human consumption or domestic purposes, including a planned reservoir.
- (21) Dosing Tank - A water tight receptacle constructed of approved materials designed to receive and store clarified effluent and convey it to a pretreatment device or a disposal field under positive pressure. The dosing tank is equipped with a pump(s), effluent screen, and level control and alarm floats.
- (22) Drainage Area - All the land that can, or may, drain into a domestic water supply reservoir, whether or not the topographical configuration is artificially or naturally caused.
- (23) Drainage Well - A well constructed for the purpose of disposing wastewater, hazardous materials, storm water or drainage water.
- (24) Dwelling- Any structure, or portion thereof, which is used, intended, or designed to be occupied for human living purposes including, but not necessarily limited to, houses, houseboats, mobile homes, hotels, motels, apartments, and condominiums.
- (25) Effective Sidewall Area of Trench - The portion of the sidewalls of a leaching trench containing effective soil and extending upward from the bottom of

the trench to the approximate height of the invert of the perforated pipe installed in the leaching trench.

(26) **Effective Soil - Undisturbed**, native soil having an acceptable percolation rate and located above a limiting condition including, but not limited to the highest level of permanent, perched, or seasonal ground water, bedrock, fractured or fissured rock, or any layer that impedes movements of water or air, or growth of plant roots, or that will not retain sewage for an adequate time period to allow for proper treatment of sewage prior to it reaching groundwater. Effective soil does not include fill material.

(27) **Ephemeral Stream** - An observable watercourse that flows only in direct response to precipitation. It receives no water from springs and no long-term supply from melting snow or other surface source. Its stream channel is at all times above the local water table. Any watercourse that does not meet this definition is to be considered a perennial stream for the purposes of these standards.

(28) **Equal Distribution**- A method of sewage effluent disposal that distributes the flow to the disposal field in such a manner that all distribution lines receive an equivalent volume of effluent concurrently, and if pressurized, evenly throughout their length.

(29) **Existing On-Site Sewage Disposal System** - An on-site sewage disposal system in existence prior to the effective date of these standards.

(30) **Experimental System** - Those systems that:

(a) Are alternative systems installed into areas where surface and/or subsurface conditions do not comply with these standards; and/or

(b) Are not allowed for individual on-site sewage disposal for subdivision of land or new construction without being approved and under permit from the Regional Water Quality Control Board having jurisdiction; and/or

(c) Use construction materials other than those noted for standard systems and non-experimental alternative systems in these standards.

(31) **Failing or Failed System**- An on-site sewage disposal system which causes or results in any of the following conditions:

(a) Failure to accept wastewater discharge creating a backing of wastewater into the structure served by the system.

(b) The discharge of wastewater to the surface of the ground.

(c) The discharge of wastewater to surface waters or groundwater.

- (d) The lack of an unsaturated vertical soil separation between the bottom of a disposal field and seasonal high groundwater.
- (e) Wastewater level in a disposal field standing at least one inch above the invert of the perforated pipe or other means of wastewater distribution within the disposal field.
- (f) An alternative system with sample results exceeding 240,000/100 ml most probable number (MPN) total coliform bacteria and/or 2.2 MPN fecal coliform from purged wells located twenty five (25') feet or further down gradient. Exception: if the up gradient performance wells have similar contamination levels as down gradient wells, then the contamination is deemed to be background in the area.
- (32) Fractured Rock - Material that is composed of over fifty (50%) percent coarse fragments by volume.
- (33) Greywater - Untreated household wastewater that has not come in contact with toilet or food wastes. Greywater includes used water from bathtubs, showers, wash basins and water from clothes washing machines and laundry tubs. It does not include wastewater from kitchen sinks, dishwashers or laundry water from soiled diapers.
- (34) Groundwater - Subsurface water that is in the zone of saturation. Includes perched water tables, shallow regional groundwater tables or aquifers, or zones that are seasonally, periodically, or permanently saturated.
- (35) Hardpan - An irreversibly hardened layer caused by the cementation of soil particles. The cementing agent may be silica, calcium carbonate, iron, or organic matter.
- (36) Header Pipe- The solid line that receives wastewater from a manifold or distribution box and conveys it to the disposal field.
- (37) Holding Tank - A water tight receptacle designed to receive and store wastewater for removal and disposal at another location.
- (38) High Water Level - The highest known or recorded flood water elevation during a ten year event of any lake, stream, pond, reservoir, ditch, canal, culvert, or drainage way.
- (39) IAPMO - International Association of Plumbing and Mechanical Officials.
- (40) Impermeable Soil Layer - Any layer of soil having a percolation rate slower than 120 minutes per inch (1/2 inch per hour).

- (41) Incompatible Use - Any activity or land use that would preclude or damage an area for use as a sewage disposal site. Includes but is not limited to the construction of buildings, roads or other structures that may result in the compaction, displacement, or removal of existing soil.
- (42) Industrial Waste - Any liquid, gaseous, radioactive, or solid waste substance, or combination thereof, resulting from any process of industry, manufacturing, trade, or business, or from the development or recovery of any natural resources.
- (43) Invert - The lowest internal portion of the internal cross-section of a pipe or fitting.
- (44) Leach Line - A trench with vertical sides and substantially flat bottom and filled with drain rock into which perforated pipe or other means of wastewater distribution has been laid.
- (45) Limiting Condition - Includes, but is not restricted to the highest level of permanent, perched, or seasonal ground water, hardpans, claypans, impermeable soil, weak or massively structured clays or silty clays, coarse sand, cemented soil, plastic soil, fragipans, compacted soil, bedrock, fractured or fissured rock, saprolite, clay soil, soil containing more than fifty (50%) percent coarse fragments by volume as retained on a #10 sieve, any layer that impedes movements of water or air, or growth of plant roots, or that will not retain sewage for an adequate time period to allow for proper treatment of sewage prior to it reaching groundwater.
- (46) Limiting Soil Layer - Also known as restrictive soil layer is the portion of the soil profile that most restricts the successful operation of a leachfield to treat and dispose of sewage effluent without causing contamination.
- (47) Lot - as defined by Chapter 26 of the Solano County Code.
- (48) Manifold Pipe - Tightline that interconnects perforated pipe in a disposal field, or which receives wastewater from a septic tank or dosing tank for distribution to leach lines.
- (49) Mottles - Spots or streaks of contrasting soil colors. For purposes of groundwater determination this term shall refer to those features formed in the soil during periods of saturation from the process of reduction, translocation, and oxidation of iron and manganese found in some soils. Such features remain evident in dry soils after the saturation event has occurred. These redoximorphic features of soils (mottles and gleying) are used to indicate poor aeration, ground water levels, and lack of drainage. Soils lacking iron and manganese, such as sand, will not show mottles even if saturated.

(50) On-Site Sewage Disposal System - Also termed septic system, or sewage disposal system, means any system of piping, treatment devices, appurtenant components, or other facilities that convey, store, treat, or dispose of wastewater onto or into the ground for subsurface treatment and disposal on the same lot from which the waste flow is generated. This term includes both standard and alternative systems. Individual on-site sewage disposal systems dispose of sewage effluent into a private disposal field located on the lot where the sewage originates and is privately owned and operated by the lot owner. Community on-site sewage disposal systems receive sewage from two or more separate lots and dispose of it into a shared disposal field located on another separate lot. A community on-site sewage disposal system is owned, operated, and maintained in accordance with the Solano County General Plan by a government agency, public utility, maintenance district, or other similar entity approved by the Local Agency Formation Commission and is approved by and operated under permit from the Regional Water Quality Control Board.

(51) Operation permit: Gives approval for operation of an alternative or experimental system in conformance with the operation permit conditions and these standards.

(52) Perched Water - A subsurface body of water separated from the main groundwater body by a relatively impermeable stratum above the main groundwater body.

(53) Percolation Test - A soil test performed to estimate the absorption capability of the soil.

(54) Perennial Stream - A river or stream which flows continuously, or which flows in response to a spring source, and which is, during the wet season, confluent with a local water table. A perennial stream may or may not flow year round, but does flow in response to surface or subsurface water not associated exclusively with a rain event.

(55) Perforated Pipe - Pipe used in the dispersion of wastewater into leach lines.

(56) Pit Privy - A structure used for disposal of human waste without the aid of water. It consists of a pit or vault in the ground into which human waste is deposited.

(57) Plumbing Fixtures - Receptacles, devices or appliances which are supplied with water, or which receive liquid or liquid-borne wastes and discharge such as wastes into the drainage system to which they may be directly or indirectly connected. Industrial or commercial tanks, vats and similar processing equipment are not considered plumbing fixtures.

- (58) Pressure Distribution - A method of effluent distribution designed to distribute wastewater equally and evenly throughout an absorption field by placing the liquid effluent under pressure in the pipe.
- (59) Program Manager - The Program Manager of the Solano County Environmental Health Services Division.
- (60) Property Owner - The person(s), firm(s), trust(s), or other entity(ies) listed in the records of the Solano County Assessor as the current owner of any subject lot.
- (61) PVC - Polyvinyl chloride.
- (62) Registered Consultant - is a Registered Civil Engineer, Registered Geologist, Certified Engineering Geologist, Registered Environmental Health Specialist, or Certified Professional Soil Scientist. All Registrations must be by the state of California.
- (63) Reserve Area - Also known as “replacement area”, is an area on a lot equal in size and in suitability to the existing leachfield designated for future placement of a new sewage disposal system complying with these standards.
- (64) Repair - The installation, modification, or replacement of any portion of a sewage disposal system or appurtenant feature necessary to eliminate or prevent a public health hazard, abate a nuisance, prevent the pollution of surface and ground waters caused by a failed or failing on-site sewage disposal system, or correct a violation of these standards. It may include repair or replacement of a disposal field, septic tank, piping, or any appurtenant components.
- (65) Riser - A structure that allows access to the access ports of a septic tank, dosing tank, or interceptor.
- (66) Sanitary Sewer - Also called “sewer”, is a sewer system owned or operated by a city, town, municipal corporation, county, political subdivision of the state, or other approved ownership which consists of a collection system and necessary trunks, pumping facilities and a means of final treatment and disposal and which has been approved and is under permit from the appropriate California Regional Water Quality Control Board.
- (67) Sanitary Tee - A pipe extending above and below the liquid level in a septic tank, dosing tank, interceptor or other receptacle that is attached to the inlet or outline pipe of said tanks.
- (68) Saturated Soil - The condition of soil when all available soil pore space is occupied by water and the soil is unable to accept additional moisture. In fine

textured soils, the free water surface may not be apparent. The highest level of saturation can be estimated by the highest extent of soil mottling or gleying.

(69) Scum - A mass of sewage solids floating at the surface of wastewater within a septic tank, interceptor, or dosing tank, and which is buoyed up by entrained gas, grease, or other substances.

(70) Seepage Pit - Any excavation in the ground five feet or more in depth that receives and disposes of septic tank effluent.

(71) Septage - The solid and liquid contents of a septic tank, interceptor, holding tank, pit privy, dosing tank, chemical toilet, or on-site sewage disposal system. Also referred to as "cleanings" or "pumpings".

(72) Septic Tank - A watertight tank which receives and partially treats wastewater through processes of sedimentation, flotation, and bacterial action so as to separate solids from the liquid in the wastewater and that discharges the liquid directly to a disposal field or dosing tank.

(73) Sewage - Any liquid waste containing water mixed with animal or vegetable matter, soaps, detergents, or chemicals in suspension or solution. Liquid waste includes kitchen, bath, laundry, office, processing and kennel wastes from residential, commercial, industrial, and agricultural buildings, facilities, or locations.

(74) Slope - The rate of fall or drop in elevation per 100 feet of the ground surface, or fraction thereof. It is expressed as percent of grade.

(75) Soil - Unconsolidated earthen materials over bedrock which is 2 millimeters in diameter or smaller and which falls within a soil textural class as specified in the USDA Soil Triangle.

(76) Soil Color - The moist color of soil based on Munsell soil color charts.

(77) Soil Horizon - A layer of a soil that is distinguishable from adjacent layers by characteristic physical properties such as structure, color, texture, or by chemical composition, including content of organic matter or degree of acidity or alkalinity.

(78) Soil Profile - An excavation displaying soil horizons in an area proposed for wastewater disposal to ascertain its suitability for that purpose. Characteristics of soil examined in a soil profile may include soil structure, soil texture, color, impervious layers, or evidence of groundwater as determined by direct observation or presence of soil mottles.

(79) Soil Structure - The arrangement of primary soil particles into compound particles or clusters that are separated from adjoining aggregates and have properties unlike those of an equal mass of unaggregated primary soil particles.

(80) Soil Texture - The relative proportions of sand, silt, and clay, as defined by the classes of the USDA Soil Triangle.

(81) Spring - A flow of water from the earth that occurs spontaneously where the water table stratum emerges to the surface of the earth. This term includes but is not limited to gravity springs, artesian springs, seepage springs, tubular springs, and fissure springs.

(82) Standard System - An on-site sewage disposal system that uses gravity to disperse effluent throughout the disposal field, and in which no pretreatment device is utilized. This term includes systems that use a pump to transport effluent received from the septic tank to an uphill disposal field where the effluent is then dispersed by gravity into an absorption field placed in an area with surface and subsurface features complying with these standards.

(83) Structure - Any building including, but not limited to, swimming pools, above ground pools, mobile homes, porches and steps (whether covered or uncovered), breezeways, roofed patios, decks, carports, covered walks, covered driveways, or similar structures or appurtenances.

(84) Subdivision - The division of land as defined by the Solano County Subdivision Ordinance.

(85) Tentative Map - Includes both tentative map and tentative parcel map, as used in Chapter 26 of the Solano County Code.

(86) Tight Line - All watertight piping located downstream of the building drain. This term includes, but is not necessarily limited to, the building sewer, manifold, header pipe, and transmission line.

(87) UL - Underwriter's Laboratory.

(88) UPC - Uniform Plumbing Code.

(89) Unstable Landform - Areas showing evidence of mass down slope movement such as debris, flow, landslides, rockfalls, and hummocky hill slopes, or actively eroding bluffs.

(90) USDA - United States Department of Agriculture.

(91) Well - Any artificial excavation of approximately tubular shape constructed by any method for the purpose of extracting water from, or injecting water or other

liquid into the ground; for observation of groundwater for any reason; for the exploration of the subsurface of the earth; for removal of substances from soil or groundwater; or for cathodic protection.

(Ord. No. 1609, §18; Ord. No. 1655, §48, §49)



**CHAPTER 25**

**CHEMICAL TOILETS, SEWAGE PUMPING TRUCKS, DOMESTIC SEPTAGE  
LAND APPLICATION, AND BIOSOLIDS LAND APPLICATION**

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**ARTICLE I. IN GENERAL**

**Sec. 25-100. Purpose**

The declared purpose of this chapter is to provide for the regulation of chemical toilets; septic tank, chemical toilet, and grease trap pumping trucks; and biosolids land application as well as providing for the issuance, suspension, and revocation

of permits in the county; and to promote the development and implementation of other methods of reuse of biosolids, including conversion to energy, in place of land application or land filling of Class B biosolids.

(Ord. No. 888, §1; Ord. No. 1124, §1; Ord. No. 1502; § 1; Ord. No. 1536, §1; Ord. No. 1558, §1; Ord. No. 1689, §1)

**Sec. 25-101. Applicability**

This chapter shall apply to all unincorporated territory with the county except that Article IV, commencing with section 25-400 does not apply to an approved solid waste facility regulated under Public Resources Code section 43000 et seq.

(Ord. No. 888, §1; Ord. No. 1124, §1; Ord. No. 1536, §1; Ord. No. 1558, §1; Ord. No. 1689, §2; Ord. No. 1731, §1)

**Sec. 25-102. Definitions**

Whenever the following terms are used in this Article, they shall have the meanings respectively ascribed to them in this section.

**Administrative Authority** is Director of the Department of Resource Management or the Director's designee.

**Agricultural Land** is land on which a food crop, a feed crop, or a fiber crop is grown. This includes range land and land used as pasture.

**Agronomic Rate** is the whole domestic septage or biosolids application rate (dry weight basis) designed:

- (a) To provide the amount of nitrogen needed by the food crop, feed crop, fiber crop, cover crop, or vegetation grown on the land; and
- (b) To minimize the amount of nitrogen that passes below the root zone of the crop or vegetation grown on the lands to the ground water.

**Application** is a distribution of domestic septage or biosolids to a site, as described in the Landspreading Notification Report for biosolids or the permit for septage, at a rate, determined prior to landspreading, not to exceed either the agronomic rate or the annual pollutant loading rate, based on the intended use of the field. An application shall be limited to once per crop and shall be considered complete when biosolids or septage has been applied at the agronomic rate to each field listed in the Landspreading Notification Report or the permit.

**Applicator** is any person, company organization, or other legal entity engaged, or about to become engaged in the placement of domestic septage or biosolids on land at a controlled rate for the purpose of enhancing the growth of plants in accordance with the provisions of this chapter. The applicator shall be the same

entity which the Regional Water Quality Control Board identifies as the discharger and may include land owner, operator, or lessee.

**Annual Pollutant Loading Rate** is the maximum amount of pollutant that can be applied to a unit area of land during a 365 day period.

**Biosolids** (a.k.a., sewage sludge) are the solid, semi-solid, or liquid residues generated during the treatment of domestic sewage and industrial wastewater in a wastewater treatment plant or publicly owned treatment works. Includes, but is not limited to, scum or solids removed in primary, secondary, or advanced wastewater treatment processes, and material derived from sewage sludge.

**Biosolid Compost** is material containing biosolids produced by a facility that has been approved to handle compostable materials and is regulated under Public Resources Code section 43000 et seq.

**Chemical Toilet** is a portable toilet facility which contains a chemical material and a tank to receive human wastes pending removal by a chemical toilet pumping vehicle.

**Class A Biosolids** are biosolids which meet the pathogen requirements in section 503.32(a) of Title 40, Code of Federal Regulations, or revisions thereof. Class A Exceptional Quality (Class A EQ) are Biosolids which meet metals standards, Class A pathogen reduction standards and vector attraction reduction standards contained in 40 CFR Part 503.13 (Table 3), 40 CFR Part 503.32 and 40 CFR 503.33, respectively.

**Class B Biosolids** are biosolids which meet the pathogen requirements in section 503.32(b) of Title 40, Code of Federal Regulations, or revisions thereof.

**Cumulative Pollutant Loading Rate** is the maximum amount of a pollutant that can be applied to an area of land.

**Domestic Sewage** is waste and wastewater from humans or household operations that is discharged to or otherwise enters a treatment works, including the pumpings from individual onsite systems that are brought to a treatment works via a pumping truck.

**Field** means a discrete, discernable, and identifiable individual piece of land used for crop production, designated or under consideration for domestic septage or biosolids use.

**Generator** is a treatment works that creates biosolids as part of an approved wastewater treatment process.

**Industrial Wastewater** is wastewater generated in a commercial or industrial process.

**Land Application or Landspreading** is the placement of biosolids on agricultural land or reclamation sites intended to support vegetative growth.

**Operator** is any person or group of persons who control or are responsible for the maintenance of a parcel of land, including but not limited to the owner, farmer, lessee, etc.

**Parcel** means a discrete piece of land identifiable by an individual number (Assessor's Parcel Number or APN) assigned by the Assessor of the County of Solano.

**Person** is any person, firm, business, city, county, district, special district, including a water district, sole proprietorship, partnership, joint venture, trust, association, or corporation whether for profit or non-profit.

**Pollutant** is an organic substance, an inorganic substance, a combination of organic and inorganic substances, or a pathogenic organism that, after discharge and upon exposure, ingestion, inhalation, or assimilation into an organism either directly from the environment or indirectly by ingestion through the food chain, could, on the basis of information available to the Administrator of United States Environmental Protection Agency, cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions (including malfunction in reproduction), or physical deformations in either organisms or offspring of the organisms.

**Pollutant Limit** is a numerical value that describes the amount of a pollutant allowed per unit amount of biosolids (e.g., milligrams per kilogram of total solids); the amount of a pollutant that can be applied to a unit area of land (e.g., kilograms per hectare); or the volume of a material that can be applied to a unit area of land (e.g., gallons per acre) as listed in 40 CFR section 503.13 or as adopted by the State in law, regulation, basin plans or orders, whichever is more stringent.

**Saturated** is the point at which soil will no longer absorb water and continued wetting of the soil will result in runoff or standing water.

**Site** is one or more parcels or fields of land with a single or multiple owners or operators, as described in a Project Description, Site Specific Information Report, Report Of Waste Discharge, or other documents submitted to the Regional Water Quality Control Board.

**Staging Area** is the location on a site where biosolids is deposited on the ground for loading onto a vehicle for landspreading on the same or nearby sites which

have been registered with the Administrative Authority and approved or exempted by the appropriate Regional Water Quality Control Board.

**Treatment** is a process, approved by the Administrative Authority, which alters, modifies, or changes the biological, physical, and/or chemical characteristics of domestic septage and/or domestic sewage.

**USEPA** is the United States Environmental Protection Agency.

**40 CFR 503** is Title 40, Code of Federal Regulations, Part 503 and revisions thereof.

(Ord. No. 888, §1; Ord. No. 1472, §1; Ord. No. 1502, §1; Ord. No. 1536, §1; Ord. No. 1558, §1; Ord. No. 1689, §3; Ord. No. 1731, §2)

## **ARTICLE II. CHEMICAL TOILETS**

### **Sec. 25-200. Chemical Toilets**

(a) It shall be unlawful for any person, whether as principal, servant, agent, or employee to clean, install or replace a chemical toilet or dispose of cleanings thereof without having first obtained a permit to do so from the administrative authority. In agricultural areas where chemical toilets are temporarily required for use by farm laborers and are supplied by a commercial operator, permits for a particular location are not required. However, the commercial operator shall obtain an annual operating permit from the administrative authority.

(b) Criteria for toilet facilities shall be as follows:

(1) Toilet facilities shall provide sufficient space for comfortable use. A minimum area for approximately eight (8) square feet, with a minimum width of two and one-half (2 & 2) feet, shall be provided for each toilet seat. A minimum area of ten (10) square feet, with a minimum width of two and one-half (2 & 2) feet shall be required when a urinal is included. Sufficient additional space shall be included if hand-washing fixtures are within the facility.

(2) Toilets shall be designed, constructed, and maintained so as to prevent the access of flies to the excreta.

(3) Buildings housing toilet and hand-washing facilities shall be rigidly constructed and shall provide privacy.

(4) The interior walls of units shall be constructed of durable nonabsorbent material, smooth, readily cleanable, and finished in a light color.

(5) Units shall be ventilated and provided with self-closing doors which can be fastened from the inside.

(c) Servicing of Chemical Toilet Units. Suitable chemicals effective at all times in controlling odors and liquefying solids shall be used for the chemical toilets. It is recommended that such chemicals have the following characteristics:

- (1) Contain a bacteriostatic agent to prevent decomposition of the sewage;
- (2) Contain an effective deodorant material to mask objectionable odors;
- (3) Contain a suitable emulsifying agent, in addition to water, to help break down solid matter.
- (4) Have sufficient strength to remain effective between changing of the chemicals.

(d) Disposal of Contents of Chemical Toilets. The contents of chemical toilets shall be disposed of at a designated receiving station which discharges to a publicly owned sewage treatment works.

(e) Cleansing. Each facility shall be thoroughly cleaned and washed down weekly or as often as necessary, and at least after each emptying of the chemical toilet.

(f) Toilets. It shall be the responsibility of the chemical toilet servicing firm to insure that toilets are serviced and maintained in a clean, sanitary condition and kept in good repair at all times.

(g) Identification of Chemical Toilets. The business name shall be evident, on at least one (1) side of the chemical toilet, in letters of three inches (3") in height.

(Ord. No. 888, §1; Ord. No. 907, §1; Ord. No. 926, §1; Ord. No. 1190, §§ 1, 2; Ord. No. 1502, §1; Ord. No. 1536, §1; Ord. No. 1558, §1)

### **ARTICLE III. SEPTIC TANK, CHEMICAL TOILET AND GREASE TRAP PUMPING TRUCKS**

#### **Sec. 25-300. Septic tank, chemical toilet, and grease trap pumping trucks**

(a) It shall be unlawful for any person or firm to carry on, solicit, or engage in the business of the cleansing of septic tanks, chemical toilets, or grease traps or to dispose of the cleaning in the County of Solano without a valid permit issued by the administrative authority for the carrying on of said business.

(b) Criteria for septic tank, chemical toilet, and grease trap pumping trucks.

