CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

RESOLUTION R5-2016-0044

APPROVING THE LOCAL AGENCY MANAGEMENT PROGRAM
FOR
BUTTE COUNTY ENVIRONMENTAL HEALTH 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 13 November 2015 the Butte County Environmental Health Division (hereafter BCEHD) submitted an informal draft LAMP, along with a preliminary completeness checklist (hereafter checklist) per staff's request; and

WHEREAS on 22 March 2016 staff and BCEHD completed discussions on the draft and checklist; on 13 April 2016 BCEHD submitted a formal draft; and on 14 April 2016 DDW concurred with the proposed setbacks and notifications in the formal draft; and

WHEREAS, on 18 April 2016, the Central Valley Water Board notified BCEHD 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 24 June 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 Butte County Environmental Health 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 24 June 2016.

Original signed by

PAMELA C. CREEDON, Executive Officer

Butte County
Local Area Management Program

April 12, 2016

Division of Enviornmental Health

Butte County Puiblc Health Department

Contents

PROGRAM OVERVIEW **7**

CROSS REFERENCE TABLE **13**

BUTTE COUNTY ONSITE WASTEWATER ORDINANCE **26**

19-1 Legal Authority 28
19-2 Purpose 28
19-3 Definitions 28
19-4 Applicability 33
19-5 On-Site Wastewater Manual 34
19-6 Site Evaluation Requirements 34
19-7 On-Site Wastewater System Requirements 34
19-8 Connection to Public Sewer System 41
19-9 Areas of Environmental Concern 41
19-10 Minimum Requirements for Creation of All New Parcels and for Existing Parcels within a Watershed Protection Overlay Zone 42
19-11 Chico Urban Area Requirements 45
19-12 Wastewater Advisory Committee 46
19-13 Local Certification of On-Site Wastewater Professionals 47
19-14 Contractor Review and Oversight 52
19-15 Appeal of Provisions of On-Site Wastewater Manual 54
19-16 LEA Fees 55
19-17 Enforcement and Penalties 55

MANUAL - PART 1 - PROCESS **57**

Chapter 1. Site Evaluation 59
A. Site Preparation and Application 59
B. Soil Test Hole Excavation 59
C. Site Inspection and Evaluation 61
D. Expiration 61
E. Groundwater Monitoring 63
F. Percolation Testing 67
G. Slopes 15%-30% 69
H. Suspected Slope Instability 69
Chapter 2. Construction Permit 69
A. Application 69
B. System Design 69
C. Design Stakeout 71
D. Notification, Inspection, and Final Approval 71
E. System Repairs, Replacement, Modifications, Expansions, and Septic Tank Destruction 72
Chapter 3. Operating Permit 73
A. Issuance 73
B. Valid Operating Permits Required 73
C. Required Information 73
D. Cleveland Hills Alquest-Priolo Earthquake Fault Zone 73
E. Richter Magnitude of 5.0 and Above 74
Chapter 4. Testing Septic Tanks to Assure Watertight Construction 74
A. Septic Tanks in Use at Time of Testing 74
B. New Construction or Tank Replacement 74
Chapter 5. Implementation of Certification Requirements 75
A. Installers 75

MANUAL - PART 2 - MATERIALS 77

CHAPTER 1. BUILDING SEWER 79
CHAPTER 2. SEPTIC TANK 79
CHAPTER 3. FITTINGS 81
CHAPTER 4. DISTRIBUTION BOX 82
CHAPTER 5. DIVERSION VALVE 83
CHAPTER 6. DOSING AND PUMP TANKS 83
CHAPTER 7. PUMPS, CONTROLS, AND ALARMS 84
CHAPTER 8. PIPE 84
CHAPTER 9. DRAINROCK 85
CHAPTER 10. BARRIER MATERIAL 85
CHAPTER 11. BUNDLED EPS SYNTHETIC AGGREGATE 86
CHAPTER 12. SINGLE-PASS SAND FILTER AND MOUND SYSTEM FILTER MATERIAL 86
CHAPTER 13. CONTAINMENT VESSEL FOR INTERMITTENT SAND FILTER 87
CHAPTER 14. OBSERVATION PORT DESIGN 88

MANUAL - PART 3 - SYSTEM REQUIREMENTS 89

CHAPTER 1. GENERAL REQUIREMENTS 91
CHAPTER 2. LOCATION AND SETBACKS 96
CHAPTER 3. DESIGN FLOW 97
CHAPTER 4. INSTALLATION 98
CHAPTER 5. SEPTIC TANK DESTRUCTION 100
CHAPTER 6. STANDARD GRAVITY SYSTEMS 101
CHAPTER 7. DEEP TRENCH SYSTEMS 104
CHAPTER 8. PRESSURIZED DISTRIBUTION SYSTEMS 105
CHAPTER 9. SUBSURFACE DRIP IRRIGATION 108
CHAPTER 10. SUPPLEMENTAL TREATMENT SYSTEMS 109
CHAPTER 11. PROPRIETARY SYSTEMS 111
CHAPTER 12. SINGLE-PASS SAND FILTERS 112
CHAPTER 13. MOUND SYSTEMS 116
CHAPTER 14. ENGINEERED FILL 120
CHAPTER 15. CURTAIN DRAINS 122
CHAPTER 16. OFF-SITE SEWAGE EASEMENTS 122
CHAPTER 