(c) Upon each side of every vehicle, for which registration is required, there shall be printed or affixed in permanent plain legible letters and numbers at least

four inches (4") high, the permanent name and address of the registrant or establishment. The certified gallonage capacity of the tanks shall appear on the tank on both sides in numerals of a minimum of four inches (4") high in height and shall be fully legible and visible at all times. Such capacity as shown shall be that approved and certified by the Sealer of Weights and Measures of the County of Solano, or other approved Sealer of Weights and Measures. There shall be at least three (3) tanks for waste, water, and disinfectant except for vehicles used exclusively for septic tank pumping which shall have at least two (2) tanks. All pumping hoses must be cleaned out into the truck tank or into the septic tank, or chemical toilet being pumped, and not on the surface of the ground. There shall be carried on each unit at all times, a sufficient quantity of chlorinated lime or other product approved by the permitting authority for disinfection of hoses and areas where accidental spillage of sewage might occur.

(1) It is unlawful for any person or firm to park sewage effluent pumping trucks at the close of a working day on a public street or thoroughfare.

(2) All pumping trucks shall have the sewage effluent removed from the tanks at the close of each work day. The sewage shall be disposed of at an approved location.

(3) All discharge lines and valves shall have screw type caps, or other devices approved by the administrative authority.

(Ord. No. 888, §1; Ord. No. 1502, §1; Ord. No. 1536, §1; Ord. No. 1558, §1)

#### **ARTICLE IV - DOMESTIC SEPTAGE AND BIOSOLIDS LAND APPLICATION**

##### **Sec. 25-400. Prohibitions**

(a) Disposal or land application of sewage, septage, biosolids, or any other sewage waste, or the effluent of treated sewage or other waste, in any manner which will result in contamination, pollution, or a nuisance is prohibited.

(b) The land application or landspreading of domestic or industrial septage that has not been converted into biosolids is prohibited.

(c) Land application or landspreading of biosolids which do not meet the requirements of this Article, the requirements of the Regional Water Quality Control Board, the requirements of any other responsible agency and/or the requirements set forth in 40 CFR 503 is prohibited. Land application of biosolids is restricted to Class A or Class B as previously defined. Class B biosolids may only be land applied provided that the generator of the Class B biosolids is individually or as part of a consortium having a portion of their biosolids produced as Class A Exceptional Quality biosolids, converting biosolids to energy, or otherwise diverting Class B biosolids away from land spreading or landfilling (as waste or as Alternative Daily Cover).

(d) Marketing, distribution, or disposal to land of any biosolids from any source other than a treatment facility which has met all requirements of and secured a permit and/or Waste Discharge Requirements from the appropriate Regional Water Quality Control Board and complies with all federal requirements is prohibited.

(e) Land application of biosolids which exceeds the Pollutant Limits, Cumulative Pollutant Loading Rate, or the Annual Pollutant Loading Rate, as described in 40 CFR 503.13, or as adopted by the State in law, regulation, basin plans or orders, is prohibited.

(f) Land application of biosolids in the Primary Area of the Suisun Marsh (as defined in Solano County General Plan) is inconsistent with Solano County Policies and Regulations Governing the Suisun Marsh, the Suisun Marsh Protections Plan, and the Suisun Marsh Preservation Act of 1977, and is prohibited. Land application of biosolids in the Secondary Area of the Suisun Marsh is prohibited.

(g) Land application of biosolids in the area of the Primary Zone of the Sacramento-San Joaquin Delta (as defined in section 29728 of the Public Resources Code) which is inconsistent with the Delta Protection Commission's Land Use and Resource Management Plan for the Primary Zone of the Delta is prohibited.

(h) Placement of biosolids in staging and storage areas:

(1) Biosolids shall not be placed in a staging area more than 6 hours prior to application.

(2) All biosolids placed in a staging area must be land applied before the end of land spreading on the day of placement, unless otherwise prevented by the requirements of this Chapter or as ordered by the Administrative Authority. If the Administrative Authority orders the biosolids not to be land spread or if inclement weather or high winds prevents landspreading of the biosolids in a staging area, then the applicator shall provide a protective barrier and secure the biosolids as approved by the Administrative Authority.

(3) Biosolids stored in a staging area due to inclement weather or high winds shall be removed from the site, or if conditions allow, be land applied within 48 hours of storage.

(i)(1) The application of biosolids to land that is water saturated, frozen or during periods of rainfall is prohibited.

(2)(A) Adding biosolids to a staging or storage area during periods of rainfall is prohibited.

(B) Staging or storage areas shall be maintained and operated to prevent the generation of leachate.

(j)(1) Trucks or other vehicles used to transport or apply biosolids to the field shall not track mud or debris onto a County or State roadway, as determined by the Solano County Department of Resource Management. The applicator shall make every effort to coordinate deliveries of biosolids so that delivery trucks are not on Highway 12 or 113 during peak commute hours.

(2) County roadways used to access the fields shall not be used when the road subgrade is wet as determined by the Solano County Department of Resource Management.

(3) The applicator shall be responsible to repair road damage caused by the hauling of biosolids, to the satisfaction of the Solano County Department of Resource Management. Such damage does not include normal wear and maintenance of the road. Prior to submission of the Landspreading Notification Report to the Administrative Authority, the applicator shall submit information on the estimated number and weight of trucks, and truck routes to the Solano County Department of Resource Management. If the Solano County Department of Resource Management determines that increased maintenance is likely to be required as a result of the truck traffic hauling biosolids, the Solano County Department of Resource Management may request that the applicator to enter into a road maintenance agreement to reimburse cost to Solano County for such increased maintenance.

(k) Land application of biosolids from October 15 to April 15 (the rainy season) is prohibited.

(l) The applicator shall not start receiving, landspreading, or incorporating biosolids at the beginning of the day's field operations if wind speed exceeds 25 mph. Once started, the applicator shall cease receiving, landspreading and/or incorporating biosolids if wind speed exceeds 25 mph for 60 minutes. Receiving, landspreading, and/or incorporation of biosolids shall not occur again until wind speeds drops below 25 mph for 60 minutes. The applicator shall provide monitoring devices to measure the wind speed at the biosolids application site at all times. In addition, at least one wind sock calibrated for a 25 mph wind speed shall be provided in a location visible from a public road and within 500 feet of the application site, and/or an alternative device for measuring wind speed. The applicator shall provide a contingency plan for securing biosolids in staging areas and for diversion of biosolids in route to the application sites during periods of wind speeds above 25 mph for approval by the Administrative Authority.

(m) Biosolids shall be created and/or processed in such a manner that they will be free from litter prior to land application.

(Ord. No. 888, §1; Ord. No. 1502, §1; Ord. No. 1536, §1; Ord. No. 1558, §1; Ord. No. 1618, §1; Ord. No. 1628, §§ 2, 3, 4, 5, 6; Ord. No. 1689, §4; Ord. No. 1731, §3)

**Sec. 25-401. Biosolid Compost**

Biosolid compost that is sold or given away in a bag or other container for residential, home gardening, or landscaping use is exempt from the requirements of this chapter as long as it does not cause contamination or a nuisance. The use of biosolids compost applied to land in bulk is exempted from compliance with the requirements of Article IV commencing with section 25-400 under the following conditions:

(a) The use of biosolid compost is prohibited in the areas described in section 25-400, subdivisions (f) and (g).

(b) The use of biosolid compost occurs at a rate beneficial to agriculture that does not result in pollution or a nuisance.

(c) The applicator submits a notification form approved by the Administrative Authority at least 10 working days prior to delivery of the biosolid compost to the site, along with a fee equal to one hour of staff time charged at the existing hourly rate set by the Board of Supervisors or a specific fee established for a biosolid compost notification form under section 11-110 of this Code to the Administrative Authority for review. The biosolid compost notification form shall include contact information for the owner, applicator, source of biosolid compost, location of use, approximate delivery date and duration of application, quantity, and a calculation of the equivalent agronomic rate.

(d) The use of biosolid compost occurs in compliance with applicable Federal and State requirements.

(Ord. No. 1501, §1; Ord. No. 1536, §1; Ord. No. 1689, §5; Ord. No. 1731, §4)

**Sec. 25-402. Requirements For Land Application of Biosolids**

Biosolids applied to land shall meet the following requirements:

(a) **General Requirements**

(1) A description of the project shall be submitted to and Waste Discharge Requirements or other written approval or exemption shall be obtained from the appropriate Regional Water Quality Control Board. Neither Class A nor Exceptional Quality biosolids shall be exempted from any of the requirements of this chapter.

(2) The applicator and the operator shall comply with any and all regulations and/or requirements of any and all other agencies having jurisdiction in Solano County.

(3) The applicator shall be primarily responsible for compliance with this chapter. If the applicator fails to meet the requirements of this chapter, the Administrative Authority shall immediately notify the operator. The operator shall be responsible for compliance when and if the applicator fails to meet requirements of this chapter.

(4) Staging areas and biosolids land application shall be at least:

(A) 100 feet from property lines. This requirement may be waived by the Department of Resource Management when property lines are adjacent to properties using biosolids as a soil amendment;

(B) 500 feet from any type of water supply wells;

(C) One-quarter mile (1,320 feet) from any residence located off sites registered for biosolids application. This distance shall be increased to two miles from city limits or employment centers on Travis Air Force Base;

(D) One-quarter mile (1,320 feet) from residence located on sites registered for biosolids application unless waived by owner occupied residence;

(E) 100 feet from public roads'

(F) 200 feet from surface waters, including intermittent and perennial streams, surface waterways, primary drainages, ponds, lakes and marshes;

(G) 2,500 feet from any domestic surface water supply intake.

(5) Sanitary facilities for biosolids application personnel. The biosolids permit applicant shall ensure that adequate sanitary facilities, including a toilet and hand wash sink equipped with soap, water, and single use disposable towels shall be available within three hundred feet of an active biosolids application site during landspreading operations.

(6) Incorporation shall be performed in conjunction with the land application of all biosolids. All biosolids applied to land shall be incorporated within 24 hours unless high winds or inclement weather conditions prohibit incorporation activities from occurring or as otherwise directed by the Administrative Authority.

(7) Land spreading and incorporation activities shall only occur between 6:00 a.m. and 6:00 p.m. Land spreading of biosolids on weekends and holidays is prohibited.

(8) The applicator shall contribute a fee for each acre that is applied with biosolids into a fund designated for the continuing study of odors, pathogen transmissions, environmental effects and other concerns relating to land application of biosolids, and/or establishment of educational information pertaining to the land application of biosolids. The fee shall be set by the Board of Supervisors pursuant to Chapter 11, Section 11-110 of this Code.

(9) Annually, after the close of the application season, there shall be a report prepared for the Board of Supervisors on the results of the past application season. The report shall include an update on the generator's progress toward utilizing alternate technologies or methods for the reuse of biosolids other than land application or landfilling of Class B biosolids. Generators shall submit their progress report to the Administrative Authority by December 15th.

(10) At least one sign shall be provided at each access point into the field that indicates the date biosolids land application has begun and the end date once it is completed. The sign(s) shall remain posted by a minimum of 60 days if no public access is allowed or for one year if public access is allowed.

(b) **Requirements for Site Registration**

(1) Each intended biosolids land application site shall be registered with the Administrative Authority prior to the application of biosolids.

(A) New sites shall be registered prior to application of any biosolids to the site.

(B) Sites under permit with the Regional Water Quality Control Board or under contract, already receiving biosolids at the time of adoption of this chapter, shall be registered prior to any subsequent application of biosolids.

(2) The description of the site to be registered with the Administrative Authority shall be consistent with the description of the site submitted to or permitted by the Regional Water Quality Control Board. (i.e., owner's name, location of site, number of fields per site, site acreage, etc.)

(3) Site Registration shall remain in effect for a period not to exceed five years. The Site Registration may be renewed after five years, if additional applications are intended, by submitting an application for Site Registration Renewal prior to April 15th of the sixth year. The Site Registration Renewal application shall include payment of the Site Registration Fee, and all information required in section 25-402(b)(5).

(4) Site Registration renewal shall also occur if substantial changes occur or changes to the biosolids reuse locations (such as addition of fields) occur such that the Regional Water Quality Control Board requires submittal of a new Report of Waste Discharge and/or adoption of new Waste Discharge Requirements. Site

registration renewal may be utilized to consolidate sites previously registered separately, but registered under the same owner and/or lease holder.

(5) To register a site for land application of biosolids, the following information and/or documents shall be submitted to the Administrative Authority and additional requirements met:

(A) General Information.

(i) Name and Mailing Address of the Applicator.

(ii) Name and Mailing Address of Property Owner/Operator.

(iii) If the property is leased, a written proof of knowledge of and agreement by the property owner to the application, restrictions on allowable crops, right of entry, site restrictions, and any other conditions deemed necessary by the Administrative Authority.

(iv) Name and Mailing Address of Person to whom billings for fee payments should be sent.

(v) A statement setting forth facts demonstrating that the applicator owns or has access to suitable facilities for equipment cleaning, maintenance and storage. The location of and information pertaining to all such facilities shall be provided to the Administrative Authority upon request.

(vi) A statement regarding the applicator's experience and capability in the collection, transportation, treatment and land application of biosolids.

(B) Site Information.

(i) Site location including address and Assessor's Parcel Number(s), (or Assessor's Parcel Number if no address has been assigned,) size of parcel(s), a map of the site prepared at a scale acceptable to the Administrative Authority accurately showing drainage courses, runoff controls, surface waterways, wells, irrigation structures and canals, residences within 1320 feet, and copies of Assessor's Parcel Maps showing all fields on the site as well as parcels and numbers adjacent to the site and cities located within two miles or less from the closest portion of the site.

(ii) A list of predominate soils on the site and location maps of soil types (i.e., USDA Soil Maps), ground slope and depth to groundwater at the time of application.

(iii) The land use designation of the site.

(iv) Results obtained from background soil sampling and analyses conducted at the application site within 12 months of submittal of information. Soil samples from each field at the application site shall be submitted. In addition, results from at least one groundwater sample from a well approved by the Administrative Authority, collected within 12 months of submittal of information, shall be provided. Any samples collected shall be tested for pollutants that have an adopted Pollutant Limit. Groundwater samples shall also be tested for nitrates, E. coli, and fecal coliform bacteria. The Administrative Authority may require testing for other constituents and/or additional sampling by the applicator.

(v) Wind direction and speeds expected in the area of landspreading during landspreading operations. This may be based upon previous year's data.

(C) Any and all reports submitted to the appropriate Regional Water Quality Control Board, including but not limited to a Report Of Waste Discharge, Application For Facility Permit/Waste Discharge, Site Specific Information Report, or Project Description. The General Information and/or Site Information may be submitted to the Administrative Authority as part of the reports submitted to the Regional Water Quality Control Board.

(D) Approval of the project by the appropriate Regional Water Quality Control Board in the form of Waste Discharge Requirements, Waiver Approval, Letter of Approval, Exemption, or any other formal approval indicating project compliance with applicable Regional Water Quality Control Board standards and/or 40 CFR 503.

(E) Copies of any and all reports submitted to the USEPA, in complying with 40 CFR 503.

(F) Site Inspection.

(i) A Site Inspection may be conducted by the Administrative Authority.

(ii) Other appropriate responsible agencies shall be notified by the inspector if any concerns arise from this inspection.

(G) A Site Registration Fee, as established by the Board of Supervisors, shall be submitted prior to registration of the site.

(c) **Requirements for Landspreading Notification**

(1) After Site Registration is completed and the applicator has received written notification of the registration from the Administrative Authority, the applicator shall submit a Landspreading Notification Report to the Administrative Authority each year for sites (fields) on which the applicator intends to landspread biosolids.

(2) The applicator shall provide a Landspreading Notification Report to the Administrative Authority at least 10 working days prior to initiation of the land application. Land application may not begin prior to receipt of written notification from the Administrative Authority that the Landspreading Notification Report is complete and meets the requirements of this chapter. Landspreading operations shall adhere to and be consistent with all information submitted to the Administrative Authority including, but not limited to, the Landspreading Notification Report. The applicator shall contact the Administrative Authority 24 hours prior to initiating or placing biosolids upon the field. Accurate mapping including all land use changes in the proposed land application area and the surrounding area shall be included with the Landspreading Notification Report. Site location including address and Assessor's Parcel Number(s), or Assessor's Parcel Number if no address is assigned, size of parcel(s), a map of the site prepared at a scale acceptable to the Administrative Authority showing drainage courses, runoff controls, surface waterways, wells, irrigation structures and canals, residences within 1,320 feet and copies of Assessor's Parcel Maps showing all fields on the site as well as parcels and numbers adjacent to the site and cities located within two miles or less from any portion of this site.

(3) The applicator shall also notify the Administrative Authority at least 24 hours prior to when the applicator intends to move the operation from one field to another, one site to another. This notification may be brief including the field number, location, owner, and intended date of change, and may be submitted via facsimile.

(4) At least once annually between March 1 and April 1, inclusive, the applicator shall publish a written notice stating that land application is to occur between April 15 and October 15 of that year in the public notification section of newspaper(s) of general circulation of the city(s) closest to the sites of proposed land application for the current year. The notice shall include the information contained in (A), (B), (C), and (G) of this subdivision and a general location of the area that will receive biosolids. The applicator shall also provide written notification to all residents adjacent to the fields listed in the Landspreading Notification Report at least 14 but not more than 45 calendar days prior to commencement of biosolids applications. The Administrative Authority shall be provided with a copy of all written notifications. Any notification to residents adjacent to fields in the Landspreading Notification Report shall include:

- (A) The name of the applicator;
- (B) A phone number of a responsible contact for the applicator;
- (C) The name, telephone number and address of the Administrative Authority;
- (D) The tentative date or range of dates, of the biosolids application;

(E) A statement that if questions or concerns are not adequately addressed by the applicator, the recipient of the notice should contact the Administrative Authority.

(F) The location that biosolids are to be applied. This shall include Assessor's Parcel Numbers, addresses (if any), and directions and distance from nearest roads;

(G) A statement that biosolids are sewage sludge that have been treated and tested and shown to be capable of beneficial and legal use as a soil amendment for agriculture, silviculture, horticulture, and land reclamation activities as specified under 40 CFR Part 503. If independent testing and analysis is conducted by the Generator, then it shall submit results of laboratory analyses within 15 business days if requested in writing by the Administrative Authority.

(5) Person(s) residing on property immediately adjacent to the field intended for application of biosolids may file a protest with the Administration Authority. The protest shall be in writing, stating the reasons for the objection, and shall be filed with the Administrative Authority within 10 days of receipt of written notification for the applicator. The Administrative Authority shall immediately notify the applicator of protests received from persons residing immediately adjacent to the application site. All impending biosolids applications at that site may be suspended pending the decision of the Administrative Authority. The Administrative Authority may consolidate protests that are similar and render one decision that applies to all such protests. The Administrative Authority shall render a decision on the protests within fourteen days of receipt of the written protest. The applicator and protestor shall be notified of the decision within five working days of the decision being rendered by the Administrative Authority. The decision of the Administrative Authority may be appealed to the Board of Supervisors as provided for in section 25-601.

(6) The applicator shall submit the following information and/or documents to the Administrative Authority as a Landspreading Notification Report:

(A) Name, mailing address and phone number of the property owner/operator.

(B) Name, mailing address and phone number of the Applicator.

(C) Biosolids source and hauler along with address, phone number, and contact person, level of pathogen treatment, description of treatment, and vector attraction reduction description.

(D) Site location and field name or number.

(E) Storage and staging areas.

(F) Application Rate and Annual Pollutant Loading Rate information including quantity of material, application area size, ammonia concentration, organic nitrogen concentration, proposed nitrogen loading, residual nitrogen loading from previous applications, proposed crop/land use, crop nitrogen usage, and date of application.

(G) Pollutant loading rate and concentration of each pollutant with an adopted Pollutant Limit.

(i) If all the pollutant loading rates and concentrations of each pollutant are less than ninety percent (90%) of the adopted Pollutant Limit, then analysis of soil from each field proposed for landspreading that has been previously applied with biosolids during the current registration period, and at least one groundwater sample collected from a well approved by the Administrative Authority shall be submitted in support of the Landspreading Notification Report. The Administrative Authority may require testing for other constituents and/or additional sampling by the applicator.

(ii) If any of the pollutant loading rates or pollutant concentrations are equal to or greater than ninety percent (90%) of the adopted Pollutant Limit, then requirements of subdivision (i) and a Monitoring and Action Plan are required. The Monitoring and Action Plan shall describe how fields will be monitored and tested to ensure that the Pollutant Limits will not be exceeded. At a minimum, the monitoring and testing shall include, implementation of additional operational controls, additional field soil and groundwater analysis following application, and any other requirements as deemed necessary by the Administrative Authority.

(iii) Any samples collected shall be tested for the presence of pollutants with an adopted Pollutant Limit. Groundwater samples shall also be tested for nitrates, E. coli, and fecal coliform bacteria. Results of sample analysis obtained from the site within 12 months of submittal of the information may be used.

(iv) The Administrative Authority may require testing for other constituents and/or additional sampling by the applicator.

(H) Site controls including, but not limited to, crops to be planted and intended land use during the next 3 years, public access control procedures, storage procedures if material is stored near the fields before land application, existence of potential for any tailwater or storm water runoff within 30 days and control measures to be taken, nuisance avoidance measures and statement of compliance with all setback and buffer zone requirements and site restrictions.

(I) Transportation plans including:

(i) Name and address of hauler;

- (ii) Proposed delivery truck route(s) to site;
- (iii) Proposed number of trucks and frequency and hours of delivery;
- (iv) Local traffic conditions;
- (v) Proposed methods to prevent tracking of mud, biosolids, or septage upon the roadways.
- (vi) Determination by the Solano County Transportation Department regarding impact on maintenance to roads.
- (J) A list of names and addresses of the residents notified and the date of notification.
- (K) Copy of the approval of the Pre-application Report by the Regional Water Quality Control Board.
- (L) Certificate of Pollution Liability Insurance indicating insurance in an amount no less than \$1,000,000 (One Million Dollars).
- (M) Copy of an Indemnification Agreement existing between the applicator and the operator.
- (N) Contingency plan for securing biosolids in staging areas and for diversion of biosolids in route to the application site(s) during periods of wind speeds above 25 mph for approval by the Administrative Authority.
- (O) An odor control mitigation plan that details the action taken by the generator(s) of the biosolids to decrease the likelihood of a highly odorous load from leaving the treatment plant, and action, including diversion, that the applicator will take if an odorous load is delivered, or odor complaints are received. The Administrative Authority may require additional measures beyond those listed in the approved odor control mitigation plan to be implemented in order to mitigate site specific conditions at the time of staging and landspreading.
- (P) A nitrogen management plan detailing the proposed Plant Available Nitrogen (PAN) application rate based on actual weighted averages and including an estimation of actual number of vehicle deliveries of biosolids (by wet tonnage) necessary to provide the required application rate for each specific registered filed. Vehicle delivery tallies including cumulative amount of vehicles shall be maintained on a daily basis to prevent the over application of nitrogen.
- (7) The Administrative Authority shall conduct inspections to assure compliance with this Chapter. The inspections may include sampling. Inspections may occur at sites that are currently proposed for land application of biosolids,

and/or are in the process of land application, and/or were locations of past land application(s). The Administrative Authority may direct the Applicator to collect additional samples and shall at no time be limited as to types, locations, or number of samples required or obtained.

(8) Samples of the material being landspread shall be collected during inspection.

(A) Samples of biosolids collected shall be kept separate for each site and source.

(B) Samples of biosolids may be composited from several locations on the same field or registered site.

(C) The number of samples of biosolids taken and analyzed shall be determined by the Administrative Authority at the time of landspreading notification, during field inspections, complaint investigations, or from requests by other permitting authorities. This determination shall take into consideration the source of the material, the variability of the pollutants within the material, the frequency of sampling and analysis conducted by the generator of the material, and the quantity of the material being landspread. The intent of the sampling program is to verify that the biosolid material which is being applied to land is consistent with the reports which have been submitted to the Administrative Authority, that the product is in compliance with this Code and any other Federal or State requirements. In no case shall the frequency of analysis be less than once each year for each source of biosolid material which is applied to land within the county.

(D) Additional analysis may be conducted if, in the opinion of the Administrative Authority, conditions exist during the applications which may promulgate public concern or where there is potential for a public health hazard.

(E) Collection of samples shall not be limited to biosolids but may also include soil and/or water samples. Collection of samples may occur on proposed, presently active or past biosolids application sites.

(F) Analysis of samples collected by the Administrative Authority shall not be limited as to the constituents analyzed for and may include analysis for heavy metals concentrations (consistent with the limits set forth in 40 CFR 503), pathogens (consistent with 40 CFR 503), and other constituents which may be of concern in protection of the public health and/or the environment.

(9) A Landspreading Notification Fee, as established by the Board of Supervisors, shall be submitted to the Administrative Authority at the time of submittal of the information required for the Landspreading Notification.

(d) **Requirements for Reporting.** In addition to submittal of the general information required for the Site Registration and the Landspreading Notification, the following reporting requirements shall be met:

(1) Within 30 days after completion of land application of biosolids to each specific field or at each month's end, whichever comes first, a Post-application Report shall be submitted to the Administrative Authority with the following information:

- (A) Site number and/or location including a map clearly showing each field.
  - (B) Date and time of the application.
  - (C) Total volume of material applied.
  - (D) Any variations from the information provided in the pre-application report.
- (2) Any other reports required by a) the Regional Water Quality Control Board, as part of the Waste Discharge Requirements or otherwise, b) the USEPA, or c) any other regulatory agency, shall be submitted to the Administrative Authority.
- (3) The applicator shall retain copies of all registrations and notifications for a minimum of five years after Site Registration expiration and copies of all reports for a minimum of five years after issuance of the report.
- (4) The applicator shall provide, upon request from the Administrative Authority, copies of results of any laboratory analysis conducted for use by the applicator on material applied in Solano County.

(Ord. No. 888, §1; Ord. No. 1502, §1; Ord. No. 1536, §1; Ord. No. 1558, §1; Ord. No. 1618, §§ 2,6; Ord. No. 1628; §§ 6,7,8,9,10,11,12,13,14,15; Ord. No. 1689, §6; Ord. No. 1731, §5)

**Sec. 25-403. Requirement for bonds**

The applicator shall furnish a corporate surety bond as security for performance under the site registration or permit. A separate bond shall be posted for each concurrent landspreading operation. The amount of the bond shall be no less than \$50,000. The County of Solano shall be named as the obligee. The purpose of the bond is to cover costs should nuisance abatement by the Administrative Authority be necessary and the applicator or operator not take responsibility for the abatement.

(Ord. No. 888, §1; Ord. No. 1536, §1; Ord. No. 1558, §1)

**Sec. 25-404. Right of entry**

As a requirement of the issuance of a permit, Site Registration, or Landspreading Notification under this article, the applicator, farm operator, land owner and/or lessee shall agree to allow the representatives of the Administrative Authority or other regulatory agencies at reasonable times and upon presentation of credentials to:

- (a) Enter upon the applicator's premises or location where any records are required to be kept under the terms and conditions of this chapter;
- (b) Have access to and copy any records required to be kept under the terms and conditions of this chapter;
- (c) Inspect any monitoring equipment or observe any monitoring method;
- (d) Inspect any collection, transport vehicles, treatment, pollution management, or control facilities required by this chapter;
- (e) Enter any site, during reasonable hours, where biosolids or septage is proposed to be used or has been applied or stored and sample any ground or surface waters, soils, vegetation, biosolids, septage, or other materials on the site; and,
- (f) Obtain any photographic documentation or evidence.

(Ord. No. 1536, §1; Ord. No. 1558, §1)

**ARTICLE V. FEES****Sec. 25-500. Generally**

(a) The fee for each permit issued and the fees for Site Registration and Landspreading Notification, pursuant to the provisions of this chapter, shall be determined in the amount and payable at the time and method set by the board of supervisors, pursuant to Chapter 11, Section 11-110 of this Code.

(b) All reasonable costs of laboratory analysis of biosolids, septage, soil, water and/or vegetation samples collected by the Administrative Authority shall be paid by the applicator.

(Ord. No. 888, §1; Ord. No. 1190, §4; Ord. No. 1502, §1; Ord. No. 1536, §1; Ord. No. 1558, §1)

## **ARTICLE VI. ABATEMENT**

### **Sec. 25-600. Enforcement of Chapter**

(a) The Department of Resource management shall be empowered to ensure the enforcement of the provisions of this chapter.

(b) A violation of this chapter, or any state or federal regulations, may be cause for revocation of a permit or site registration by the Administrative Authority and notification to the appropriate Regional Water Quality Control Board and the USEPA for enforcement action.

(c) Any violation of this chapter may be declared to be a public nuisance, as determined by the Administrative Authority, and may be abated or enjoined by the Administrative Authority through civil action, in addition to any other remedy herein provided. The Administrative Authority shall have the authority to order the applicator to modify or abate existing land application processes or field conditions, or to immediately cease any and all landspreading operations pending the investigation and decision of the Administrative Authority. The Administrative Authority reserves the right to reject shipments of biosolids loads destined for field application if it is determined that such loads do not comply with this Chapter.

(Ord. No. 888, §1; Ord. No. 889, §1; Ord. No. 1502, §1; Ord. No. 1536, §1; Ord. No. 1558, §1; Ord. No. 16,28, §16; Ord. No. 1689, §7)

### **Sec. 25-601. Appeals**

Any decisions by the Administrative Authority to revoke a permit or biosolids site registration or to order the cessation of land application activities or to deny a protest and allow application of biosolids onto land may be appealed to the Board of Supervisors by filing a written Notice of Appeal with the Clerk of the Board, on a form as may be prescribed by the County, within 10 days of the Administrative Authority's decision. Activities authorized by the permit or registration shall be suspended while the appeal is pending.

(Ord. No. 1502, §1; Ord. No. 1536, §1; Ord. No. 1558, §1; Ord. No. 1618, §7)

### **Sec. 25-602. Penalty for Violation of Chapter**

Any violation of the provisions of this chapter is a misdemeanor punishable by a fine of not more than one-thousand (\$1,000) dollars for the first offense; each continuing or subsequent offense shall be punishable by a fine of not more than one-thousand (\$1000) dollars or imprisonment in the county jail for not more than six months, or by both such fine and imprisonment. Such persons shall be deemed to be guilty of a separate offense for each and every day during any portion of

which a violation of this chapter is committed, continued, or permitted by such person.

(Ord. 1502, §1; Ord. 1536, §1; Ord. 1558, §1; Ord. 1628, §17)

(Ord. No. 1124, §1; Ord. No. 1125, §1)



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### **ARTICLE I. GENERAL PROVISIONS**

(Ord. No. 1419, §1)

**Sec. 26-11. Authority and Title**

This Chapter is adopted pursuant to the authority vested in the County of Solano by Section 7 of Article 11 of the California Constitution and by the Subdivision Map Act. This Chapter may be cited as the “Solano County Subdivision Ordinance”.

(Ord. No. 874, §6; Ord. No. 1575, §2; Ord. No. 1608, §2)

**Sec. 26-12. Purpose**

The purpose of this Chapter is to regulate and control subdivisions of land and, in connection therewith, to implement the County’s General Plan and to implement and supplement the Subdivision Map Act.

(Ord. No. 1575, §2; Ord. No. 1608, §2)

**Sec. 26-13. Application**

Except as otherwise provided in Section 26-15, this Chapter shall apply to all divisions, reversions to acreage, lot line adjustments, and mergers respecting real property located wholly or partially within the unincorporated areas of Solano County. This Chapter governs the filing, processing, approval, conditional approval, or disapproval of tentative, final and parcel maps, map waivers, lot line adjustments, certificates of compliance, conditional certificates of compliance, notices of violation, revisions to acreage, resubdivisions, mergers, and any modifications thereto. Except as specifically otherwise provided by this Chapter or the Subdivision Map Act, all subdivisions shall be subject to the same substantive and procedural requirements.

(Ord. No. 1575, §2; Ord. No. 1608, §2)

**Sec. 26-14. Environmental Impact**

No discretionary actions pursuant to the provisions of this Chapter shall be approved until an environmental impact analysis is prepared, processed and considered in accordance with the provisions of the California Environmental Quality Act (Public Resources Code Section 21000 et seq.). The subdivider shall provide such data and information as may be required to complete such analysis, pay a deposit, and pay such fees as may be required to reimburse County costs for preparation and processing of environmental review documents as specified by the Board of Supervisors.

(Ord. No. 1608, §2)

**Sec. 26-15. Exemptions**

Exemptions from the provisions of this Chapter are governed by Section 26-15.1 and 26.15.2.

(Ord. No. 1608, §2)

**Sec. 26-15.1. List of Exemptions**

Except as otherwise provided in Section 26-15.2, this Chapter shall not apply to:

- (a) The financing or leasing of apartments, offices, stores or similar spaces within apartment buildings, industrial buildings, commercial buildings, mobile home parks, or trailer parks;
- (b) Mineral, oil, gas or agricultural leases;
- (c) Land dedicated for cemetery purposes under the provisions of the Health and Safety Code;
- (d) Boundary line or exchange agreements to which the State Lands Commission or a local agency holding a trust grant of tide and submerged lands is a party;
- (e) Any separate assessment under Section 2188.7 of the Revenue and Taxation Code;
- (f) The financing or leasing of existing separate commercial or industrial buildings on a single lot;
- (g) The financing or leasing of any lot, or portion thereof, in conjunction with the construction of commercial or industrial buildings on a single lot;
- (h) Subdivisions creating four or fewer lots for construction of removable commercial buildings having a floor area of less than 100 square feet;
- (i) The construction, financing or leasing of dwelling units pursuant to Section 65852.1 of the Government Code, or of second units pursuant to Section 65852.2 of the Government Code;
- (j) Subdivisions of a portion of the operating right-of-way of a railroad corporation defined as such by Section 230 of the Public Utilities Code which are created by short-term leases (terminable by either party on not more than 30 days' notice in writing);
- (k) Land conveyed to or from a governmental agency, public entity or public utility;
- (l) Land conveyed to a subsidiary of a public utility for conveyance to such public utility for rights-of-way;
- (m) The leasing of, or the granting of an easement to, a lot, or any portion thereof, in conjunction with the financing, erection and sale or lease of a wind powered electrical generation device on the lot or portion thereof; and

(n) The leasing or licensing of a portion of a lot, or the granting of an easement, use permit, or similar right on a portion of a lot, to a telephone corporation as defined in Section 234 of the Public Utilities Code, exclusively for the placement and operation of cellular radio transmission facilities.

(Ord. No. 1608, §2)

**Sec. 26-15.2. Limitations on Exemptions**

This Chapter shall apply to subdivisions affected in the manner described in subdivisions (j), (k) and (l) of Section 26-15.1 if the property involved is shown on the latest equalized County assessment roll unless the Director of Environmental Management has both:

- (a) Received advanced written notice of the proposed subdivision; and
- (b) Determined that there is no substantial evidence that public policy necessitates the filing of a final map, parcel map or map waiver for the subdivision.

The notice shall generally describe the proposed subdivision, shall identify the parties thereto, and shall contain such additional information as the Director of Environmental Management may require. The Director of Environmental Management's determination that there is or is not any such substantial evidence shall be made in writing within 30 calendar days after receipt of the notice. Public policy necessitates a final map, parcel map or map waiver whenever there is substantial evidence that the subdivision might create a lot that fails to satisfy any of the requirements of Article VII of this Chapter.

(Ord. No. 1608, §2)

**Sec. 26-15.3. Fees**

Fees for the processing of tentative, final and parcel maps and for other procedures required or authorized by the Subdivision Map Act or this Chapter, shall be paid in the amounts, if any, prescribed by resolution of the Board of Supervisors. Except as otherwise specified, such fees shall not be refundable. Each application for any such map or other procedure shall be accompanied by payment of all outstanding fees and charges by and owed to the County under this Chapter by the applicant, or by persons, partnerships, corporations or other entities owned or controlled by the applicant, or owning or controlling the applicant. No filing fee shall be charged or collected for any application filed by any County officer, employee, board or commission on behalf of the County of Solano.

(Ord. No. 1608, §2)

**ARTICLE II. DEFINITIONS**

(Ord. No. 1419, §1)

**Sec. 26-21. Definitions**

Whenever any words or phrases used in this Chapter are not defined herein, but are defined in the Subdivision Map Act, such definitions shall be deemed incorporated herein and shall apply as though set forth in full in this Chapter.

(Ord. No. 1608, §2)

**Sec. 26-21.1. Advisory Agency**

“Advisory Agency” means a designated official or an official body charged with the duty of making investigations and reports on the design and improvement of proposed divisions of real property, or imposing or suggesting requirements or conditions thereon, or having the authority to approve, conditionally approve or disapprove maps, certificates of compliance, conditional certificates of compliance, map waivers, lot line adjustments, or having the authority to conduct the hearings relating to notices of violation as specified in this Chapter and the Subdivision Map Act.

(a) For subdivisions that require the preparation of a tentative map and a final map pursuant to this Chapter and the Subdivision Map Act, the Planning Commission shall constitute the Advisory Agency. In such capacity, the Planning Commission shall make recommendations as to findings, requirements, conditions, approvals and disapprovals, but shall not be empowered to approve, conditionally approve or disapprove tentative maps. The Board of Supervisors shall make all findings required by this Chapter and the Subdivision Map Act, and shall approve, conditionally approve or disapprove tentative maps that require the preparation of a final map.

(b) For subdivisions that require the preparation of a tentative map and a parcel map, or the preparation of a map waiver, the Development Review Committee shall constitute the Advisory Agency. In such capacity, the Development Review Committee shall make recommendations as to findings, requirements, conditions, approvals and disapprovals but shall not be empowered to approve, conditionally approve or disapprove tentative maps. The Zoning Administrator shall make all findings required by this Chapter and the Subdivision Map Act and shall approve, conditionally approve or disapprove tentative maps which require the preparation of a parcel map and map waivers unless the Zoning Administrator defers to the Planning Commission, in which case the Planning Commission shall make all findings required by this Chapter and the Subdivision Map Act, and shall approve, conditionally approve or disapprove tentative maps which require the preparation of a parcel map and map waivers.

(c) For lot line adjustments the Zoning Administrator shall constitute the Advisory Agency. In such capacity, the Zoning Administrator shall make all findings required by this Chapter and the Subdivision Map Act, and shall approve, conditionally approve, or disapprove lot line adjustments.

(d) For certificates of compliance for legal building site determinations, the Director of Environmental Management shall constitute the Advisory Agency. In such capacity, the Director of Environmental Management shall make all findings required by this Chapter and the Subdivision Map Act, and shall approve the certificate of compliance or defer the request to the Planning Commission if a conditional certificate of compliance may be required.

(e) For hearings relating to notices of violation and conditional certificates of compliance, the Planning Commission shall constitute the Advisory Agency.

(Ord. No. 1608, §2)

**Sec. 26-21.2. Appeal Board**

“Appeal Board” means a designated board or other official body charged with the duty of hearing and making determinations upon appeals with respect to subdivisions and findings related thereto, the imposition of requirements or conditions thereon, or the kinds, nature and extent of the design or improvements, or both, required by the Advisory Agency. The Planning Commission shall constitute the Appeal Board respecting all actions taken by the Director of Environmental Management as Advisory Agency or the Zoning Administrator as Advisory Agency from which actions a right to appeal is granted by this Chapter or the Subdivision Map Act. The Board of Supervisors shall constitute the Appeal Board respecting all actions taken by the Planning Commission as an Advisory Agency or as an Appeal Board from which actions a right to appeal is granted by this Chapter or the Subdivision Map Act.

(Ord. No. 1608, §2)

**Sec. 26-21.3. Buildable area**

“Buildable Area” means the area of a lot that is not within the building setback area or within a biologically, historically, or archaeologically sensitive area and includes areas that are reasonably free from soils and geologic hazards such as seismicity, Liquefaction, settlement, land sliding, mud sliding, and flood hazards, and to which there is reasonable access.

(Ord. No. 1608, §2)

**Sec. 26-21.4. Building and Safety Division**

“Building and Safety Division” means the Building and Safety Division of the Solano County Environmental Management Department.

(Ord. No. 1608, §2)

**Sec. 26-21.5. CEQA**

“CEQA” means the California Environmental Quality Act, codified as Division 13 (commencing with Section 21000) of the Public Resources Code and such

amendments and additions thereto as may be made from time to time by the California Legislature.

(Ord. No. 1608, §2)

**Sec. 26-21.6. Contiguous**

Lots are “contiguous” when they touch each other at any point or when they are in close proximity to each other and are so situated as to be reasonably developable as a single unit. Lots may be contiguous even when separated by a strip of land over which some person or entity, other than the owner of the lots, has some property interest, including fee title or some lesser interest such as a leasehold or easement. Examples of such strips of land, which normally will not prevent lots from being contiguous, include roads and streets other than freeways, utility easements, railroad rights-of-way, canals and drainage channels.

(Ord. No. 1608, §2)

**Sec. 26-21.7. County Engineer**

“County Engineer” means the Director of the Solano County Transportation Department or his/her designee.

(Ord. No. 1608, §2)

**Sec. 26-21.8. County Surveyor**

“County Surveyor” means the Director of the Solano County Transportation Department or his/her designee.

(Ord. No. 1608, §2)

**Sec. 26-21.9. Development Review Committee**

“Development Review Committee” means that body comprised of the Program Manager of the Planning Services Division, the Transportation Director, the Program Manager of Environmental Health Services Division, the Chief Building Inspector of the Building and Safety Division, and County Counsel or their designee and may include other affected departments, agencies and districts.

(Ord. No. 1608, §2)

**Sec. 26-21.10. Director of Environmental Management**

“Director of Environmental Management” means the Director of the Solano County Environmental Management Department or his or her designee.

(Ord. No. 1608, §2)

**Sec. 26-21.11. Environmental Health Services Division**

“Environmental Health Services Division” means the Environmental Health Services Division of the Solano County Environmental Management Department.

(Ord. No. 1608, §2)

**Sec. 26-21.12. Environmental subdivision**

“Environmental Subdivision” means any division of land for biotic and wildlife purposes which is an environmental subdivision as defined in Section 66418.2 of the Subdivision Map Act.

(Ord. No. 1608, §2)

**Sec. 26-21.13. Filed**

For the limited purpose of commencing the time periods prescribed by Section 66452.1 of the Subdivision Map Act and Sections 26-95.2 and 26-95.3 of this Code for the reporting or acting upon tentative maps, a tentative map for which a complete application has been submitted shall be deemed to be “filed” with the clerk of the Advisory Agency on the filing date established as follows:

- (a) In cases where the subdivision is exempt from the requirements of CEQA, the Director of Environmental Management shall prepare and sign a notice of exemption and the filing date of the tentative map shall be the date on which such notice is signed.
- (b) In cases where a negative declaration or a mitigated negative declaration is required under CEQA, the Advisory Agency shall approve a negative declaration or a proposed mitigated negative declaration and the filing date for the tentative map shall be the date on which the appropriate Advisory Agency approves the document.
- (c) In cases where an environmental impact report is required under CEQA, the filing date for the tentative map shall be the date on which the Advisory Agency having authority to approve, disapprove or conditionally approve the tentative map, certifies the environmental impact report.

For the purposes of Sections 66452.6, 66457 and 66463.5 of the Subdivision Map Act and Section 26-98.2 of this Code, a final map shall be deemed to be “filed” with the legislative body and a parcel map shall be deemed to be “filed” with the Advisory Agency on the date it is submitted to the County Surveyor in a form and condition which would permit the County Surveyor to sign the certificate specified in Section 26-102 of this Code. For the purpose of Sections 26-101 and 26-104 of this Code, a final map or parcel map is “filed” for record when the County Recorder accepts it for filing pursuant to Section 66466 of the Subdivision Map Act.

(Ord. No. 1608, §2)

**Sec. 26-21.14. Flag lot**

“Flag Lot” means a lot whose general configuration is in the shape of an “L” or “T”, and which takes access from the road by means of a narrow strip which is part of the lot.

(Ord. No. 1608, §2)

**Sec. 26-21.15. Hillside area**

“Hillside area” means any area within a proposed subdivision that has a slope in excess of 20 percent.

(Ord. No. 1608, §2)

**Sec. 26-21.16. Legislative body**

“Legislative body” means the Board of Supervisors.

(Ord. No. 1608, §2)

**Sec. 26-21.17. Local Building Ordinance**

“Local Building Ordinance” includes Chapter 6.3, Building Standards and Codes; Chapter 6.4, Sewage Standards; Chapter 9, Drainage and Flood Control; Chapter 12.2, Flood Damage Prevention; Chapter 13.10, Well Standards; Chapter 31, Grading and Erosion Control Ordinance, and this Chapter of the Solano County Code.

(Ord. No. 1608, §2)

**Sec. 26-21.18. Lot**

“Lot” means an area of land having fixed boundaries depicted on or described by a tentative map, final map, parcel map or instrument of conveyance for the purpose of defining land to be held, actually or potentially, in fee title as a discrete unit; provided that roads, alleys and similar rights-of-way, whether held in fee or otherwise, are not lots. Condominium units that consist of airspace, as opposed to divisions of land, are not lots. Mere easements and licenses are not lots. Except where otherwise specified in this Chapter, references to lots are intended to include remainder parcels and parcels offered for dedication.

(Ord. No. 1608, §2)

**Sec. 26-21.19. Lot area, gross**

For purposes of this ordinance, “Gross lot area” and “gross area” mean the total area under fee ownership, within the lot lines of the lot.

(Ord. No. 1608, §2)

**Sec. 26-21.20. Lot area, net**

“Net lot area” and “net area” mean gross lot area less the area within any existing or proposed road.

(Ord. No. 1608, §2)

**Sec. 26-21.21. Lot, legal**

“Legal lot” means a lot that met all local subdivision ordinance and Subdivision Map Act requirements when it was created, still exists, and can be lawfully conveyed in fee as a discrete unit separate from any contiguous lot. “Legal lot” also means a lot for which a certificate of compliance or a conditional certificate of compliance has been issued under this Chapter and the Subdivision Map Act and the boundaries of which have not subsequently been altered by merger or further subdivision.

(Ord. No. 1608, §2)

**Sec. 26-21.22. Lot line adjustment**

“Lot line adjustment” means any boundary line adjustment between two or more adjacent lots under the same or different ownership where land taken from one lot is added to an adjacent lot and where neither a greater nor a lesser number of lots than originally existed is created.

(Ord. No. 1608, §2)

**Sec. 26-21.23. Parcel**

For the purposes of this Chapter, the word “parcel” shall have the same meaning as the word “lot” and the two words shall be synonymous.

(Ord. No. 1608, §2)

**Sec. 26-21.24. Parent parcel**

“Parent parcel” means all of the property from which a subdivision is, or was, created. For example, if a subdivision divides one original lot into two new lots, the original lot is the parent parcel for that subdivision, and if a subdivision merges and resubdivides two original lots into five new lots, the combined area of the two original lots is the parent parcel.

(Ord. No. 1608, §2)

**Sec. 26-21.25. Permanent domestic water supply**

“Permanent domestic water supply” means a supply or supplies of potable water to be provided by a system or systems approved by a public health agency of the State of California or the Environmental Health Services Division of the Solano County Environmental Management Department.

(Ord. No. 1608, §2)

**Sec. 26-21.26. Planning Services Division**

“Planning Services Division” means the Planning Services Division of the Solano County Environmental Management Department.

(Ord. No. 1608, §2)

**Sec. 26-21.27. Remainder parcel**

“Remainder Parcel” means that portion of a parent parcel which is not created for purposes of sale, lease or financing, including any portion of a parent parcel that is either a “designated remainder” or an “omitted parcel” within the meaning of Section 66424.6 of the Subdivision Map Act, and also means any portion of a parent parcel that is designated as a “Remainder Parcel”. Except as otherwise provided in this Chapter, a remainder parcel is a lot for all purposes of this Chapter. For any subdivision there shall be only one remainder parcel. The remainder parcel shall conform to the minimum size requirements applicable to the current zoning on the property.

(Ord. No. 1608, §2)

**Sec. 26-21.28. Solano County Improvement Standards and Specifications**

(a) “Solano County Improvement Standards and Specifications” means the latest revisions of the following documents adopted, from time to time, by the Board of Supervisors, and any other documents incorporated by reference therein:

- (1) Solano County Road Improvement Standards and Land Development and Subdivision Requirements.
- (2) County of Solano Hydrology and Drainage Design Procedure Manual.
- (3) Solano County Erosion and Sediment Control Handbook.
- (4) Solano County Water Agency Hydrology Manual.

(b) Pursuant to Section 66462, subdivision (b), of the Subdivision Map Act, the Solano County Improvement Standards and Specifications are adopted by reference and three copies shall be on file with the Clerk of the Board of Supervisors.

(Ord. No. 1608, §2)

**Sec. 26-21.29. Subdivider**

“Subdivider” means any person, firm, corporation, partnership or association which is a subdivider as defined in Section 66423 of the Subdivision Map Act and, in addition, the following:

(a) With respect to a subdivision ordered by a probate court to effect a testamentary disposition, the estate of the testator;

(b) With respect to a subdivision ordered by a court in a partition action pursuant to Title 10.5 (commencing with Section 872.010) of Part 2 of the Code of Civil Procedure, any plaintiff in such action and any owner of the subject property who consents to the partition; or

(c) With respect to a subdivision ordered by a court in a partition proceeding pursuant to Chapter 7 (commencing with Section 11950) of Part 10, Division 7 of the Probate Code, any heir, devisee or other beneficiary as defined in Section 24 of the Probate Code, entitled to the distribution of undivided interests in the subject property who petitions for or consents to the partition.

(Ord. No. 1608, §2)

**Sec. 26-21.30. Subdivision**

“Subdivision” means any division of land which is a subdivision as defined in Section 66424 of the Subdivision Map Act and, in addition, the following:

(a) The division, by any subdivider, of any unit or units of improved or unimproved land, or any portion, shown on the latest equalized County assessment roll as a unit or as contiguous units, for the purpose of any transfer, whether immediate or future, of the right to the exclusive possession of the surface of the land or portions, unless excepted by the Subdivision Map Act or this chapter.

(Ord. No. 1608, §2)

**Sec. 26-21.31. Subdivision Map Act**

“Subdivision Map Act” means the provisions of Division 2 (commencing with Section 66410) of Title 7 of the California Government Code and such amendments and additions thereto as may be made from time to time by the California Legislature.

(Ord. No. 1608, §2)

**Sec. 26-21-32. Zoning Administrator**

“Zoning Administrator” means the designee of the Department of Environmental Management as defined under Section 28-61 of the Solano County Code.

(Ord. No. 1575, §2; Ord. No. 1608, §2)

**ARTICLE III. MAP REQUIREMENTS**

(Ord. No. 1419, §1; Ord. No. 1575, §2)

**Sec. 26-31. Subdivisions creating five or more lots**

(a) A tentative map and a final map shall be required for all subdivisions which create five or more lots, create five or more condominiums as defined in Section 783 of the Civil Code, are a community apartment project (as defined in Section 11004 of the Business and Professions Code) containing five or more parcels, or are a conversion of a dwelling to a stock cooperative containing five or more dwelling units, except where:

(1) The parent parcel contains less than five acres, each lot created by the division abuts upon a publicly maintained public road or highway, and no dedications or improvements are required by the legislative body; or

(2) Each lot created by the subdivision has a gross area of 20 acres or more and has an approved access meeting the requirements of the Solano County Road Improvement Standards and Land Development and Subdivision Requirements to a publicly maintained public road or highway; or

(3) The parent parcel has an approved access meeting the requirements of the Solano County Road Improvement Standards and Land Development and Subdivision Requirements to a public road or highway and is zoned for industrial or commercial development, and which has the approval of the legislative body as to road alignment and widths; or

(4) Each lot created by the subdivision has a gross area of not less than 40 acres or is not less than a quarter of a quarter section; or

(5) Until January 1, 2003, the land being subdivided is solely for the creation of an environmental subdivision pursuant to Section 66418.2 of the Subdivision Map Act.

(b) A tentative map and a parcel map shall be required for those subdivisions described in subdivisions (a), (b), (c), (d) and (e). For the purposes of computing the number of lots created by a subdivision, any remainder parcel and any lots to be conveyed to a governmental agency, public entity, or public utility, or to a subsidiary of a public utility for reconveyance to a public utility for rights-of-way, shall not be counted. For purposes of this section, any conveyance of land to or from a governmental agency shall include a fee interest, an easement, or a license.

(Ord. No. 1608, §2)

**Sec. 26-32. Subdivisions creating four or fewer lots**

Except as otherwise provided in this Chapter, a tentative map and a parcel map shall be required for all subdivisions creating four or fewer lots, or four or fewer condominiums, or (in the case of community apartment projects) containing four or

fewer apartments, or (in the case of conversions to a stock cooperative) involving four or fewer dwelling units.

(Ord. No. 1608, §2)

**Sec. 26-33. Waivers**

A final map or parcel map shall, upon proper application therefore, be waived in the following cases:

(a) Large Lot Subdivisions - Subdivisions (other than condominium conversions, community apartment projects and stock cooperative conversions) which create lots, each of which has a gross area of at least 40 acres or is not less than a quarter of a quarter section are eligible for map waiver provided that the Advisory Agency has issued written findings that (1) the subdivision meets all of the requirements of this Chapter and the Subdivision Map Act for a subdivision by parcel map except only those requirements set forth in Section 26-101.1 of this Chapter and in Section 66428 of the Subdivision Map Act and such other requirements as may be waived by the Advisory Agency pursuant to this Section, and (2) no injury would be done to the public health, safety or welfare by permitting the subdivision to occur without a field survey;

(b) Lot Elimination Subdivision - Subdivisions which merge existing legal lots and then resubdivide the property so as to eliminate one or more of the previously existing lots by adding their territory to one or more of the other previously existing lots without otherwise altering the boundaries of the latter group of previously existing lots are eligible for map waiver provided that the Advisory Agency has issued written findings that the subdivision is consistent with the public health, safety and welfare, and the

(1) all of the resulting lots will conform to all applicable zoning, general plan and specific plan requirements, or

(2) at least one of the previously existing lots which are eliminated by the subdivision was nonconforming with applicable zoning, general plan or specific plan requirements, or

(3) at least one of the previously existing lots which are enlarged by the subdivision was nonconforming with applicable zoning, general plan or specific plan requirements; or

(c) Mobile Home Park Condominium Conversions - Subdivisions which convert mobile home parks (as defined in Section 50781 of the Health and Safety Code) into condominiums are eligible for map waiver provided that the Advisory

Agency has issued written findings that none of the conditions listed in subsections (a)(1) through (a)(4) of Section 66428.1 of the Subdivision Map Act exist.

(Ord. No. 847, §1; Ord. No. 861, §§ 1, 2)

**Sec. 26-33.1. Applications**

An application for a map waiver shall be on a form satisfactory to the Director of Environmental Management and shall be accompanied by documents containing all of the information specified in Sections 26-62 and 26-63, provided that the Advisory Agency may, in individual cases, permit the omission of items of information deemed by it not to be necessary for a proper review of the application. The application shall also be accompanied by a legal description and a sketch, prepared by a person authorized to practice land surveying, of each of the lots to be created by the subdivision or merger and, where applicable, each of the affected lots in existence at the time of application. The sketch shall include a north arrow and the bearings and distances for all the lot lines including, where applicable, distances between old and new lot lines. Where, in the opinion of the Director of Environmental Management, a field survey is necessary in order to support a required finding that one or more of the lots to be created will conform to applicable zoning requirements, the application shall be accompanied by a field survey. The application for a mobile home park condominium conversion described in subdivision (c) of Section 26-33 shall also be accompanied by a petition in the form specified in Section 66428.1 of the Subdivision Map Act signed by at least two-thirds of the owners of mobile homes who are tenants in the mobile home park.

(Ord. No. 1608, §2;)

**Sec. 26-33.2. Processing**

(a) An application for a map waiver shall be processed as an application for a ministerial permit, without public notice or hearing, in the following cases:

- (1) Lot elimination subdivisions described in subdivision (b) of Section 26-33; and
- (2) Mergers described in subdivision (c) of Section 26-33 where all of the preexisting lots are legal lots.

(b) In all other cases, an application for a map waiver shall be processed in the same manner as an application for a tentative parcel map. Prior to expiration of the map waiver approval, legal descriptions describing the parcels, as approved by the Advisory Agency, shall be provided by the applicant(s) in a form and content acceptable to the Department of Environmental Management. Also, the applicant shall obtain certification from the County Tax Collector which states that according to the records of his/her department there are no liens against the parcels for unpaid state, county, or municipal or local taxes or special assessments collected as taxes, except taxes or special assessments not yet payable. The Director of

Environmental Management shall prepare and sign a certificate of compliance or conditional certificate of compliance to indicate compliance with all of the conditions of the approval of the map waiver.

(Ord. No. 1608, §2;)

**Sec. 26-33.3. Recording**

A map waiver shall not become operative unless and until the certificate of compliance or conditional certificate of compliance is recorded in the Office of the County Recorder prior to expiration of the approval. Unless a certificate of compliance or a conditional certificate of compliance is recorded the approval shall expire one year from the date of the approval in the cases described in subdivisions (b) and (c) of Section 26-33, and three years from the date of the approval in the case described in subdivision (a) of Section 26-33. After approval of the map waiver, the Director of Environmental Management shall indicate on a separate document all conditions that, according to proof supplied by the applicant, have been satisfied. If all conditions that are required to be satisfied prior to the recording of the certificate of compliance or conditional certificate of compliance have not been satisfied, the Director of Environmental Management shall not sign and record the certificate of compliance or conditional certificate of compliance. If all conditions that are required to be satisfied prior to the recording of the certificate of compliance or conditional certificate of compliance have been satisfied, the Director of Environmental Management shall prepare and sign the certificate of compliance or conditional certificate of compliance, including applicable legal descriptions and sketches provided by the applicant, and shall transmit it to the Solano County Recorder. When recorded, the certificate of compliance or conditional certificate of compliance shall have the same force and effect as a recorded parcel map.

(Ord. No. 1608, §2;)

**ARTICLE IV. LOT LINE ADJUSTMENTS**

(Ord. No. 1419, §1)

**Sec. 26-41. Lot line adjustments**

An application for a lot line adjustment, as defined in Section 66412 of the Subdivision Map Act and this Chapter, shall be on a form satisfactory to the Director of Environmental Management and shall be accompanied by documents containing all of the information specified in Section 26-41.1, provided that the Advisory Agency may, in individual cases, permit the omission of items of information deemed by it not to be necessary for a proper review of the application.

(Ord. No. 1608, §2;)

**Sec. 26-41.1. Information to accompany the application**

The application for a lot line adjustment shall include the following:

- (a) A preliminary title report current within the last 60 days for all of the property affected by the lot line adjustment.
- (b) The number of copies as required by the Director of Environmental Management of the lot line adjustment map accurately drawn to scale. Measurements shall be identified by feet or meters and shall include the area in square feet, square meters or acres. One copy of the map reduced to eight and one-half inches by eleven inches, (215 mm x 280 mm), shall also be submitted.
- (c) The map shall meet the following criteria:
  - (1) The scale of the map shall be one inch equals one hundred feet, (metric scale of 1:1000), or larger.
  - (2) In or near the lower right-hand corner of the first sheet:
    - (A) Name and address of the owners of the properties being adjusted;
    - (B) North point and scale of map;
    - (C) Name and address of person preparing the map;
    - (D) Date the map was prepared;
  - (3) All exterior and interior lines shall be shown on the map and shall be identified by course and bearing description, based on survey data, calculated data, or information of record. If a survey is done, any monuments established must be shown on a record of survey filed in accordance with the Professional Land Surveyors Act, Business and Professions Code Sections 8700 et seq.
  - (4) Proposed new lines and lines to be eliminated shall be so identified in written notation or by legend. Lines to be eliminated shall be dashed or otherwise drawn so as to be clearly distinguishable from remaining and new lines.
  - (5) The area of all existing and proposed parcels shall be identified and listed in acres, square feet or square meters.
  - (6) All existing structures, wells, septic tanks, leach fields, driveways, fences, tree rows, significant trees, public utility lines, and other prominent features located on the original parcels shall be accurately located, identified, and drawn to scale. A registered civil engineer or licensed land surveyor when deemed necessary by the Planning Services Division shall establish such locations.

- (7) The locations, names, county road numbers, and widths of all adjoining and contiguous highways, streets, and roads.
- (8) The locations, purpose, and width of all existing and proposed easements, roads and appurtenant utilities.
- (9) The approximate location of all watercourses, drainage channels, and existing drainage structures.
- (10) The approximate location of other topographic or man-made features, such as bluff tops and ponds.
- (11) The approximate high-water line and elevation in lakes or reservoirs, and the mean high tide line along tidal channels.
- (12) The location of all areas subject to inundation or storm water overflows.

(Ord. No. 1608, §2)

**Sec. 26-42. Processing**

The Zoning Administrator is the Advisory Agency for lot line adjustments and may approve, conditionally approve, or disapprove applications for lot line adjustments. Notice of hearing should be given pursuant to Section 26-95.1 for all lot line adjustments. An application for a lot line adjustment shall be processed in the same manner as an application for a tentative parcel map. Upon approval of a lot line adjustment, the Advisory Agency shall date and sign a tentative approval form, including applicable legal descriptions and sketches. Any conditions imposed with respect to the approval shall be stated in full on a separate document physically attached to the tentative approval form. Any lot line adjustment that would create a lot that was adjusted as to ownership (including ownership of a security interest) shall be conditioned to require that deeds be recorded simultaneously with the certificate of compliance so as to make ownership boundaries correspond to lot boundaries, and the recording of the certificate of compliance shall constitute consent by the grantee of any such deed to a consolidation of the affected Assessor's parcels in the grantee's possession so as to prevent an increase in the number of Assessor's parcels shown on the County's assessment roll. If one or both of the parcels are encumbered by a deed of trust or mortgage, the liens of these security instruments shall be modified to correspond to the new lot line.

(Ord. No. 1608, §2)

**Sec. 26-43. Findings**

The application shall not be approved by the Advisory Agency unless it finds as follows:

- (a) The adjustment is consistent with applicable building ordinances, and that either
- (1) all of the resulting lots will conform to all applicable zoning requirements, or
  - (2) no conforming lot will be made nonconforming with applicable zoning requirements and the adjustment will not reduce the aggregate area of all affected lots which do not meet the minimum area requirements of their zoning designations;
- (b) Approval of the lot line adjustment will not create a greater number of parcels than originally existed;
- (c) A letter signed by the Solano County Tax Collector, stating that there are no liens against the properties or any part thereof for unpaid State, County, municipal or local taxes or special assessments collected as taxes, except taxes or special assessments not yet payable, and stating that security has been filed with the Clerk of the Board of Supervisors for the estimated taxes which are a lien on the property but not yet payable for taxes and special assessments, and stating that security satisfying the requirements of Section 66493 of the Subdivision Map Act has been provided.

(Ord. No. 1608, §2)

**Sec. 26-44. Conditions of approval**

Any conditions imposed with respect to the approval shall be stated in full on a separate document physically attached to the tentative approval form. Where applicable, the advisory agency may condition approval of a lot line adjustment as follows:

- (a) Any lot line adjustment that would create a lot that was divided as to ownership (including ownership of a security interest) shall be conditioned to require that deeds be recorded simultaneously with the certificate of compliance so as to make ownership boundaries correspond to lot boundaries, and the recording of the certificate of compliance shall constitute consent by the grantee of any such deed to a consolidation of the affected Assessor's parcels in the grantee's possession so as to prevent an increase in the number of Assessor's parcels shown on the County's assessment roll. If one or both of the parcels are encumbered by a deed of trust or mortgage, the liens of these security instruments shall be modified to correspond to the new lot line.
- (b) Any existing utilities, infrastructure, or easements, which must be relocated and/or extended due to the lot line adjustment, shall be relocated and/or extended.
- (c) No portion of a parcel that is under an Agricultural Preserve Contract will be transferred to property that is not under an Agricultural Preserve Contract will

be transferred to property that is not under an Agricultural Preserve Contract, unless it has been approved by the Planning Commission under the criteria set forth in Section 51257 of the Government Code.

(Ord. No. 1608, §2)

**Sec. 26-45. Approval**

A lot line adjustment shall not become operative unless and until the certificate of compliance is filed in the Office of the County Recorder prior to expiration of the approval. The approval shall expire one year from the date of the tentative approval by the Advisory Agency. The applicant for the lot line adjustment shall submit to the Director of Environmental Management information and documents sufficient to satisfy the conditions of the lot line adjustment, including:

- (a) A signed and acknowledged statement satisfying all the requirements of Section 66436 of the Subdivision Map Act (record title interest);
- (b) A certificate or statement satisfying the requirements of Section 66492 of the Subdivision Map Act (no liens for taxes);
- (c) A certificate or statement and a security satisfying the requirements of Section 66493 of the Subdivision Map Act, if any part of the lot line adjustment is subject to a lien for taxes or special assessments collected as taxes which are not yet payable and/or any lot line created by the lot line adjustment would bisect any existing assessor's parcel;
- (d) Conveyance documents for relocated and/or extended utilities and/or easements.

(Ord. No. 1608, §2)

**Sec. 26-45.1. Recording**

(a) If all conditions that are required to be satisfied prior to the recording of the certificate of compliance have been satisfied, the Director of the Department of Environmental Management shall prepare the certificate of compliance and shall transmit it to the Solano County Recorder, to be recorded concurrently with the following documents:

- (1) Grant Deed(s) that convey the adjustment area(s) between the parcel owners;
- (2) Any conveyance documents that are required for the relocation and/or extension of existing utilities and/or easements; and
- (3) Any certificate or statement, and security required to meet the requirements of Section 66493 of the Subdivision Map Act.

(b) If conditions remain to be satisfied that are not required to be satisfied prior to recording of the certificate of compliance, the Director of Environmental Management shall prepare and record a conditional certificate of compliance stating those conditions, which remain to be satisfied. The recorded conditional certificate of compliance shall have the same force and effect as a recorded parcel map.

(Ord. No. 1608, §2)

**Sec. 26-46. Mapping**

Neither a tentative map, final map nor parcel map shall be required for approval of a lot line adjustment. No record of survey shall be required unless required by Section 8762 of the Business and Professions Code (Professional Land Surveyor's Act).

(Ord. No. 1608, §2)

**ARTICLE V. CERTIFICATES OF COMPLIANCE**

(Ord. No. 1419, §1)

**Sec. 26-51. Certificate of Compliance and Conditional Certificate of Compliance**

Certificates of compliance and conditional certificates of compliance are issued under the provisions of this Chapter and Sections 66499.34 and 66499.35 of the Subdivision Map Act. Any owner of a lot, or any vendee of such owner pursuant to a contract of sale of the lot, may request a determination whether the real property complies with the provisions of the Subdivision Map Act and this Chapter. Any such certificate respecting a lot created by lease shall certify the lot's compliance for the purposes of lease only, and only for the duration of the lease, except as otherwise required by Section 66499.34 of the Subdivision Map Act.

(Ord. No. 1608, §2)

**Sec. 26-52. Certificate of Compliance**

Any owner of a lot, or any vendee of such owner pursuant to a contract of sale of the lot, may submit an application for a certificate of compliance certifying that the lot complies with this Chapter and the Subdivision Map Act. Such application shall be accompanied by payment of the processing fee prescribed by the Board of Supervisors.

(Ord. No. 1608, §2)

**Sec. 26-52.1. Applications**

The application shall be on a form that is satisfactory to the Director of Environmental Management. The application shall be processed as described in

Section 26-52.2 through 26-52.3 of this Chapter. The application shall include all of the following:

- (a) Chain of title - A chain of title for the property. The applicant shall include legible copies of all deeds affecting the property beginning with the deed that described the property prior to its current configuration, from that time to the present, unless the parcels were created through a filed final map, parcel map, or official map or unless waived by the Director of Environmental Management. The applicant shall include copies of all filed maps where parcels were created using the maps; and
- (b) Preliminary title report - Two copies of a preliminary title report for the property which is dated within 60 days of the date of submittal; and
- (c) Other information - Any maps or other supporting documents to support and clarify when and how the parcel was created.

(Ord. No. 1608, §2)

**Sec. 26-52.2. Review by Director of Environmental Management**

The Director of Environmental Management shall review the completed application in the light of public records. If the Director of Environmental Management is able to determine from this review that the lot is clearly in compliance with the provisions of this Chapter and the Subdivision Map Act, he or she shall issue a certificate of compliance for the lot and deliver the certificate to the County Recorder for recordation. If the Director of Environmental Management is unable to determine from this review that the lot is clearly in such compliance, he or she shall serve written notice on the applicant that the application will be referred to the Advisory Agency for a hearing pursuant to Section 26-52.3.

(Ord. No. 1608, §2)

**Sec. 26-52.3. Hearing by Advisory Agency**

If the Director of Environmental Management refers the application to the Advisory Agency for hearing, the Secretary of the Advisory Agency shall mail by certified mail to the applicant and to all record owners of the lot a notice conforming in all respects to a notice of intention as specified in Section 26-164, except that the notice shall not be recorded with the County Recorder. The Advisory Agency shall conduct the hearing in the same manner as a hearing under Section 26-164. If the determination of the Advisory Agency is that the lot is in compliance with the provisions of this Chapter and the Subdivision Map Act, the Secretary of the Advisory Agency shall issue a certificate of compliance for the lot and delivery it to the County Recorder for recordation. If the determination of the Advisory Agency is that the lot is not in such compliance, the Secretary of the Advisory Agency shall file for record with the County Recorder a notice of violation complying with the

provisions of Section 66499.36 of the Subdivision Map Act or file a conditional certificate of compliance, and shall so notify the applicant.

(Ord. No. 1608, §2)

**Sec. 26-53. Conditional Certificate of Compliance**

A conditional certificate of compliance, certifying that a lot is deemed to be in compliance with this Chapter and the Subdivision Map Act, subject to satisfaction of certain conditions precedent to the issuance of a building permit or other grant of approval for development of the lot, may be obtained pursuant to Sections 26-53.1 and 26-53.2. Any such certificate respecting a lot created by lease shall certify the lot's compliance for the purposes of lease only, and only for the duration of the lease, except as otherwise required by the last paragraph of Section 66499.34 of the Subdivision Map Act.

(Ord. No. 1608, §2)

**Sec. 26-53.1. Application and processing**

Any person may submit an application for a conditional certificate of compliance for any existing lot or group of contiguous lots which have been created, legally or illegally, by any conveyance or subdivision map, provided that the application must pertain to all such contiguous lots in common ownership. If the application pertains to a single lot, it shall be submitted and processed in the same manner and subject to the same requirements as an application for a parcel map, except as otherwise provided in Section 26-53.2. If the application pertains to two or more contiguous lots, it shall be submitted and processed in the same manner and subject to the same requirements as an application for a parcel map or a final map creating those lots, except as otherwise provided in Section 26-53.2. If the application pertains to two or more contiguous lots that were created illegally and are all owned by the illegal subdivider, the application may be approved only if the proposed conditional certificate of compliance merges all such lots into one, in which case it shall be treated as an application pertaining to a single lot. The approved conditional certificate of compliance shall be recorded in the same manner as other final maps and parcel maps, and once recorded shall have the same force and effect as a filed final map or parcel map.

(Ord. No. 1608, §2)

**Sec. 26-53.2. Conditions**

(a) An application for a conditional certificate of compliance shall not be denied on account of the noncompliance of any lot with applicable requirements respecting:

- (1) Lot size and configuration;
- (2) Buildable site;

- (3) Sewage disposal;
- (4) Water for domestic or firefighting purposes; or
- (5) Access.

(b) However, the application may be approved subject to the condition that the lots are brought into compliance with such requirements. Any conditions imposed with respect to a conditional certificate of compliance shall be limited to those which could have been imposed in connection with a lawful subdivision of the legal parent parcel out of which each lot to which the certificate pertains was created had such lawful subdivision been effected on the date the present owner acquired his or her interest in the lot, except where the present owner was the owner at the time the parent parcel was subdivided so as to create the lot, in which case the conditions shall be limited to those which could be imposed in connection with a current lawful subdivision of such parent parcel. Compliance with such conditions by any lot to which the certificate pertains shall be required prior to County issuance of a building permit or other grant of development approval for said lot.

(Ord. No. 1608, §2)

#### **ARTICLE VI. SUBMISSION OF TENTATIVE MAP**

(Ord. No. 1419, §1; Ord. No. 1575, §2)

##### **Sec. 26-61. Submission**

Unless otherwise provided in this Chapter, each proposed subdivision shall first be submitted to the Planning Services Division of the Department of Environmental Management in the form of a tentative map. Tentative maps shall be prepared and submitted in compliance with all applicable State laws and County ordinances.

(a) Number of copies - The number of copies required for submission of a tentative map shall be determined by the Planning Services Division based, in part, on the type of proposed subdivision, location of the property, and any known issues related to the area.

(b) Vesting Tentative Maps - A subdivider desiring to obtain the development rights conferred by Chapter 4.5 (Commencing with Section 66498.1) of the Subdivision Map Act shall print the words >Vesting Tentative Map conspicuously on the face of each copy of the tentative map prior to submitting the tentative map to the Planning Services Division.

(c) Phased Maps - A subdivider desiring to record multiple final maps or multiple parcel maps relating to a single tentative map shall so inform the Planning Services Division in writing at the time the tentative map is submitted, provided

that, at any time prior to approval or conditional approval of the tentative map, the Advisory Agency may waive this requirement.

(Ord. No. 1480, §1; Ord. No. 1608, §2;)

**Sec. 26-62. Information to be shown on tentative maps**

Each tentative map shall consist of one or more sheets of equal size. The scale of the tentative map shall be one inch equals one hundred feet (metric scale of 1:1000), or larger. The Director of Environmental Management may approve the use of another scale if warranted due to the size of the property. The map sheets shall not exceed 42 inches (1.1 meters) along any side. In addition to satisfying the requirements of Article VII of this Chapter, the map shall show the following information:

- (a) A small vicinity or area map, no larger than 5 inches by 5 inches (130 mm by 130 mm) in size, showing the major existing circulation pattern and all proposed major roads, existing major watercourses and existing channels within one-half mile (.8 km) of the exterior boundaries of the subdivision;
- (b) In or near the lower right-hand corner of the first sheet:
  - (1) Name and address of subdivider;
  - (2) Name and address of owner or parent parcel;
  - (3) Name and address of person preparing the map;
  - (4) North arrow and scale of map;
  - (5) The date the map was prepared and/or revised;
  - (6) The total number of lots or parcels to be offered for dedication excluding any remainder parcel and, if there is a remainder parcel, a notation to that effect;
- (c) All existing and proposed interior and exterior boundary lines of the subdivision with approximate bearings and distances;
- (d) Contour intervals as follows:
  - (1) One foot (1/4 meter) when the slope of ground is less than five percent; or
  - (2) Two feet (2 meter) when the slope of ground is between five and ten percent; or
  - (3) Five feet (1 2 meters) when the slope of ground is between ten and twenty-five percent; or

- (4) Ten feet (3 meters) when the slope of ground is greater than twenty-five percent; and
- (5) At least every fifth contour shall be clearly labeled and indicated so as to be distinctive; and
- (6) Contour lines shall be depicted for a sufficient distance beyond the boundary lines of the subdivision to clearly show the relationship of the topography of the subdivision to that of the surrounding land;
- (e) Each lot shall be identified with the following: any remainder parcel shall be designated "Remainder Parcel"; all other lots shall be numbered consecutively commencing with the number "One";
- (f) The gross and net area of each proposed lot;
- (g) The location of at least one buildable area on each proposed lot as defined in Section 26-21.3 and as required by Section 26-72.6, including the location and grade of driveways to serve the buildable area unless waived by the Director of Environmental Management;
- (h) The location of all existing structures, fences, tree rows, significant trees, existing or abandoned water wells, public utility lines, prominent features and land uses within the subdivision and within one hundred feet (30 meters) of the proposed subdivision. Designate those to be removed as part of the subdivision;
- (i) The location of all producing, abandoned or idle gas wells, oil or gas pipelines, existing or abandoned oil sumps; and the location and capacity of any abandoned or active underground storage tanks, buried fuel tanks or farm chemical tanks;
- (j) The location of all active, closed or abandoned solid waste disposal sites, including but not limited to domestic waste sites, agricultural waste or construction debris disposal sites;
- (k) The approximate location and direction of flow of all watercourses, including intermittent streams, natural drainage channels, man-made drainage channels, viaducts, ponds, surface impoundments and lakes;
- (l) The widths, centerline radii and approximate grades of all rights-of-way for all roads within the proposed subdivision, the approximate finish grades at road intersections and turnarounds within the proposed subdivision, the widths and approximate locations of all existing or proposed public or private easements either within or outside of the proposed subdivision for roads, drainage, or utilities, and the location within and outside of the proposed subdivision of proposed storm drain lines, inlets and outlets;

- (m) The width and location of all necessary off-site access, including the location of any bridges from the proposed subdivision to the nearest public road;
- (n) Evidence of a purchase agreement adequate to insure sufficient title, including easements or licenses as appropriate, to permit the construction or installation of offsite improvements;
- (o) Delineation of all flood hazard areas based on 100-year storm frequency as determined from the latest FEMA maps(s) for the site. For subdivisions that are within an identified flood hazard area the base flood elevation shall be shown. Development of the subdivision shall conform to Section 12.2-52. Standards for Subdivision, Flood Damage Prevention of the Solano County Code.
- (p) The location of each existing or proposed septic tank, existing or proposed leach field, and existing or proposed reserve area, including the location of soil percolation test holes and soil profile excavations completed pursuant to site evaluation reports described in subdivision (k) of Section 26-63; and
- (q) The approximate location of all public roads, private roads, and public or private easements to be vacated pursuant to Sections 66499.203 and 66499.202 of the Subdivision Map Act.

(Ord. No. 1503, §2; Ord. No. 1608, §2;)

**Sec. 26-63. Documents to be submitted with tentative maps**

Each tentative map submitted to the Planning Services Division shall be accompanied by a narrative description or documents containing all of the following items, excepting only those items waived by the Director of Environmental Management:

- (a) A completed application form accompanied by a statement signed by all parties listed as owners of the property on the latest equalized County assessment roll, or by their authorized agents, consenting to the submittal of the tentative map and, if agents are used, a signed statement from the property owners authorizing the agents to act on the owner's behalf;
- (b) Any required application fees;
- (c) Identify and existing oil/gas development permits and leases on the property;
- (d) The names and addresses of all operators of proposed subdivision utility systems, all proposed water and sewer purveyors, all on-site oil/gas well permits, and all on-site oil/gas pipeline operators;
- (e) Assessor's parcel map with the parent parcel outlined in red;

- (f) Assessor's parcel map with a line 300 feet (100 meters) to the outside of the parent parcel marked in red;
- (g) Two sets of gummed address labels filled out with the name and mailing address of each person who, according to the latest equalized assessment roll, owns real property within 300 feet (100 meters) of the parent parcel;
- (h) The proposed uses of each proposed lot (e.g., single-family, multiple family, commercial, industrial, schools, parks);
- (i) The existing use of the property including any active use permits;
- (j) A description of the proposed method of storm water disposal, prepared by a civil engineer registered by the State of California, including the following:
  - (1) A hydrologic and hydraulic study indicating the following conditions before and after proposed development of the subdivision: drainage areas, major watercourses, quantity and pattern of storm water, and diversion and collection systems; and
  - (2) A narrative and graphic description indicating how the drainage requirements set forth in the Solano County Road Improvement Standards and Land Division and Subdivision Requirements will be satisfied; and
  - (3) If the tentative map depicts a buildable area within a flood hazard area delineated on the tentative map, a demonstration that each such area can be protected from a 100-year flood;
- (k) A complete description of the proposed method of sewage disposal for each proposed lot, including the following:
  - (1) When the proposed method of sewage disposal is by a community (public) sewer system, a "Will Serve Letter" from a sewer utility, district or agency stating that adequate sewer capacity is currently available to provide service connections to each proposed lot in the subdivision, or will be available prior to the filing of the final or parcel map; or
  - (2) When the proposed method of sewage disposal is by an individual, on-site sewage disposal system, a site evaluation report which complies with the criteria specified in the Solano County Sewage Disposal Standards, shall be submitted which clearly demonstrates that there exists on each proposed lot, and adequate and suitable area for the installation of an on-site sewage disposal system and an equally suitable reserve area. If a non-standard sewage disposal system is proposed for use on any lot, the site evaluation report shall include basic system design calculations and system footprints to demonstrate that site criteria can be met.

(l) A description of the proposed method and plan for providing a permanent domestic water supply to each proposed lot, including the following:

(1) When the proposed water supply is to be provided by a public water system, as defined in Section 116275(h) of the Health and Safety Code, a "Will Serve Letter" from a utility district, agency or company stating that water is available to provide permanent service connections for domestic purposes to each proposed lot in the subdivision; or

(2) When individual, on-site water supplies are proposed, the applicant must submit information designating the type and proposed location of the anticipated water source.

(m) A preliminary title report current within the last 60 days. If public easements are identified therein, a certification by the applicant that the design of the subdivision and the type of improvements will not conflict with easements acquired by the public at large for access through, or use of, property within the proposed subdivision;

(n) A preliminary geotechnical investigation addressing the suitability of each lot for purposes of construction, prepared by a Geotechnical Engineer registered by the State of California, and based upon adequate soil borings and other appropriate test methods, including the following information:

(1) A description of the nature of the subsurface soils and of any soils conditions, which would affect the proposed development and use of the subdivision;

(2) The location and logs of all test bores;

(3) The location of a buildable area for each proposed lot for which a buildable area is required under Section 26-72.6; and

(4) A description of general solutions for all known problems related to soils conditions and a statement as to the technical and economic feasibility of those solutions;

Provided that the preliminary geotechnical investigation may be waived if the Transportation Department, the Building and Safety Division and the Environmental Health Services Division find, on the basis of their knowledge of the soils in the subdivision, that the report is unnecessary;

(o) If the Transportation Department, Building and Safety Division, or the Environmental Health Services Division has knowledge of, or if the preliminary geotechnical investigation indicates the presence of, critically expansive soils or other soils problems which, if not corrected, could lead to structural defects or

hazardous conditions, a geotechnical investigation report for each proposed lot where such problems exist, shall be prepared by a Geotechnical Engineer registered with the State of California, including the following information:

(1) Recommended corrective action which is technically and economically feasible and is likely to prevent structural damage and eliminate any hazards to each proposed structure for the lot; and

(2) The location on the lot of a buildable area if one is required under Section 26-72.6;

(p) If the subdivision includes a hillside area, including type "A" or "B" lands identified in the Health and Safety Element of the General Plan, or any other geologically hazardous area, an engineering geology evaluation report, prepared by a Registered Geologist, in accordance with any applicable notes and recommended guidelines promulgated by the California Division of Mines and Geology, including the following information:

(1) A definition of geologic conditions within the subdivision;

(2) A discussion of specific areas where development may create hazardous conditions;

(3) A description of general solutions for all geologically hazardous conditions known to exist or which might be created by development and a statement as to the technical and economic feasibility of those solutions;

(4) The location and logs of all test bores;

(5) The location of a buildable area for each proposed lot if one is required under Section 26-72.6; and

(6) An evaluation of the effect of the geology on the proposed development and on adjacent properties;

Provided that the engineering geology evaluation report may be waived if the Transportation Department and the Building and Safety Division find, on the basis of their knowledge of the geologic characteristics of the subdivision, that the report is unnecessary;

(q) A report on the significant biological and wildlife resources found on the property, unless waived by the Director of Environmental Management;

(r) A survey of the archeological and paleontological resources found on the property, unless waived by the Director of Environmental Management;

- (s) A status report, approved by the State Division of Oil and Gas, on any shut-in or abandoned oil/gas wells, and other wells associated with oil and gas development, located on the parent parcel, including a map from the Division of Oil and Gas with the project site outlined in red;
- (t) Cross sections of all proposed improvements for roads or streets, utility lines, storm drains and the like;
- (u) A preliminary grading plan showing all cut and fill slopes over five feet (1.5 meters) in vertical height, both on and outside the parent parcel, and showing contour lines as prescribed by subdivision (e) of Section 26-62;
- (v) If the proposed subdivision involves the conversion of a mobile home park to another use, a report on the impact of the conversion on displaced residents of the mobile home park meeting the requirements of Section 66427.4 of the Subdivision Map Act;
- (w) The flood elevation data used to delineate on the tentative map any flood hazard area based on 100-year storm frequency; and
- (x) Any other relevant document deemed necessary by the Planning Services Division to make a determination of application completeness.

(Ord. No. 1608, §2;)

## **ARTICLE VII. DESIGN REQUIREMENTS**

(Ord. No. 1419, §1; Ord. No. 1575, §2)

### **Sec. 26-71. General**

The provisions of this Article apply only to subdivisions for which a final map or parcel map is required. All tentative maps must be consistent with the Solano County General Plan and satisfy all applicable planning, zoning, design and improvement requirements specified or incorporated in this Code.

(Ord. No. 1608, §2)

### **Sec. 26-72. Lot design**

The design of proposed lots is regulated in the following ways in order to obtain the optimal usability of each lot, preserve on- and off-site resources, including existing contours and trees, minimize the potential for adverse impacts on adjacent property, minimize the need for additional infrastructure, and maintain consistency with appropriate General Plan policies and zoning regulations.

(Ord. No. 1608, §2)

**Sec. 26-72.1. Lot lines**

Each sideline of a proposed lot shall be as close to perpendicular to the centerline of the road as is practicable at the point at which the lot sideline terminates.

(Ord. No. 1608, §2)

**Sec. 26-72.2. Lot width**

All proposed lots shall conform to the minimum lot width requirements of the zone in which the property is located. No lot, other than a flag lot, shall have less than 40 feet of frontage, unless the minimum lot width of the zone is less than 40 feet. No flag lot shall have an access strip less than 30 feet or more than 40 feet in width.

(Ord. No. 1608, §2)

**Sec. 26-72.3. Lot depth**

For all proposed lots, the average lot depth shall not be greater than three times the average lot width unless the Director of Environmental Management, upon information presented by the applicant, determines that a greater depth is justified. The applicant shall use the following criteria to justify the modification of this requirement.

- (a) Potential Amount of Grading - The amount and impact of on-site grading may be less with the provision of a greater lot depth.
- (b) Usable Lot Area - The steepness of the topography of proposed lots, the configuration of the parent parcel, and the location of on-site natural features may necessitate a greater depth to provide usable lot areas.
- (c) Flood Hazards - On-site and off-site flood hazards such as streams, tributaries and inundation areas subject to 100-year flood may create a need for a greater depth to provide usable lot areas and buildable sites.
- (d) Sun and Wind Orientation - A greater lot depth may be necessary to provide for passive and active solar heating and natural cooling opportunities.
- (e) Other - Other criteria relevant to unique or uncommon physical features of the property may necessitate a greater depth to provide usable lot areas and buildable sites or to mitigate adverse environmental effects.

**Sec. 26-72.4. Lot area**

All proposed lots, except lots to be dedicated or offered for dedication or reserved by recorded restrictions for flood control, natural resource preservation, common open space or other similar purpose, shall conform to the minimum lot area requirements of the General Plan Designation and Zoning District in which the property is located. In determining whether a proposed lot conforms to such

minimum area requirements, only the net area of the lot shall be considered unless the General Plan or Zoning ordinance provides otherwise.

(Ord. No. 1608, §2)

**Sec. 26-72.5. Access**

All proposed lots shall have legal access to public rights-of-way or approved private roads. Road layout shall be designed to provide for future access to, and not impose undue hardship upon, property adjoining the subdivision.

(Ord. No. 1608, §2)

**Sec. 26-72.6. Buildable area**

Each proposed lot shall have at least one buildable area. Within the Watershed and Conservation, Exclusive Agricultural and Rural Residential Zone Districts, the minimum buildable area shall be 4000 square feet unless waived by the Director of Environmental Management. Buildable areas are not required for:

- (a) Those parcels dedicated or offered for dedication to the County or some other public entity or reserved by recorded restrictions for flood control purposes, natural resource preservation, common open space, environmental subdivision, or other similar purposes; and
- (b) Those lots created for such purposes as landfills, mining operations, or other similar, long-term uses which do not normally require a permanent, on-site, primary structure and which lots are or will be subject to a discretionary permit issued by the County regulating their proposed use.

(Ord. No. 1608, §2)

**Sec. 26-72.7. Setbacks**

Each proposed lot shall, at all designated buildable areas and at all existing buildings, comply with all setback requirements of the zone. Whenever a subdivision results in a lot for which the only means of access is by way of an easement, that easement shall be considered as a public road or street for purposes of determining setbacks for all lots over which the easement passes.

(Ord. No. 1608, §2)

**Sec. 26-72.8. Energy conservation**

The design of a subdivision shall provide, to the extent feasible, for future passive or natural heating and cooling opportunities in the subdivision.

- (a) Examples of passive or natural heating opportunities in subdivision design include design of a lot size and configuration to permit orientation of a structure in an east-west alignment for southern exposure and solar easements.

(b) Examples of passive or natural cooling opportunities in subdivision design include design of lot size and configuration to permit orientation of a structure to take advantage of shade or prevailing breezes.

(Ord. No. 1608, §2)

**Sec. 26-72.9. Agricultural preserves**

Each proposed lot which is subject, in whole or in part, to a contract entered into pursuant to the California Land Conservation Act of 1965 (Chapter 7, commencing with Section 51200 of Part 1, of Division 1 of Title 5 of the Government Code) shall be consistent with the policy and uniform regulations governing administration of agricultural preserves in Solano County.

(Ord. No. 1608, §2)

**Sec. 26-73. Hillside and visually-sensitive areas**

In areas where General Plan policies, Specific Plan policies or action of the Board of Supervisors provide that ridge lines, natural land formations, stands of native vegetation, open space and view shed corridors, or other visually-sensitive site characteristics should be maintained while integrating residential development, and in hillside areas having such characteristics, subdivision applications shall include and conform to the following provisions:

- (a) The designation of building areas shall be shown on the tentative map;
- (b) The designation of areas subject to grading, including the amount of excavation, fill, and/or export or import material shall be shown on the tentative map;
- (c) The identification of all trees exceeding six inches in diameter measured three feet above the ground shall be shown on the tentative map for buildable area, road easements, driveway access and cut and fill areas;
- (d) Elevation drawings, photographs, or other graphic illustration method showing each building area in the project setting as viewed from adjacent primary roads in the area, shall be provided.

(Ord. No. 1608, §2)

**Sec. 26-73.1. Design guidelines**

The design of proposed subdivisions shall be evaluated under this section relative to the following guidelines:

- (a) SITE GRADING
  - (1) Building pads should not be situated on slopes exceeding 25% grade.

- (2) Stepped building pads should be utilized to reduce the grading of hillside areas and to reduce the mass and bulk of structures to be built thereon.
- (3) Bare, exposed soils should be avoided and graded areas should be reseeded with natural grasses or should be planted, subject to a comprehensive landscaping plan which includes predominately native, drought tolerant and fire resistant species.
- (4) Building pads atop ridge lines and knolls should be avoided.
- (5) Grading to achieve flat areas atop ridge lines and knolls or other alteration of the existing topography including removal of native landscaping should be avoided.
- (6) Retaining walls should be faced with materials and color compatible with the natural setting of the site such as natural stone or wood. Where it is physically feasible, retaining walls should be stepped to reduce the visual bulk and mass of such structures. Further, landscaping should be incorporated to minimize visual impacts of the walls, including plantings in front of or within the stepped structures.
- (7) Contouring of graded areas to provide visual compatibility with existing terrain characteristics should be encouraged.

(b) DESIGN ELEMENTS

- (1) The configuration of proposed parcels should be sensitive to existing landform and characteristics, particularly regarding building pad and access locations.
- (2) Parcels should be designed and building pads and access driveways sited to allow, to the maximum extent feasible, the retention of open space and view corridors without intrusion.

(Ord. No. 1608, §2)

**Sec. 26-74. Road rights-of-way**

The road layout of a proposed subdivision shall be consistent with all road right-of-way designations and general alignment shown on the Circulation Element of the Solano County General Plan. As a condition of approval of tentative maps, subdividers may be required to dedicate, or to make irrevocable offers of dedication, or to obtain offers of dedication of real property for roads, alleys, flood control, drainage, public utility purposes or other public purposes, together with such access rights and abutter's rights as may be required for public purposes. All roads that are to be offered for dedication and used for vehicular traffic shall conform to the Road Improvement Standards and Land Division and Subdivision Requirements for public roads, and all other roads that are to be used for access

shall conform to the Road Improvement Standards and Land Division and Subdivision Requirements for private roads.

(Ord. No. 1608, §2)

**Sec. 26-75. Road improvement requirements**

The required improvement of existing roads and construction of new roads to provide access for subdivided land is contained in this section. Details and standards for construction of road improvements are contained in the Road Improvement Standards and Land Division and Subdivision Requirements.

(Ord. No. 1608, §2)

**Sec. 26-75.1. Provisions for circulation and access**

All proposed lots shall have, as a minimum, “adequate access” (as defined in the Road Improvement Standards and Land Division and Subdivision Requirements) to public rights-of-way or approved private roads. The design of the subdivision shall provide for the following:

- (a) The circulation plan for a proposed subdivision shall provide public or private road frontage to each lot, shall conform to the circulation element of the county general plan and any other applicable circulation plan as may be adopted by the County, and shall extend proposed roads to contiguous property to facilitate through roads.
- (b) Where lots abut a public or private road and road improvements are required to be made as a condition of approval of a tentative map, the standard of improvements required shall be reasonable for the parcels being created and shall conform to the Road Improvement Standards and Land Division and Subdivision Requirements.
- (c) Where the Board of Supervisors has adopted plans for the establishment of bike lanes, but turnouts, equestrian trails, and other similar facilities, the design of the subdivision shall incorporate and allow for the establishment of such facilities.

(Ord. No. 1608, §2)

**Sec. 26-75.2. Additional conditions for properties zoned RR-2 2, R-E, R-S, R-D and R-M**

In addition to the design standards set forth in this Chapter, the Advisory Agency may approve, or conditionally approve, a tentative final map or tentative parcel map affecting properties zoned RR 2 2, R-E, R-S, R-D and R-M, pursuant to Chapter 28 of the Solano County Code, only when the following minimum conditions are met:

(a) Each proposed lot shall abut a maintained public road, except where the road meets the requirements of Section 26-75.2(d), below.

(b) The proposed subdivision shall provide that each proposed lot shall abut an existing or proposed county road within the maintained mileage system or abut a state highway which affords access to the subdivision. If a subdivider proposes a public road to be constructed and dedicated it shall have direct access to an existing county road within the maintained mileage system or to a state highway. All proposed county roads shall be dedicated and offered for acceptance by the subdivider to the County of Solano. As a condition precedent to the acceptance of any such proposed county road, the Advisory Agency shall require reasonable off-site and on-site improvements to the standards required by the Road Improvement Standards and Land Division and Subdivision Requirements. If the road improvements are not completed prior to the filing of the final map or parcel map, the subdivider shall enter into a secured agreement or contract as described in Article XI of this Chapter, and in the case of a subdivision which creates four or fewer lots, a statement shall be placed on the parcel map stating the nature, extent and requirements for the construction of such improvements.

(c) If any proposed lot abuts or is provided access by a county road within the maintained mileage system, reasonable improvements limited to the dedication of rights-of-way and/or easements, and the construction of offsite and onsite improvements, or the payment of a road impact fee may be required by the Advisory Agency.

(d) If, in the judgment of the Advisory Agency, a proposed road cannot serve more than four potential lots, based on the existing General Plan, the proposed road may be a private road that is not maintained by the public. The road shall be improved to conform to the Road Improvement Standards and Land Division and Subdivision Requirements for private roads.

(Ord. No. 1608, §2)

**Sec. 26-75.3. Additional conditions for properties zoned RR-5 and 55-10**

In addition to the design standards set forth in this Chapter, the Advisory Agency may approve, or conditionally approve, a tentative final map or tentative parcel map affecting properties zoned RR-5 and RR-10 pursuant to Chapter 28 of the Solano County Code, only when the following minimum conditions are met:

(a) Each proposed lot shall abut a maintained public road or private road.

(b) The proposed subdivision shall provide that each proposed lot shall abut an existing or proposed county road within the maintained mileage system, abut a state highway which affords access to each lot, or abut an existing or proposed private road. All proposed roads shall have a direct connection to an existing

county road within the maintained mileage system or state highway. All public road improvements shall conform to the Road Improvement Standards and Land Division and Subdivision Requirements for public roads. All private roads shall be no less than deeded private easements improved to conform to the Road Improvement Standards and Land Division and Subdivision Requirements for private roads. If the road improvements are not completed prior to the filing of the final map or parcel map, the subdivider shall enter into a secured agreement or contract as described in Article XI of this Chapter, and in the case of a subdivision which creates four or fewer lots, a statement shall be placed on the parcel map stating the nature, extent and requirements for the construction of such improvements.

(c) If any proposed lot abuts or is provided access by an existing county road or private road, reasonable improvements limited to the dedication of rights-of-way and/or easements, and the construction of offsite and onsite improvements, or payment of a road impact fee may be required by the Advisory Agency.

(Ord. No. 1608, §2)

**Sec. 26-75.4. Additional conditions for properties zoned T, A, A-L, P, C-H, C-N, C-G, C-S, C-O, M-L, M-G, I-WD, W, and MP**

In addition to the design standards set forth in this Chapter, the Advisory Agency may approve, or conditionally approve, a tentative final map or tentative parcel map affecting properties zoned T, A, A-L, P, C-H, C-N, C-G, C-S, C-O, M-L, M-G, I-WD, W, and MP established pursuant to Chapter 28 of the Solano County Code, only when the following minimum conditions are met:

(a) Adequate access as defined in the Road Improvement Standards and Land Division and Subdivision Requirements shall be provided to all lots.

(b) If the proposed subdivision abuts a county road, the standard of improvements, including dedication, shall be reasonable for the parcel being created and shall conform with the Road Improvement Standards and Land Division and Subdivision Requirements.

(Ord. No. 1608, §2)

**Sec. 26-75.5. Time of construction**

If the subdivision does not create five or more lots, any construction requirements established pursuant to Section 26-75.2 through Section 26-75.4 shall be completed as a prerequisite to the issuance of any building permit, or at such other time as may be determined by the Advisory Agency pursuant to Section 66411.1 of the Subdivision Map Act. In such case, the Advisory Agency shall require a notation on the parcel map to the effect that said construction shall be completed as provided above unless, at the time of filing of the parcel map, the Advisory Agency requires the subdivider to complete said construction within a reasonable

time following the approval of the parcel map because the same are necessary for reasons of public health and safety, or are required as a necessary prerequisite to the orderly development of the surrounding area.

(Ord. No. 1608, §2)

**Sec. 26-76. Utility easements**

Whenever overhead utilities are allowed in a proposed subdivision by this Code, utility easements of sufficient width shall be provided along the rear or side lot lines. Whenever possible, such easements shall extend an equal distance into each of two abutting lots. This requirement may be modified or recommended for modification by the Advisory Agency if warranted by unusual circumstances in a particular proposed subdivision. To the extent practicable, underground utility easements, whenever necessary, shall be abutting and parallel to lot lines.

(Ord. No. 1608, §2)

**Sec. 26-77. Drainage facilities and rights-of-way**

The design of a subdivision shall conform to good engineering practices, conform to Section 12.2-52, Standards for Subdivisions, Flood Damage Prevention of the Solano County Code, and shall provide for the proper drainage of the subdivision and all lots and improvements therein based on the runoff that can be anticipated from ultimate development of the watershed. The subdivision shall contain no undrained depressions. The subdivision and all lots and improvements therein shall be protected from off-site drainage or flood damage. All public facilities such as sewer, gas, electrical and water systems shall be located, elevated and constructed to minimize or eliminate potential flood damage. Any concentrations or increases of surface water resulting from the development of the subdivision must be conveyed by means of adequate facilities to a suitable natural watercourse in the area. If channels need to be constructed or improved to facilitate surface water removal, reasonable dedications to the appropriate public agency may be required. The design shall depict all those channels and all rights-of-way reasonably necessary for their improvements and maintenance. Such rights-of-way shall include, in addition to the channels themselves, and access right-of-way alongside the entire length of the channels.

(Ord. No. 1608, §2)

**Sec. 26-78. State highways**

If an existing or proposed State highway abuts or crosses a proposed subdivision, the subdivider shall secure all pertinent road data and specifications, and shall make the design of the proposed subdivision compatible with such State highway.

(Ord. No. 1608, §2)

**Sec. 26-79. Public Water Agency**

Whenever a proposed subdivision is located within the boundaries of a public water agency willing and able to provide water service to the lots, the public water agency shall be chosen as the water purveyor for the proposed subdivision. At the time of tentative map approval, the Advisory Agency may waive the requirements of this section for good cause shown.

(Ord. No. 1608, §2)

**Sec. 26-80. On-site water supply system**

When the proposed subdivision contains lots that are not served by a public water agency, each lot shall have a water supply provided by a private, individual well or spring and the subdivider shall submit to the Environmental Health Services Division the water source quantity information which complies the criteria listed as follows:

- (a) All proposed lots within water yield zones "A" and "B" as designated on the USGS Water Bearing Rock Map dated 1972 (on file with the Department of Environmental Management) shall submit water quantity test results prior to recordation of the final map or parcel map which demonstrate that ample water for domestic purposes is available on each lot. The test shall conform to methods specified in the Solano County Water Supply Standards.
- (b) All proposed lots within water yield zones "C" and "D" shall be presumed to have an adequate water source for domestic purposes.
- (c) All well yield tests shall be conducted by a professional with proper training and knowledge relating to water quantity testing and who is licensed well-driller, a registered civil engineer, hydrologist or registered geologist.
- (d) The results of water source production testing for subdivisions shall be reported on forms developed by the Environmental Health Services Division and shall include data relative to static water level, draw-down rates, pumping rates, and well recovery rates and test duration information.
- (e) A minimum yield of 3 gallons per minute shall be deemed acceptable for domestic use provided that a note is included on the final map or parcel map that at least 500 gallons of water storage capacity will be required at the time of lot development. A yield of five gallons per minute shall be deemed acceptable for residential development with no additional storage requirements for drinking water supplies; however, additional storage may be required to meet the current fire code.

(Ord. No. 1608, §2)

**Sec. 26-81. Public sewer agency**

Whenever a proposed subdivision is located within the boundaries of a public sewer agency willing and able to provide sewer services to the lots, the public sewer agency shall be chosen to provide sewer service to the proposed subdivision. At the time of tentative map approval, the Advisory Agency may waive the requirements of the first sentence of this section for good cause shown.

(Ord. No. 1608, §2)

**Sec. 26-82. On-site sewage disposal systems**

(a) In all cases where sewage disposal is not to be by means of a sewer operated by public sewer agency, it shall be by means of an individual sewage disposal system located entirely on the lot generating the sewage. Each proposed lot within a subdivision that is not served by a public sewer system shall meet minimum site and design criteria in this Section and Chapter 6.4 of the Solano County Code.

(b) Minimum Parcel Size.

(1) Parcels which are served by on-site sewage disposal systems and individual, on-site water supplies shall not be less than 5 acres.

(2) Parcels, which are served by on-site sewage disposal systems and community water supplies, operated by a public agency or utility district shall be no less than 2.5 acres. Where a planned unit development process is proposed where parcels may vary in size, the overall density of the project shall not be greater than one dwelling unit per 2.5 acres with a community water supply and no individual parcel development parcel shall be less than one acre in area.

(3) Parcels which meet the above-noted minimums, but are otherwise limited by conditions such as steep slopes, watercourses, easements, wetlands or other site constraints shall be sufficient size to accommodate conventional development (considering buildable area, driveways, parking areas and etc.) without the need to waive required setbacks, leach field area, or reserve areas.

(Ord. No. 1608, §2)

**Sec. 26-83. Street lighting**

Prior to recordation of the final map or parcel map, the subdivider shall cause the area within the subdivision to be included in a County Service Area or other special district providing street lighting. At the time of tentative map approval, the Advisory Agency may waive this requirement if it finds that inclusion within such a service area or other special district is unnecessary because of the size or location of the proposed lots.

(Ord. No. 1608, §2)

**Sec. 26-84. Supplemental facilities**

The Advisory Agency may require that improvements to be constructed or installed by the subdivider for the benefit of the subdivision contain supplemental size, capacity, number or length for the benefit of property not within the subdivision, and that some or all of those improvements be dedicated to public whenever the Advisory Agency determines that such supplemental size, capacity, number, length is necessary to ensure orderly development or otherwise protect the public health, safety or welfare. Any such requirement shall be subject to the condition precedent that the County enters into a reimbursement agreement with the subdivider pursuant to Article 6 (commencing with Section 66485) of Chapter 4 of the Subdivision Map Act.

(Ord. No. 1608, §2)

**ARTICLE VIII. PROCESSING OF TENTATIVE MAPS**

(Ord. No. 1419, §1; Ord. No. 1575, §2)

**Sec. 26-91. Determination of completeness or incompleteness**

When the required number of copies of a tentative map and accompanying reports has been received by the Planning Services Division, the application shall be examined by staff of the Planning Services Division and other appropriate County departments, in light of the requirements of the Solano County Improvement Standards and Specifications and of this Code, to determine whether it contains all of the required information and is complete for the purposes of Section 65943 of the Government Code. No later than 30 days following the submittal of the application, the applicant shall be notified in writing whether it is complete or incomplete. If the application is determined to be incomplete, the applicant shall be notified in writing of the reasons therefore and informed of the information still needed to make the application complete.

(Ord. No. 1608, §2)

**Sec. 26-92. Termination of Incomplete applications**

Upon written notification to the applicant, processing of an incomplete application may be terminated if no reasonable effort has been made by the applicant to complete the application for a period of six months from the date of notification of incompleteness. All unused fees shall be refunded to the applicant. The Director of Environmental Management on written request by the applicant showing good cause may grant an extension of this six-month period.

(Ord. No. 1608, §2)

**Sec. 26-93. CEQA requirements and filing date**

The applicant shall provide such information as may be necessary to comply with CEQA and, when the appropriate environmental document has been prepared and

approved pursuant to Section 66452.1 of the Subdivision Map Act, the tentative map shall be filed as specified in Section 26-21.13 of this Code.

(Ord. No. 1608, §2)

**Sec. 26-94. Reports and recommendations**

Any staff report or recommendation on a tentative map to the Advisory Agency or Board of Supervisors shall be in writing and a copy thereof shall be served on the subdivider or his or her representative and, in the case of a proposed conversion of residential property to a condominium, community apartment or stock cooperative project, on each tenant of the parent parcel at least three days prior to any hearing or action on such map by the Advisory Agency or Board of Supervisors.

(Ord. No. 1608, §2)

**Sec. 26.95. Notice, hearings, and decisions:**

**Sec. 26-95.1. Notice of public hearings**

(a) Whenever this Article requires a public hearing, notice shall be given as provided in this section. The notice shall include the date, time, and place of the hearing, the identity of the hearing body or officer, a general explanation of the matter to be considered, a general description of the location of the subdivision, a notice of the environmental determination under consideration, and a statement that the person to whom the notice is addressed has a right to appear and be heard. The notice shall be given by publication at least one time in at least one newspaper of general circulation within the County and, in addition, by mail or delivery to the following:

- (1) The owner of the subject real property or the owner's duly authorized agent;
- (2) The project engineer or surveyor;
- (3) The project applicant;
- (4) Each local agency expected to provide essential services or facilities to the project (schools, water, sewage, roads, etc.) whose ability to provide those services may be significantly affected;
- (5) All owners of real property, as shown on the latest equalized assessment roll, within 300 feet (100 meters) of the property subject to the hearing; provided that, if the number of owners exceeds 1000, a one-eighth-page advertisement in a newspaper of general circulation within the County may be substituted for the direct mailing or delivery;

(6) If the proposed subdivision is a conversion of residential property to a condominium, community apartment, or stock cooperative project, each tenant of the parent parcel; and

(7) Other persons whose property rights may be significantly or substantially affected by the proposed subdivision.

(b) Such publication, mailing or delivery shall occur at least 10 days before the hearing. Any interested person may appear at such a hearing and present testimony.

(Ord. No. 1608, §2)

**Sec. 26-95.2. Tentative final maps**

With respect to any subdivision for which a tentative map and final map is required, the Planning Commission (as Advisory Agency authorized to make recommendations only) shall hold a public hearing on the tentative map, recommend the content of required findings, recommend approval, conditional approval or disapproval of the tentative map, and report its actions in writing to the Board of Supervisors within 50 days after the tentative map is filed with the clerk of the Advisory Agency, unless the applicant consents to a longer period of time. At the next regular meeting of the Board of Supervisors following receipt of the Planning Commission's report, the Board (as the legislative body) shall fix the meeting date at which the tentative map will be considered by it at a public hearing, which date shall be within 30 days thereafter, and the Board shall make all findings required by this Chapter and the Subdivision Map Act, and shall approve, conditionally approve or disapprove the tentative map within such 30 day period; provided, however, that if legally sufficient notice thereof has been given the Board may hold the required public hearing at any regular meeting within 30 days following filing of the Planning Commission's report, in which case the Board shall approve, conditionally approve or disapprove the tentative map at the conclusion of such hearing. The Board may continue the public hearing on the tentative map to another date with the consent of the applicant.

(Ord. No. 1608, §2)

**Sec. 26-95.3. Tentative parcel maps**

With respect to any subdivision for which a tentative map and a parcel map is required, the Zoning Administrator (as Advisory Agency) shall hold a public hearing on the tentative parcel map, make all findings required by this Chapter and the Subdivision Map Act, and shall approve, conditionally approve or disapprove the tentative map within 50 days after the tentative map is filed with the clerk of the Advisory Agency, unless the applicant consents to a longer period of time.

(Ord. No. 1608, §2)

**Sec. 26-95.4. Deferral of decisions**

The Zoning Administrator may defer to the Planning Commission a decision on a tentative parcel map for any subdivision described in subdivisions (a) through (e). The Planning Commission shall then hold the public hearing and make all required findings and decisions as provided in Section 26-95.3 of this Code. Decisions on the following subdivisions may be deferred:

- (a) Subdivisions which may result in significant adverse environmental impacts which cannot be mitigated to less than significant levels;
- (b) Subdivisions that involve substantial controversy;
- (c) Subdivisions which are in conflict with County policies;
- (d) Subdivisions which may be precedent setting;
- (e) Subdivisions that the Zoning Administrator determines should be reviewed by the Planning Commission in order to best protect the public welfare.

(Ord. No. 1608, §2)

**Sec. 26-95.5. Findings**

The Advisory Agency or the Board of Supervisors shall deny approval of a tentative map if it makes any of the following findings, based on information submitted at the public hearing:

- (a) The proposed map is not consistent with applicable general and specific plans as specified in Section 65451 of the Government Code;
- (b) The design or improvement of the proposed subdivision is not consistent with applicable general and specific plans;
- (c) The site is not physically suitable for the type of development;
- (d) The site is not physically suitable for the proposed density of development;
- (e) The design of the subdivision or the proposed improvements are likely to cause substantial environmental damage or substantially and avoidably injury fish or wildlife or their habitat, provided that the Advisory Agency or Board of Supervisors as appropriate may approve the tentative map if an environmental impact report was prepared with respect to the subdivision, and the Advisory Agency or Board of Supervisors also finds that specific economic, social or other considerations make infeasible the mitigation measures or project alternative identified in the environmental impact report;

- (f) The design of the subdivision or type of improvements is likely to cause serious public health problems;
- (g) The design of the subdivision or the type of improvements will conflict with easements which are of record or are established by judgment of a court of competent jurisdiction and which have been acquired by the public at large for access through or use of property within the proposed subdivision; provided that the Advisory Agency or Board of Supervisors as appropriate may approve the tentative map if it finds that alternate easements, for access or for use, will be provided, and that these will be substantially equivalent to ones previously acquired by the public;
- (h) The discharge of waste from the proposed subdivision into an existing community sewer system would result in, or add to, a violation of existing requirements prescribed by a California Regional Water Quality Control Board pursuant to Division 7 (commencing with Section 13000) of the Water Code;
- (i) The property fronts on any public waterway, public river, public stream, coastline, shoreline, publicly owned lake or publicly owned reservoir and the proposed subdivision does not provide, or have available, reasonable public access by fee or easement from a public highway to that portion of the bank of the waterway, river, stream, lake or reservoir bordering or lying within the proposed subdivision, or to land below the ordinary high-water mark on any bay shoreline within the subdivision; provided that the Advisory Agency or Board of Supervisors as appropriate may approve the tentative map if it finds that alternate reasonable public access is available within a reasonable distance from the subdivision;
- (j) The proposed subdivision fronts along a public waterway, public river or public stream and does not provide for a dedication of a public easement along a portion of the bank of the waterway, river or stream bordering or lying within the subdivision, which easement is defined so as to provide reasonable public use and maintenance of the waterway, river or stream consistent with public safety;
- (k) The parent parcel or a portion thereof is subject to a contract entered into pursuant to the California Land Conservation Act of 1965 and the proposed lots to be created from the parent parcel or portion thereof and subject to the contract are not consistent with the minimum residential building site requirements under the Policy and Uniform Regulations Governing Administration of Agricultural Preserves in Solano County;
- (l) The proposed subdivision is not consistent with applicable provisions of the County Hazardous Waste Management Plan; or
- (m) The proposed subdivision is located within a special studies zone established pursuant to the Alquist-Priolo Special Studies Zone Act (Public Resources Code Section 2621 et seq.) and is not in accordance with the policies

and criteria established by the State Mining and Geology Board pursuant to that Act.

(Ord. No. 1608, §2)

**Sec. 26-96. Appeals:**

**Sec. 26-96.1. Application**

Except as otherwise specified, decisions of any County agency, officer or employee exercising powers pursuant to this Chapter may be appealed by an aggrieved party within 10 calendar days after any such decision has been made. Only filing an appeal application addressed to the clerk or secretary of the appropriate appeal board may commence an appeal. No appeal application shall be accepted for processing unless it contains all information, data and papers prescribed by the forms supplied by the clerk or secretary of the appeal board and are accompanied by payment of the fee, if any, specified by the Board of Supervisors.

(Ord. No. 1608, §2)

**Sec. 26-96.2. Appeal Board**

Appeals of decisions made by the Planning Services Division, Zoning Administrator or the Director of Environmental Management shall be heard by the Planning Commission, which shall hold a public hearing. Appeals of decisions made by the Planning Commission, including those on appeals, shall be heard by the Board of Supervisors, which shall hold a public hearing.

(Ord. No. 1608, §2)

**Sec. 26-96.3. Time for hearing**

Appeals shall be heard and decided upon within 30 days after submittal, or within such longer period of time as may be consented to by the appellant and, if the appellant is not the applicant, by the applicant.

(Ord. No. 1608, §2)

**Sec. 26-97. Modifications:**

**Sec. 26-97.1. Application**

Following the approval of, but before expiration of a tentative map, requests for modification may be made by the applicant. The Zoning Administrator shall determine whether the request for modification of an approved tentative map, including changes to map phasing, should be processed as a major modification or as a minor modification and that determination shall not be appeal able. The request shall be processed as a minor modification if it meets all of the following criteria:

- (a) It would not affect the quantity or quality of the required dedications;
- (b) It would not increase the total number of proposed lots;
- (c) It would not significantly alter the configuration of the proposed lots;
- (d) It would not reasonably be expected to change any of the findings adopted by the Advisory Agency or Appeal Board when the tentative map was approved;
- (e) It is not being made pursuant to Section 66474.2 or Section 66498.2 of the Subdivision Map Act for the purpose of securing a vested right to proceed with changed ordinances, policies or standards; and
- (f) It will not alter the conclusions of the environmental document prepared pursuant to CEQA.

(Ord. No. 1608, §2)

**Sec. 26-97.2. Processing**

If it is determined that the request should be processed as a minor modification, the Zoning Administrator shall hold a public hearing and shall thereafter grant or deny the request. If it is determined that the request should be processed as a major modification, it shall be processed in the same manner as the original tentative map.

(Ord. No. 1608, §2)

**Sec. 26-98. Expiration of tentative maps:**

**Sec. 26-98.1. Expiration**

An approved or conditionally approved tentative map shall expire 24 months from the date it was approved or conditionally approved. Unless a final map is filed with the legislative body or a parcel map is filed with the County Surveyor prior to expiration of the corresponding tentative map, all proceedings shall terminate upon such expiration, and any subdivision of the land shall require the filing and processing of a new tentative map. Said application shall be identified as a previously approved, but now expired map. A final map and a parcel map may be filed for record after the expiration date of the tentative map if said final or parcel map was filed with the legislative body or the County Surveyor, respectively, prior to the expiration date.

(Ord. No. 1608, §2)

**Sec. 26-98.2. Extension**

At any time prior to the expiration of an approved or conditionally approved tentative map, the subdivider may submit to the Planning Services Division an

application for an extension of the 24-month initial time period, pursuant to Section 66452.6(e) of the Subdivision Map Act, for the tentative map and, if the application is timely, the Advisory Agency that approved or conditionally approved the subdivision may grant the extension. There shall be no other extensions of the time period for the tentative map except as required by Section 66452.6 or Section 66463.5 of the Subdivision Map Act.

(Ord. No. 1608, §2)

**Sec. 26-98.3. Modification**

Approval of a minor or major modification of a previously approved or conditionally approved tentative map shall not affect the expiration date of a tentative map.

(Ord. No. 1608, §2)

**Sec. 26-99. Expiration of development rights of vesting tentative map**

(a) If a final map or parcel map for which a vesting tentative map has been approved is timely filed and recorded, the development rights conferred with respect to the subdivision by operation of Chapter 4.5 (commencing with Section 66498.2) of the Subdivision Map Act shall last for an initial period of 12 months beyond the date on which the final or parcel map is recorded. The initial period shall be extended by any time used by the County for processing a complete application for a grading permit or for design or architectural review if the time used by the County to process the application exceeds 30 days from the date the complete application is filed. At any time during the initial period the subdivider may submit to the Planning Services Division, on a form approved by the Director of Environmental Management, an application for an extension pursuant to Section 66452.6(g) of the Subdivision Map Act, and if the application is timely, the Advisory Agency that approved or conditionally approved the subdivision may grant the extension.

(b) If the subdivider submits a complete application for a building permit during the periods of time specified above, the rights conferred by Chapter 4.5 (commencing with Section 66498.1) of the Subdivision Map Act shall continue until the expiration of that permit, or any extension of that permit granted by the County.

(Ord. No. 1608, §2)

**ARTICLE IX. FINAL MAP AND PARCEL MAP REQUIREMENTS**

(Ord. No. 1419, §1)

**Sec. 26-101. Map preparation, form and content**

After approval of a tentative map, the subdivider may cause a final map or parcel map of the proposed subdivision or any portion thereof to be prepared. Final maps

and parcel maps shall be prepared under the supervision of a person authorized to practice land surveying in accordance with the requirements set forth in this Chapter, Article 2 (commencing with Section 66433) and Article 3 (commencing with Section 66444) of Chapter 2 of the Subdivision Map Act and the Road Improvement Standards and Land Division and Subdivision Requirements.

(Ord. No. 975, §2; Ord. No. 1146, §1; Ord. No. 1173, §1; Ord. No. 1575, §2; Ord. No. 1608, §2)

**Sec. 26-101.1. Survey and mapping**

Final maps and parcel maps shall be based upon a field survey made in conformity with the Professional Land Surveyors Act. The requirements of Section 2, Surveying and Mapping, of the Solano County Road Improvement Standards and Land Division and Subdivision Requirements shall be adhered to in the preparation of the final map or parcel map.

(Ord. No. 1608, §2)

**Sec. 26-101.2. Standard practices**

All surveys and all drafting in connection with the preparation of tentative maps, final maps, parcel maps and improvement plans to be submitted pursuant to this Chapter shall be done in accordance with the standard practices and principles of drafting and land surveying.

(Ord. No. 1608, §2)

**Sec. 26-101.3. Cross reference to separate map sheets or documents**

A cross reference to each separate map sheet or supplemental document required by Section 26-103.13 shall be placed on the title sheet of the final map or parcel map. The cross-reference shall generally describe the type of information appearing on the separate map sheet or document and shall state that the separate map sheet is filed with the map and/or give the recording information of the supplemental document.

(Ord. No. 1608, §2)

**Sec. 26-101.4. Cross reference to soils and/or geologic reports**

A cross reference to each soils and/or geologic report prepared specifically for the proposed subdivision shall be placed on the title sheet of the final map or parcel map. The cross reference shall identify the preparer and the date of the report and shall state that the report is filed in the office of the County Surveyor.

(Ord. No. 1608, §2)

**Sec. 26-101.5. Statement regarding conveyance or remainder parcel**

All filed maps that show a remainder parcel shall contain a statement on the map filed for record indicating that no person shall sell, lease or finance any remainder parcel or commence construction of any building for sale, lease or financing until a certificate of compliance or a conditional certificate of compliance, in full compliance with the Subdivision Map Act, consistent with the local Building Ordinance and this Chapter, has been filed for record by the Solano County Recorder.

(Ord. No. 1608, §2)

**Sec. 26-102. Submission for certification**

Final maps and parcel maps being submitted for approval shall be first submitted to the County Surveyor who shall examine the final map or parcel map and determine whether it is technically correct and is in compliance with the Subdivision Map Act and this Chapter and is in substantial compliance with the corresponding approved or conditionally approved tentative map. If the tentative map was approved subject to any conditions that are to be satisfied prior to recordation of the final map or parcel map, the County Surveyor, in consultation with the appropriate County departments or agencies, shall determine whether those conditions have been satisfied. If any of those conditions have not been satisfied, the final map or parcel map shall not be considered to be in substantial compliance with the tentative map. If a final map or parcel map depicts lots other than lots to be offered for dedication or reserved for flood control, natural resource preservation, common open space, or similar purposes, which are smaller than the minimum lot size required by either the applicable General Plan or the applicable zoning ordinance at the time of approval of the tentative map, the final map or parcel map shall not be considered to be in substantial compliance with the tentative map. If the County Surveyor is satisfied as to these map matters, he or she shall return the final map or parcel map to the subdivider and inform the subdivider of the deficiencies which have been noted. Where a map fails to meet the provisions of this section because of a technical and inadvertent error which, in the determination of the County Surveyor, does not materially affect the validity of the map, the County Surveyor may sign the map and recommend to the Advisory Agency having authority to approve, conditionally approve, or disapprove the map, that the Advisory Agency waive any requirement the noncompliance with which it finds to be the result of a technical and inadvertent error not materially affecting the validity of the map.

(Ord. No. 975, §2; Ord. No. 998, §1; Ord. No. 1173, §2; Ord. No. 1608, §2)

**Sec. 26-103. Information to be submitted with final or parcel map**

When a final map or parcel map is submitted to the County Surveyor, it shall be accompanied by the documents specified in Sections 26-103.1 through 26-103.15 except as otherwise provided in such sections.

(Ord. No. 1173, §3; Ord. No. 1608, §2)

**Sec. 26-103.1. Improvement plans**

Improvement plans and specifications required by this Chapter together with such calculations and additional information as will assist the County Surveyor in property checking the improvement plans and specifications shall be submitted with the final map or parcel map. The number of sets of such improvement plans and specifications submitted shall be as specified by the County Surveyor.

(Ord. No. 1608, §2)

**Sec. 26-103.2. Improvement agreements and securities**

All agreements and improvement securities required by the Subdivision Map Act or this Chapter shall be submitted with the final map or parcel map.

(Ord. No. 1608, §2)

**Sec. 26-103.3. Tax collector's statement and security for taxes**

(a) A statement on the map, signed by the Solano County Tax Collector that there are no liens against the subdivision or any part for unpaid State, County, municipal or local taxes or special assessments collected as taxes, except taxes or special assessments not yet payable, and stating that a security has been filed with the Clerk of the Board of Supervisors for the estimated taxes which are a lien on the property but not yet payable for taxes and special assessments, and that all certificates required under provisions of the Sections 66492 and 66493 of the Government Code have been filed. This Section is inapplicable to amending maps filed in accordance with Section 66469 of the Subdivision Map Act.

(b) "Security" for purposes of this section, shall be in the form of the following:

(1) Bond or bonds by one or more duly authorized corporate sureties; or

(2) A deposit, either with the clerk of the Board of Supervisors, or a responsible escrow agent or trust company, at the option of the Tax Collector, of money in negotiable bonds of the kind approved for securing deposits of public monies; or

(3) An instrument of credit from an agency of the state, federal or local government when any agency of the state, federal or local government provides at least 20 percent of the financing for the portion of the act or agreement requiring security, or from one or more financial institutions subject to regulations by the state or federal government and pledging that the funds necessary to carry out the

act or agreement are on deposit and guaranteed for payment, or a letter of credit issued by such a financial institution.

(Ord. No. 1608, §2; Ord. No. 1658, §1)

**Sec. 26-103.4. Subdivision guarantee**

A Subdivision Guarantee, issued by a title company acceptable to the County Recorder and authorized by the laws of the State of California to write the same, showing the names of all persons having any record title interest in the parent parcel together with the nature of their respective interests therein, shall be submitted with the final map or parcel map to be filed with the County Recorder.

(Ord. No. 1608, §2)

**Sec. 26-103.5. Deeds**

Whenever land or easements are offered for dedication for public use or access, and whenever land or easements are to be granted to public agencies, all such land or easements not offered for dedication or granted by the owner's certificate on the final map or parcel map shall be granted by deeds submitted no later than submission to the County Surveyor of the final map or parcel map.

(Ord. No. 1608, §2)

**Sec. 26-013.6. Off-site easements**

Written evidence of rights-of-entry or permanent easements on or across private property not within the proposed subdivision as may be necessary to allow performance of the work necessary to improve the subdivision, to allow for the maintenance of the subdivision improvements once completed, to allow the permanent access to the proposed subdivision, and to allow for and to grant necessary slope rights, shall be submitted with the final map or parcel map except as otherwise provided in Section 66462.5 of the Subdivision Map Act.

(Ord. No. 1608, §2)

**Sec. 26-103.8. Utility statement**

A statement from each operator of proposed subdivision utility systems stating that the public utility easements shown on the final map are satisfactory for use by that utility for service to the proposed subdivision and that arrangements have been made to convey such easements to the utilities which are to use them shall be submitted with the final map.

(Ord. No. 1608, §2)

**Sec. 26-103.8. Water Supply Certificates**

When the proposed water supply is to be provided by a public water system there shall be submitted with the final map or parcel map a water supply certificate, on a

form provided by the County and signed by the proposed water supplier, certifying that:

(a) Either of the following is true:

(1) A binding agreement has been entered into between the owner of the land and the water supplier, enforceable by the owner and the owner's successors in interest to the land, providing, on terms substantially the same as those given the water supplier's customers generally, for the connection to the water supplier's system of each lot proposed to be served by the water supplier; or

(2) Each lot proposed to be served by the water supplier will be served through an existing connection provided by the water supplier to the property; and

(b) The portion of the improvement plans containing the design and specifications for subdivision sewer is satisfactory to the water supplier.

(Ord. No. 1608, §2)

**Sec. 26-103.9. Approval of domestic water supply**

A statement from the Environmental Health Services Division approving the method of permanent water supply.

(Ord. No. 1608, §2)

**Sec. 26-103.10. Sewer Service Certificate**

When the proposed method of sewage disposal is by a public sewer entity, there shall be submitted with the final map or parcel map a sewer service certificate, on a form provided by the County and signed by the public sewer entity, certifying that:

(a) Either of the following is true:

(1) A binding agreement has been entered into between the owner of the land and the public sewer entity, enforceable by the owner and the owner's successors in interest to the land, providing, on terms substantially the same as those given the public sewer entity's customers generally, for the connection to the public sewer entity's system of each lot proposed to be served by the public sewer entity; or

(2) Each lot proposed to be served by the public sewer entity will be served through an existing connection provided by the public sewer entity to the property; and

(b) The portion of the improvement plans containing the design and specifications for subdivision sewer is satisfactory to the public sewer entity.

(Ord. No. 1608, §2)

**Sec. 26-103.11. Approval of on-site sewage disposal system**

A statement from the Environmental Health Services Division approving the concept of on-site sewage disposal for lots not proposed for connection to a public sewer shall be submitted with the final map or parcel map.

(a) For any lot approved for a non-standard sewage disposal system, a note of reference indicating the type of non-standard system shall be placed on a separate map sheet or supplemental document meeting the requirements of Section 26-103.13 of this Chapter.

(b) For lots approved for a standard sewage disposal system, the Environmental Health Services Division statement shall indicate that no special provisions exist.

(Ord. No. 1608, §2)

**Sec. 26-103.12. Storm water acceptance**

Written evidence of such easements or other rights not within the proposed subdivision as may be necessary to provide for the acceptance of storm waters generated by the proposed subdivision shall be submitted with the final map or parcel map except as otherwise provided in Section 66462.5 of the Subdivision Map Act.

(Ord. No. 1608, §2)

**Sec. 26-103.13. Separate map sheets or documents**

Separate map sheets or supplemental documents, in a form satisfactory to the County Surveyor and meeting the requirements of Section 66434.2 of the Subdivision Map Act, shall be submitted with the final map or parcel map and shall show the following information, if required as a condition of approval of the map:

(a) Unimproved natural watercourses wholly or partially within the proposed subdivision, and areas within the proposed subdivision that are subject to inundation or flood hazard;

(b) All producing, abandoned or idle oil wells, all oil or gas pipelines, all existing or abandoned oil sumps, all underground storage tanks, and all existing oil or gas conditional use permit boundaries;

- (c) The fault line or zone of each active or potentially active earthquake fault within the proposed subdivision that is identified in any soils and/or geologic report prepared specifically for the proposed subdivision;
- (d) Every building setback line or sewage disposal system setback line that is recommended in any archaeology report, soils and/or geologic report, prepared specifically for the proposed subdivision;
- (e) All conditions of approval of the tentative map that are to be satisfied after the final map or parcel map are recorded.

(Ord. No. 1608, §2)

**Sec. 26-103.14. Soils and/or geologic reports**

Every soils and/or geologic report prepared specifically for the proposed subdivision, if any, shall be submitted with the final map or parcel map.

(Ord. No. 1608, §2)

**Sec. 26-103.15. Certificate for Dedication**

When, as a condition of approval of a subdivision, property is dedicated to a local agency in fee for public purposes other than open space, parks or schools, a certificate meeting the requirements of Section 66477.5 of the Subdivision Map Act shall be placed on the final map or parcel map.

(Ord. No. 1608, §2)

**Sec. 26-104. Approval and filing of maps**

Final maps and parcel maps shall be approved and filed as follows:

- (a) FINAL MAPS - A final map which has been submitted to and certified by the County Surveyor pursuant to Section 26-102 of this Code shall be delivered by the County Surveyor to the Board of Supervisors by transmitting a copy of the final map to the Clerk of the Board together with a request that the approval or disapproval of the final map be placed on the agenda for the Board's next regular meeting. If the final map is approved by the Board, the Clerk of the Board shall sign the final map and transmit it to the County Surveyor for a final check and transmittal of the map, agreements, supplemental documents, etc. to the County Recorder. The County Recorder shall file the map and documents subject to the provisions of Section 66466 of the Subdivision Map Act. Where a final map approved for filing with the County Recorder has been digitally created, a digital copy of the approved final map in a format acceptable to the Assessor/Recorder shall be provided to Mapping Services in the Assessor/Recorder Department.
- (b) PARCEL MAPS - The County Surveyor is authorized to approve or disapprove parcel maps that have been submitted to him or her pursuant to Section

26-102 of this Code. If a parcel map contains an offer of dedication to the County of Solano, the County Surveyor shall refer the offer to dedicate to the Board of Supervisors for action thereon prior to acceptance of the map. If a parcel map is certified by the County Surveyor pursuant to Section 26-102 of this Code, it shall be deemed to be approved by him or her and he or she shall transmit it to the County Recorder and the County Recorder shall file it for record subject to the provisions of Section 66466 of the Subdivision Map Act.

(Ord. No. 1608, §2)

**Sec. 26-105. Filing of soils and/or geologic reports**

Soils and/or geologic reports submitted pursuant to Section 26-103.14 shall be filed and maintained in the office of the County Surveyor and a copy submitted to the Building and Safety Division of the Department of Environmental Management. The County Surveyor shall index such reports by reference to the final map or parcel map to which they relate.

(Ord. No. 1608, §2)

**ARTICLE X. DEDICATION AND IMPROVEMENT REQUIREMENTS**

(Ord. No. 1419, §1)

**Sec. 26-111. Dedications**

At the time of or prior to recordation of a final map or parcel maps, the subdivider shall dedicate or make an irrevocable offer to dedicate all lots or other areas of land and all rights-of-way within the subdivision which are required for roads, alleys, flood control, drainage, public utility purposes or other public purposes, together with such access rights and abutter's rights as may be required for public purposes. Such dedications or offers shall be in compliance with all applicable provisions of Section 26-133.

(Ord. No. 1608, §2)

**Sec. 26-112. Improvements**

Prior to recordation of a final map or parcel map, or at such earlier time as may be specified in this Article, the subdivider shall complete or shall enter into an improvement agreement to complete all of the improvements specified in Sections 26-112.2 through 26-112.12. The County shall be a party having the right to enforce the improvement agreement, provided that, if the improvement is to be dedicated or offered for dedication to an entity other than the County, such other entity may, at the discretion of the County Surveyor, be substituted for the County as a party to the improvement agreement. All such improvements shall be completed in accordance with any applicable provisions of the Solano County Improvement Standards and Specifications, this Article and Section 66411.1 of the Subdivision Map Act. Except as otherwise provided in this Chapter, grading and

other improvements shall not begin with respect to a parent parcel for which a tentative map has been submitted pursuant to Section 26-61 until the tentative map has been approved and the County Engineer has approved the corresponding improvement plans.

(Ord. No. 1608, §2)

**Sec. 26-112.1. Roads**

All road improvements and appurtenances including, but not limited to, sidewalks, curbs, gutters, structures, signs, fences, street lighting, and barricades within the subdivision shall be installed.

(Ord. No. 1608, §2)

**Sec. 26-112.2. Drainage and erosion control**

All improvements for drainage and erosion control required for the proposed subdivision, regardless of location, including improvements necessary to prevent sedimentation or damage to off-site property, shall be constructed.

(Ord. No. 1608, §2)

**Sec. 26-112.3. Sewage and water**

Except as otherwise provided in this Chapter, and except where fees or other consideration are received pursuant to this Chapter in lieu of such systems, sewage and permanent domestic water supply systems shall be installed in each proposed subdivision and connections thereto made from each lot within the subdivision.

(Ord. No. 1608, §2)

**Sec. 26-112.4. Fire protection**

As a part of the water supply system installed in the proposed subdivision, the subdivider shall install water mains, fire hydrants, gated connections and other fire protection facilities deemed necessary by the local fire protection district and the County Fire Marshall to provide adequate fire protection to the proposed subdivision.

(Ord. No. 1608, §2)

**Sec. 26-112.5. Utilities**

All utility facilities including, but not limited to, electric lines, communication lines, cable television lines, street lighting power supply lines and appurtenances thereto, may be required to be placed underground and when so required all utility facilities including service laterals shall be installed in the ground prior to the paving of roads. Where undergrounding is required, the County Engineer may authorize installation of utility facilities after road improvements or if unusual circumstances

so warrant. Even where under grounding is required, certain utility appurtenances including, but not limited to, transformers, pedestal-mounted terminal boxes and meter cabinets, and concealed ducts used in connection with underground facilities may be placed on the surface of the ground. All necessary arrangements for the installation of utilities shall be made with the operator of each utility system. At the time of approval of the tentative map, the Advisory Agency may consider the following in making a determination on under grounding utilities:

- (a) Steep topography of all or part of the subdivision where the lines much are located;
- (b) Soil types, which would make trenching difficult;
- (c) The extent to which the facilities would be visible from public roads or other lots if they were not underground;
- (d) The need for lines, which, due to the large size of the lots, would be unreasonably costly to underground;
- (e) Other physical features, such as high groundwater table or large outcroppings of boulders along most of the feasible route, which would make trenching difficult; and
- (f) General Plan policies, and Area and Specific Plans.

(Ord. No. 1608, §2)

**Sec. 26-112.6. Road name and traffic signs**

Road name signs shall be installed at all intersections within the subdivision. Traffic control devices and signs shall be installed at all locations within the subdivision specified by the County Engineer. All traffic control devices and signs shall conform to all applicable laws and regulations.

(Ord. No. 1608, §2)

**Sec. 26-112.7. Barricades**

Barricades shall be constructed at the ends of all roads abutting undeveloped property adjacent to the proposed subdivision.

(Ord. No. 1608, §2)

**Sec. 26-112.8. Underground openings**

All underground pipes and openings encountered during construction of any improvements in the subdivision shall be removed or sealed in a manner satisfactory to the County Engineer.

(Ord. No. 1608, §2)

**Sec. 26-112.9. Water wells**

All abandoned water wells within the proposed subdivision shall either be destroyed or be retained subject to compliance with the provisions of the Solano County Well Standards, Chapter 13.10 of the Solano County Code. All water wells that are not destroyed shall be shown on an additional map sheet of the final map or parcel map. Any improvements or deed restrictions that the County Engineer deems reasonably necessary to prevent injury to persons or property shall be constructed or recorded.

(Ord. No. 1608, §2)

**Sec. 26-112.10. Oil/gas wells**

All oil/gas wells, including abandoned wells, within the proposed subdivision shall be re-evaluated by the State Division of Oil and Gas. All wells which have been abandoned or which are required to be abandoned shall be abandoned in a manner approved by the Division of Oil and Gas and documentation verifying said abandonment shall be submitted. All wells, including abandoned wells, shall be delineated on an additional map sheet of the final map or parcel map. Any improvements or deed restrictions that the County Engineer deems reasonably necessary to prevent injury to persons or property shall be constructed or recorded.

(Ord. No. 1608, §2)

**Sec. 26-112.11. Underground storage tanks**

All underground storage tanks within the proposed subdivision shall be evaluated by the Solano County Department of Environmental Management. All underground storage tanks which have been abandoned or require closure shall be closed in a manner approved by the Department of Environmental Management. All underground storage tanks shall be delineated on a separate map sheet meeting the requirements of Section 26-103.13 of this ordinance.

(Ord. No. 1608, §2)

**Sec. 26-112.12. Monuments**

At all times of making the survey for the final map or parcel map, the engineer or surveyor shall set sufficient durable monuments to conform to the standards prescribed in Section 8771 of the Business and Professional code so that another engineer or surveyor may readily retrace the survey. All required monuments shall be set within a time specified by the County Surveyor, following filing of the final

map or parcel map. Monuments and monumentation shall conform to Section 2 of the Solano County Road Improvement Standards and Land Division and Subdivision Requirements.

(Ord. No. 1608, §2)

**Sec. 26-113. Improvement agreement**

An improvement agreement shall be submitted to the County Surveyor at the time a final map or parcel map is submitted pursuant to Section 26-103, unless all of the improvements required for the subdivision have already been completed and approved. The improvement agreement shall be in a form approved by the County Surveyor, and shall be signed by the property owner and by every party whose written consent to the subdivision is required by Sections 66430 and 66436 of the Subdivision Map Act, and shall bind each signatory to complete within a reasonable time specified therein the on-site and off-site improvements required for the subdivision by this Chapter and the Subdivision Map Act. The improvement agreement shall incorporate by reference the improvement plans required by Section 26-114.

(Ord. No. 1608, §2)

**Sec. 26-113.1. Security**

The improvement agreement shall be accompanied by an improvement security as provided for in Article XI of this Chapter.

(Ord. No. 1608, §2)

**Sec. 26-113.2. Time extensions**

If the improvements cannot be completed by the expiration date specified in the improvement agreement, the subdivider shall file a request for a time extension and shall pay the time extension fees prescribed by the Board of Supervisors before such expiration date. The body that approved the tentative map may grant or deny such extension as the circumstances warrant.

(Ord. No. 1608, §2)

**Sec. 26-114. Improvement plans**

The subdivider's engineer shall prepare plans and specifications for improvements required for the proposed subdivision by this Chapter or the Subdivision Map Act.

(Ord. No. 1608, §2)

**Sec. 26-114.1. Submittal**

Improvement plans shall be submitted to the County Engineer before or at the same time as the improvement agreement to which they relate or, if the work is to be commenced before execution of an improvement agreement, before the

commencement of the work. Improvement plans shall not be submitted until the tentative map has been approved.

(Ord. No. 1608, §2)

**Sec. 26-114.2. Approval**

The County Engineer shall review improvement plans duly submitted to him or her. He or she shall approve and sign them if, and only if, they fully comply with the requirements of the Subdivision Map Act and this Chapter, and substantially comply with the tentative map. Any changes from data shown on the tentative map relative to road and storm drains shall be supported by an engineering report and will not be allowed unless the County Engineer approves the change.

(Ord. No. 1608, §2)

**Sec. 26-114.3. Preparation**

Improvement plans shall be prepared according to good engineering practice under the direction of, and shall be signed by, a civil engineer registered by the State of California. Improvements shall be designed in compliance with the Solano County Improvement Standards and Specifications. Improvement plans shall be printed or drawn clearly and legibly, or reproduced by a process that results in a permanent record that will permit direct reproductions. Each sheet shall be 24 inches vertically by 36 inches horizontally (610mm x 910mm). Each sheet shall have a marginal line drawn completely around it, leaving an entirely blank margin of one and one-half inches (38 mm) on the left-hand side and one-half inch (13mm) on the other three sides. If the improvement plans include five or more sheets, a key map showing the roads and the area covered by each sheet of the plan shall be included on the first sheet of the plans.

(Ord. No. 1608, §2)

**Sec. 26-114.4. Grading plans included**

Improvement plans shall also include complete grading plans. Grading plans shall be on sheets separate from the improvement plans, and shall contain a title block and have a graphical scale in addition to a numerical scale. The grading plans may be submitted initially on sheets larger than 24 inches by 36 inches (610mm x 910mm). However, if initial plans are submitted on such larger sheets, the grading plans must be resubmitted with the as-build plans on sheets conforming in size and margin requirements to the remainder of the improvement plans. Grading plans resubmitted at the proper size may be a series of 24 inches by 36 inches (610mm x 910mm) reproducible sheets made with proper overlap and title block from the initially submitted grading plans.

(Ord. No. 1608, §2)

**Sec. 26-114.5. Contents**

The improvement plans shall show the complete plans, profiles and details for all improvements to be placed in a proposed subdivision including but not limited to, all road work, including road survey monuments, drainage channels and structures, all utilities to be installed by the subdivider including all appurtenances thereto located within the right-of-way, retaining walls or other improvements to support cut slopes and embankments, bridges if constructed in conjunction with subdivision improvements, the location of utilities not within the right-of-way which may control the location and elevations of storm drains and culverts, the location of fire hydrants, curbs, gutters and sidewalks, fences that may be required, gates, structures and drainage facilities necessary to control slides, other improvements which may be required to complete the work, and conditions beyond the subdivision boundaries which affect the integrity of the proposed improvements.

**Sec. 26-114.6. Changes**

No change shall be made in the improvement plans for the subdivision without prior approval of the County Engineer. All changes approved by the County Engineer shall comply with the requirements of this Chapter.

(Ord. No. 1608, §2)

**Sec. 26-114.7. Cost estimate**

An estimate of the cost of the improvements to the proposed subdivision shall be prepared by the subdivider and shall accompany the improvement plans each time they are submitted. Cost estimates shall include a separate item for contingencies. The cost of relocating existing utilities and appurtenances should also be included. Upon consideration of the estimate submitted by the subdivider, the County Engineer shall determine the estimated cost for the improvements of the proposed subdivision.

(Ord. No. 1608, §2)

**Sec. 26-115. Record drawing**

At the time of completion of the improvements required pursuant to this Chapter or the Subdivision Map Act, and as a condition precedent to exoneration of the improvement security, the subdivider shall submit to the County Engineer the original and three sets of prints of the record drawing of the improvement plans which have been modified to reflect any changes in the improvements made during construction. The subdivider's engineer shall certify that all improvement work has been constructed in accordance with the plans and specifications.

(Ord. No. 1608, §2)

**ARTICLE XI. IMPROVEMENT AND GUARANTEE SECURITIES**

(Ord. No. 1419, §1)

**Sec. 26-116. Prepayment of real property taxes for approval of lot line adjustment**

As authorized under California Government Code section 66412, subdivision (d), prior to the approval of a line lot adjustment, the applicant shall obtain a written certification from the Tax Collector that there are no unpaid real property taxes.

(Ord. No. 1598, §47)

**Sec. 26-121. Requirement of improvement security**

Any improvement agreement, contract, or act required or authorized by the Subdivision Map Act, for which security is required by the Subdivision Map Act or this Chapter, shall be secured in the manner and amounts provided in the Subdivision Map Act and this Article. An improvement security shall be posted both to secure the faithful performance of each improvement agreement and to secure payment by the subdivider to the contractor and his subcontractors and to persons renting equipment or furnishing labor or materials to them in connection with the performance of such improvement agreement.

(Ord. No. 1608, §2)

**Sec. 26-122. Type of improvement security.**

The improvement security may, at the option of the subdivider, with approval of the County, be any one of the types specified in subsection (a) of Section 66499 of the Subdivision Map Act.

(Ord. No. 1608, §2)

**Sec. 26-123. Amount of improvement security:**

**Sec. 26-123.1. Bond security amount**

If the improvement security is in the form of bonds, the bond securing faithful performance shall be in an amount equal to the estimated cost, as approved by the County Engineer, of the improvements or the act to be performed, and the bond for the security of laborers and material men shall also be in an amount equal to such estimated cost of the improvements or the act to be performed, and shall include costs and reasonable expenses and fees as authorized by Section 66499.4 of the Subdivision Map Act.

(Ord. No. 1608, §2)

**Sec. 26-123.2. Non-bond security amount**

If the improvement security is in some form other than bonds, the total amount of such security for both faithful performance and for laborers and material men shall be in an amount equal to 150% percent of the estimated cost of the improvements or act to be performed. At the option of the County Surveyor any fraction ranging from one-third to two-thirds of the total amount of such security may be applied to

secure faithful performance and the balance may be applied to secure laborers and material men, and shall include costs and reasonable expenses and fees as authorized by Section 66499.4 of the Subdivision Map Act.

(Ord. No. 1608, §2)

**Sec. 26-124. Release of improvement security**

After full and faithful performance of the improvement agreement by the subdivider, and after acceptance by the County Surveyor of the guarantee security pursuant to Section 26-125 and compliance by the subdivider with the provisions of Section 26-115, the County Surveyor will release all improvement security posted to secure faithful performance of the agreement. The County Surveyor may accept a cash deposit, or a certificate of deposit, necessary to accomplish the required performance in lieu of all, or part, of such performance when he or she finds it is reasonable and necessary. The County Surveyor may accept deferred construction, secured by agreement and by good and sufficient improvement security, when he or she finds that such deferred construction is reasonable and necessary. Upon request of the subdivider, the County Surveyor may at his or her discretion reduce the amount of the improvement security by partial release in an amount not exceeding 50% of the total estimated cost of improvements of the subdivision when a corresponding percentage amount of the improvements has been fully completed to the satisfaction of the County Engineer. However, in no circumstances shall such partial release constitute acceptance of the improvements upon which such partial release is granted. All security posted to secure laborers and material men will be released pursuant to subdivision (b) of Section 66499.7 of the Subdivision Map Act.

(Ord. No. 1608, §2)

**Sec. 26-125. Guarantee**

All improvements required for a subdivision by this Chapter or the Subdivision Map Act shall be guaranteed by the subdivider for a period of one year following final acceptance of all improvements of the subdivision. The guarantee shall extend only to such replacement and/or repair as may be required during the guarantee period in excess of routine maintenance for ordinary wear and tear. A guarantee security guaranteeing such replacement and/or repair in an amount of at least 10% of the estimated cost of the improvements shall be posted prior to exoneration pursuant to Section 26-124 of any improvement security pertaining to those improvements. The amount of the guarantee security in no way limits the subdivider's guarantee as required by this Section. Following notification by the County Engineer of the need for such work the subdivider shall promptly replace and/or repair the improvements.

(Ord. No. 1608, §2)

**ARTICLE XII. IMPROVEMENT FEES, DEDICATIONS AND RESERVATIONS**

(Ord. No. 1419, §1)

**Sec. 26-131. Fees for bridges and major thoroughfares**

As a condition of approval of the final map or parcel map, or as a condition of the issuance of a building permit for any lot in the subdivision, the subdivider may be required to pay fees or other considerations in lieu thereof pursuant to this section and Section 66484 of the Subdivision Map Act in order to defray the actual or estimated costs of constructing bridges over waterways, railways, freeways and canyons for which bridge crossing are required by the transportation or flood control provisions of the County General Plan, and of constructing major thoroughfares identified in the Circulation Element of the County General Plan.

Ord. No. 1608, §2)

**Sec. 26-131.1. Hearing**

In accordance with all requirements of Section 66484 of the Subdivision Map Act, the boundaries of the area of benefit, the actual or estimated costs of construction, fee apportionment, and a fair method of allocation of costs to the area of benefit shall be established at a public hearing held by the Board of Supervisors. The hearing shall be noticed pursuant to Section 26-95.1, provided that the notice shall also include preliminary information related to the boundaries of the area of benefit, estimated cost, and the method of fee apportionment.

(Ord. No. 1608, §2)

**Sec. 26-131.2. Fees for major thoroughfares**

Payment of fees for a major thoroughfare shall not be required unless the major thoroughfare is in addition to, or a reconstruction of, an existing major thoroughfare serving the area at the time of the adoption of the boundaries of the area of benefit.

(Ord. No. 1608, §2)

**Sec. 26-131.3. Fees for bridges**

Payment of fees shall not be required for a planned bridge facility unless the planned bridge facility is an original bridge serving the area or an addition to any existing bridge facility serving the area at the time of the adoption of the boundaries of the area of benefit, nor shall any such fees be expended to reimburse the cost of existing bridge facilities construction.

(Ord. No. 1608, §2)

**Sec. 26-131.4. Protests**

(a) Written protests to the establishment of any proposed area of benefit for any particular improvement under Section 26-131 of this Code and Section 66484

of the Subdivision Map Act may be filed with the Clerk of the Board of Supervisors by the owners of real property within the proposed area of benefit at any time prior to the close of the required public hearing. If such written protests are filed by the owners of more than one-half of the area of the property to be benefited by an improvement, and sufficient protests are not withdrawn so as to reduce the area represented to less than one-half of that to be benefited, then the proposed proceedings shall be abandoned, and the Board of Supervisors shall not, for one year from the filing of that written protest, commence or carry on any proceedings for the same improvement or acquisition under the provisions of Section 26-131 of this Code and Section 66484 of the Subdivision Map Act.

(b) Nothing in this Section shall preclude the processing and recordation of maps in accordance with other provisions of this Code and the Subdivision Map Act if proceedings are abandoned.

(c) Any protests may be withdrawn in writing by the property owner making the same at any time prior to the conclusion of the required public hearing.

(d) If any majority protest is directed against only a portion of the improvement, then all further proceedings under the provisions of Section 26-131 of this Code and Section 66484 of the Subdivision Map Act to construct that portion of the improvement so protested against shall be barred for a period of one year, but the Board of Supervisors shall not be barred from commencing new proceedings not including any part of the improvement or acquisition so protested against. Nothing in this subdivision shall prohibit the Board of Supervisors, within such one-year period, from commencing and carrying on new proceedings for the construction of a portion of the improvement so protested against if it finds, by the affirmative vote of four-fifths of its members, that the owners of more than one-half of the area of the property to be benefited are in favor of going forward with such portion of the improvement or acquisition. Imposition of fees pursuant to this section shall also conform to any other requirements of law.

(Ord. No. 1608, §2)

**Sec. 26-131.5. Use of fees**

A fund shall be established for each planned bridge facility project or each planned major thoroughfare project. Fees paid pursuant to this section shall be deposited in the appropriate fund. If the benefit area is one in which more than one bridge is required to be constructed, a fund may be established covering all the bridge projects in the benefit area. Moneys in such fund shall be expended solely for the construction or reimbursement for construction of the improvement serving the area to be benefited and from which the fees comprising the fund were collected, or to reimburse the County for the cost of constructing the improvement.

(Ord. No. 1608, §2)

**Sec. 26-131.6. Powers and obligations**

In addition to those powers and obligations specifically set forth in Sections 26-131 through 26-131.5, the County and subdivider shall have all of the respective powers and obligations set forth in Section 66484 of the Subdivision Map Act.

(Ord. No. 1608, §2)

**Sec. 26-132. Traffic impact fee**

To mitigate the traffic impacts of new development in the County, the Board of Supervisors may establish a development impact fee pursuant to the Mitigation Fee Act, Government Code section 66000 et seq., to be imposed as a condition of approval of tentative maps.

(Ord. No. 1608, §2)

**Sec. 26-133. Dedication of land and easements for public use**

All title, rights and easements specified in Sections 26-133.1 through 26-133.4 shall be dedicated or offered for dedication to the County of Solano or other appropriate public agency not later than the time the final map or parcel map is filed for approval.

(Ord. No. 1608, §2)

**Sec. 26-133.1. Flood control channels**

All rights-of-way required by Section 26-77 with respect to channels shall be offered for dedication to the appropriate public agency. All required rights-of-way offered to a public agency shall be offered for dedication in a form that meets the requirements of that agency. All required rights-of-way offered for dedication pursuant to this section shall be free of all liens, encumbrances, assessments, leases and easements except for public utility easements.

(Ord. No. 1608, §2)

**Sec. 26-133.2. Private road easements**

Easements allowing all governmental agencies access for public health, safety and welfare purposes on all private roads or lanes shall be dedicated or offered for dedication to the County of Solano.

(Ord. No. 1608, §2)

**Sec. 26-133.2. Public road easements and access**

Except as otherwise provided below, all easements for public roads, public pedestrian and bicycle paths, public walks, and public alleys shown on the final map or parcel map and all rights of access to and from residential lots of the proposed subdivision abutting on controlled access roads shall be offered free and clear of any prior easements or rights-of-way, liens and encumbrances for

dedication to the County of Solano. The rights of access to and from residential lots abutting on controlled access roads shall be such that owners of such lots shall have no rights whatsoever in such roads except in the general right of travel which belongs to the public at large. The Board of Supervisors may approve an offer of dedication wherein certain easements remain prior, in whole or part, to the rights being offered to the County. However, such approval shall be given only when unusual circumstances warrant and the easements that remain prior do not substantially interfere with proper use of the rights being offered to the county.

**Sec. 26-133.4. Other easements**

All other easements for public use required as a condition for approval of the tentative map for the proposed subdivision shall be offered for dedication to the County of Solano or other appropriate agency.

(Ord. No. 1608, §2)

**Sec. 26-133.5. Documentation**

All offers of dedication shall be made by certificate on the final map or parcel map unless made by separate document with the approval of the County Surveyor.

(Ord. No. 1608, §2)

**Sec. 26-133.6. Acceptance of dedication**

The Board of Supervisors is authorized to accept or reject on behalf of the County, or on behalf of any other public entity whose governing board is the Solano County Board of Supervisors, any and all offers of dedication, whether by separate document or by certificate on the map. Acceptance pursuant to this Section of an offer of dedication of a road (including ways offered only for nonvehicular use such as equestrian and pedestrian trails) shall cause that road to become a public way open to use by the public unless the offer expressly provides otherwise. Acceptance pursuant to this section of an offer of dedication of a road (including ways offered for nonvehicular use) shall not cause the road to become a County highway that the County is obligated to maintain unless and until the road is, by resolution of the Solano County Board of Supervisors, expressly accepted into the County road system.

(Ord. No. 1608, §2)

**Sec. 26-134. Reservations for public use**

As a condition of approval of any subdivision, the tentative map of which is filed subsequent to the adoption of a specific plan or a General Plan Community Facilities Element, a General Plan Recreation and Parks Element or a General Plan Public Building Element containing definite principles and standards regarding the determination of need for and location of parks, recreational facilities, fire stations, libraries or other public uses of land, the subdivider may be required to reserve areas or real property within the subdivision for such public uses

pursuant to the provisions and subject to the powers and obligations set forth in Article 4 (commencing with Section 66479) of Chapter 4 of the Subdivision Map Act.

(Ord. No. 1608, §2)

**Sec. 26-135. Fees for drainage and sewer facilities**

As a condition of approval of any subdivision, the tentative map for which is filed no sooner than 30 days after the adoption of any applicable drainage or sanitary sewer plan for a particular drainage or sanitary sewer area, the subdivider may be required to pay fees or consideration in lieu thereof for the purpose of defraying the actual or estimated costs of constructing planned drainage facilities for the removal of surface and storm waters from local or neighborhood drainage areas and constructing planned sanitary sewer facilities for local sanitary sewer areas pursuant to the provisions of and subject to the conditions, powers and obligations set forth in Section 66483 of the Subdivision Map Act.

(Ord. No. 1608, §2)

**ARTICLE XIII. CORRECTION AND AMENDMENT OF MAPS**

**Sec. 26-141. Amending maps**

After a final map or parcel map is filed in the office of the County Recorder, it may be amended by a certificate of correction or an amending map for the reasons and in the manner set forth in Sections 66469 through 66472 of the Subdivision Map Act.

(Ord. No. 1608, §2)

**Sec. 26-142. Amending conditions**

After a final map or parcel map is filed in the Office of the County Recorder, the conditions of approval of such filed map may be amended as provided in Sections 26-142.1 through 26-142.6.

(Ord. No. 1608, §2)

**Sec. 26-142.1. Application**

The Director of Environmental Management, or any person having a financial interest in conditions of approval of a filed final map or parcel map, may apply for an amendment of such conditions. Such application shall be submitted to the Planning Services Division in a form satisfactory to the Director of Environmental Management and shall include such information and documentation as the Director of Environmental Management may require.

(Ord. No. 1608, §2)

**Sec. 26-142.2. Notice**

Upon receipt of a complete application for an amendment of such conditions and all applicable processing fees, the Director of Environmental Management shall give notice in accordance with Section 26-95.1 of a public hearing on such application to be held by the appropriate hearing body.

(Ord. No. 1608, §2)

**Sec. 26-142.3. Hearing body**

The hearing body(s) shall be the same Advisory Agency and Approval Body that approved or conditionally approved the tentative map.

(Ord. No. 1608, §2)

**Sec. 26-142.4. Approval or denial**

(a) The hearing body may approve an application to amend conditions of approval for a final map or parcel map if, after conducting a public hearing in accordance with the required notice, it makes all of the following findings:

- (1) There are changes in circumstances that make such conditions no longer appropriate or necessary;
- (2) The amendments do not impose any additional burden on the present fee owner(s) of the property;
- (3) The amendments do not alter any right, title or interest in the real property reflected on the map;
- (4) The map, as amended, will conform to the provisions of this Chapter and does not alter any previous findings made under the provisions of Section 66474 of the Subdivision Map Act; and
- (5) The amendment does not alter any previous findings made under the provisions of CEQA.

(b) Otherwise, the hearing body shall deny the application.

(c) The hearing and the actions of the hearing body shall be limited to consideration of and action upon the conditions that are the subject of the application. The decision of the hearing body shall be in writing.

(Ord. No. 1608, §2)

**Sec. 26-142.5. Appeals**

A decision by the hearing body, to approve or disapprove an application to amend conditions of approval for a parcel map may be appealed by any interested person

to the Planning Commission if the hearing body was the Zoning Administrator or if the hearing body was the Planning Commission to the Board of Supervisors. A decision of the Planning Commission action on appeal may itself be appealed to the Board of Supervisors. An appeal may be commenced only by filing with the Secretary or Clerk of the appropriate body, within 10 calendar days after the date of the decision being appealed, an appeal application on a form approved by the Director of Environmental Management. No appeal application shall be accepted for processing unless it contains all information, data and papers prescribed by the forms supplied by the clerk or secretary of the appeal board and are accompanied by payment of the fee, if any, specified by the Board of Supervisors. A public hearing on the appeal shall be noticed in the same manner as the hearing before the hearing body. The decision of the Board of Supervisors on appeal shall be final and conclusive.

(Ord. No. 1608, §2)

**Sec. 26-142.6. Recording amendments**

If, in order to implement an approved amendment of conditions, it is necessary or desirable also to amend the filed final map or parcel map, the Director of Environmental Management and the County Surveyor shall determine the appropriate document to be recorded for such purposes and the document shall be recorded as provided in Section 66472 of the Subdivision Map Act.

(Ord. No. 1608, §2)

**ARTICLE XIV. REVERSIONS TO ACREAGE, RESUBDIVISION, AND MERGERS**

**Sec. 26-151. Reversions to acreage**

Property previously subdivided by final map or parcel map may be reverted to the acreage of the parent parcel pursuant to this section, Sections 62-151.1 through 26-151.10, and Article I (commencing with Section 66499.11) of Chapter 6 of the Subdivision Map Act. The reversion shall be by final map if the previous subdivision created five or more lots exclusive of any remainder parcel or by parcel map if the previous subdivision created four or less lots exclusive of any remainder parcel, regardless of whether the previous subdivision was by final map or parcel map.

(Ord. No. 1608, §2)

**Sec. 26-151.1. Initiation of proceedings**

Proceedings may be initiated by petition of all of the owners of record of the property or by resolution of the Board of Supervisors. An owner's petition shall be in a form prescribed by and shall be submitted to the Department of Environmental Management.

(Ord. No. 1608, §2)

**Sec. 26-151.2. Data required to be submitted for reversion**

The petition in the case of owner-initiated proceedings, or the staff report of the Department of Environmental Management in the case of Board-initiated proceedings, shall include the following:

- (a) Adequate evidence of title to the real property within the subdivision;
- (b) Evidence sufficient to permit the Board of Supervisors or the Zoning Administrator to make all of the findings required by Section 26-151.6;
- (c) A tentative map in the form prescribed by the Director of Environmental Management which delineates existing dedications which will not be vacated, new dedications which will be required as a condition of reversion, private roads or rights-of-way which are to remain in effect after the reversion, and such other information as the Director of Environmental Management may require; and
- (d) Such other of the documents listed in Section 26-63 as may be required by the Director of Environmental Management.

(Ord. No. 1608, §2)

**Sec. 26-151.3. Fees**

Fees shall be as prescribed by resolution of the Board of Supervisors. If a person requests the Board of Supervisors to initiate reversion proceedings, that person shall pay the required fees. The appellant shall pay appeal fees.

(Ord. No. 1608, §2)

**Sec. 26-151.4. Hearing**

A public hearing respecting a proposed reversion to acreage shall be held by the Zoning Administrator if the reversion is to be by parcel map or by the Board of Supervisors if the reversion is to be by final map. Any decision of the Zoning Administrator may be appealed to the Planning Commission and any decision of the Planning Commission may be appealed to the Board of Supervisors by any interested person who, within 10 calendar days after the date of the decision, deposits with the Secretary or Clerk of the appropriate body, the appeal fee and an appeal application on a form approved by the Director of Environmental Management. The decision of the Board of Supervisors on appeal shall be final and conclusive.

(Ord. No. 1608, §2)

**Sec. 26-151.5. Notice**

All public hearings respecting a proposed reversion to acreage, or appeal of a decision on a reversion to acreage, shall be noticed by the Department of Environmental Management in the manner prescribed by Section 26-95.1.

(Ord. No. 1608, §2)

**Sec. 26-151.6. Findings**

The Zoning Administrator or the Board of Supervisors may approve a reversion to acreage only if it finds that:

(a) The Board of Supervisors has found that the dedications or offers of dedication to be vacated or abandoned by the reversion to acreage are unnecessary for present or prospective public purposes: and

(b) Either: (1) All owners with an interest in the real property within the subdivision have consented to the reversion; or (2) none of the improvements required to be made has been made within two years from the date the final map or parcel map which created the subdivision was filed for record, or within the time allowed by agreement for completion of the improvements, whichever is later; or (3) no lots shown on the final map or parcel map which created the subdivision have been sold within five years from the date such map was filed for record.

(Ord. No. 1608, §2)

**Sec. 26-151.7. Conditions**

The Zoning Administrator or the Board of Supervisors shall require as conditions of the reversion:

(a) That the property owners dedicate or offer to dedicate all of those lands and easements described in Section 26-133.1 through 26-133.4 which the Zoning Administrator or the Board of Supervisors finds are reasonable and in the best interest of the public health, safety or welfare;

(b) That all or a portion of previously paid subdivision fees, deposits or improvement securities be retained if the same are necessary to accomplish any of the purposes of this Chapter or the Subdivision Map Act.

(Ord. No. 1608, §2)

**Sec. 26-151.8. Recordation**

After approval of the reversion, the final map or parcel map for reversion shall be submitted to the County Surveyor for review and certification pursuant to Section 26-102, provided that the final map or parcel map may be considered to be in substantial compliance with the tentative map even if the parent parcel to which the subdivision is reverted is smaller than the required minimum lot size. The final map

or parcel map for reversion shall contain a certificate signed and acknowledged by all parties whose consent would be required by Sections 66430 and 66436 of the Subdivision Map Act for a subdivision of the parent parcel, unless the reversion has been initiated by resolution of the Board of Supervisors. If the County Surveyor certifies the final map or parcel map for reversion, he or she shall deliver it to the County Recorder for filing.

(Ord. No. 1608, §2)

**Sec. 26-151.9. Effect of filing final map or parcel map**

The filing of the final map or parcel map for reversion shall constitute a legal reversion to acreage of the land, vacation of all roads, easements, dedications or offers of dedication not shown on the final map or parcel map, and a merger of the previously separate lots into one parcel which shall thereafter be shown as such on the assessment roll.

(Ord. No. 1608, §2)

**Sec. 26-151.10. Return of fees, deposits, release of securities**

Except as otherwise provided in this Chapter or the Subdivision Map Act, upon filing of a final map or parcel map for reversion by the County Recorder, all original fees and deposits designated for refund by the Board of Supervisors shall be returned to the current owner of the property and all original improvement securities shall be released, except those retained pursuant to Section 26-151.7.

(Ord. No. 1608, §2)

**Sec. 26-152. Resubdivisions**

Previously subdivided real property, regardless of whether it was previously subdivided by maps or by conveyance, may be merged and resubdivided without first reverting to acreage by following all the procedures and requirements, including the payment of fees, for subdividing property that are contained in this Chapter and the Subdivision Map Act. Such merger and resubdivision shall occur automatically upon recordation of the applicable final map, parcel map, or certificate of compliance.

(Ord. No. 1608, §2)

**Sec. 26-153. Merger, applicant-initiated**

Property owner(s) may request and initiate proceedings for the merger of real property by meeting all of the requirements, including the payment of fees, for an application for the subdivision of property by parcel map that are contained in this Chapter and the Subdivision Map Act, provided that all references to the proposed merger and all references to the "subdivider" shall be deemed to be to the applicant for the merger. Any two or more contiguous lots in common ownership, regardless of whether they were created by map or by conveyance, may be merged so as to

create one new lot. An application for a merger shall be processed as an application for a ministerial permit, without public notice or hearing, where all of the preexisting lots are legal lots. In all other cases, upon receipt of the request, the Director of Environmental Management shall process the application and schedule the matter for a hearing before the Planning Commission. The Planning Commission may impose those conditions, with respect to the illegal lot(s), which it could require for the issuance of a conditional certificate of compliance pursuant to Article V of this Chapter. If the request is approved, the recording of the parcel map, certificate of compliance, or conditional certificate of compliance shall create one new lot out of the affected existing lots by eliminating all common lot lines that separate such lots from each other.

(Ord. No. 1608, §2)

## **ARTICLE XV. VIOLATIONS AND REMEDIES**

### **Sec. 26-161. Not exclusive**

The procedures and remedies set forth in this Article are not intended to be exclusive but are in addition to any other prohibitions, penalties, remedies and other procedures provided for in this Code, the Subdivision Map Act, or any other provision of law.

(Ord. No. 1608, §2)

### **Sec. 26-162. Prohibitions**

Any sale, lease or financing of property contrary to the provisions of this Chapter or the Subdivision Map Act by a person who is the subdivider or an owner of record, at the time of the violation, of property involved in the violation shall be punishable as set forth in Government Code section 66499.31. All other violations of the provisions of this Chapter or the Subdivision Map Act shall be a misdemeanor and any person, firm, corporation or partnership, upon conviction thereof shall be punishable as provided in Chapter 1, Section 1-17 of this Code. Nothing contained shall be deemed to bar any legal, equitable or summary remedy to which the County of Solano or other local agency or person, firm, corporation or partnership may otherwise be entitled and the County of Solano, or other public agency or such person, firm, corporation or partnership may file suit in the Superior Court of the County of Solano to restrain or enjoin any attempted or proposed division or sale, lease or financing in violation of this title.

(Ord. No. 1608, §2)

### **Sec. 26-163. Conveyance or remainder parcel**

No person shall sell, lease or finance any remainder parcel or commence construction of any building for sale, lease or financing thereon until a certificate of compliance or a conditional certificate of compliance, in full compliance with the

Subdivision Map Act and this Chapter, has been filed for record by the Solano County Recorder.

(Ord. No. 1608, §2)

**Sec. 26-164. Notices of violation**

Whenever the County acquires knowledge that a certain identified lot may have been illegally created by a subdivision in violation of the Subdivision Map Act or this Chapter, the Zoning Administrator shall file for record with the County Recorder, and mail by certified mail to the record owners of such lot, a notice of intention to record a notice of violation. The notice of intention shall give a legal description of the lot, name the record owners thereof, describe the suspected violation, state the reasons why it is believed that the lot is not lawful under Section 66412.6 of the Subdivision Map Act, and state that a hearing will be held at the time, date and place stated therein for purpose of determining whether the lot was created by such an illegal subdivision. The notice of intention shall further state that the owners may present evidence at the hearing and that, if the preponderance of the evidence received at the hearing shows that the lot was created by such an illegal subdivision, a notice of violation respecting the lot will be recorded. The notice of intention shall be mailed to the record owners not less than 30 calendar days nor more than 60 calendar days before the hearing. The Zoning Administrator shall conduct the hearing regardless of whether the record owners appear or have responded to the notice of intention. The hearing shall be informal and shall not be governed by rules of evidence applicable to courts of law. The record owners shall have a right to present relevant evidence at the hearing. The Zoning Administrator may, but need not, receive relevant evidence presented by persons other than the record owners. At the conclusion of the hearing, or within a reasonable period of time thereafter, the Zoning Administrator shall determine whether the lot was created by an illegal subdivision. Such determination shall be in writing and shall contain a brief outline of the findings of fact upon which the determination is based. Such findings of fact shall be supported by the preponderance of the evidence received by the Zoning Administrator at the hearing. If the determination is that the lot was not created by an illegal subdivision, the Zoning Administrator shall mail a clearance letter to the current owner of record and shall file for record with the County Recorder a release of the notice of intention; provided that, if an otherwise illegal lot is determined to be lawful solely by operation of subdivision (b) of Section 66412.6 of the Subdivision Map Act, the release shall state that, as a condition precedent to the issuance of any building permit or other grant of approval for development of the lot, the owner shall be required to obtain a certificate of compliance or a conditional certificate of compliance for the lot and to satisfy all of the conditions thereof. If the determination is that the lot was created by an illegal subdivision, the Zoning Administrator shall file for record with the County Recorder a notice of violation complying with the provisions of Section 66499.36 of the Subdivision Map Act.

(Ord. No. 1608, §2)

**Sec. 26-165. Remedies**

A certificate of compliance or a conditional certificate of compliance may be obtained pursuant to Article V of this Chapter.

(Ord. No. 1608, §2)

(Ord. No. 1065, §1; Ord. No. 1066, §1, §2; Ord. No. 1078, §§ 3, 4, 5; Ord. No. 1079, §1; Ord. No. 1107, §1; Ord. No. 1138, §1; Ord. No. 1150, §§ 1, 2, 6; Ord. No. 1173, §4; Ord. No. 1246, §1; Ord. No. 1263, §1; Ord. No. 1269, §1; Ord. No. 1419, §1)

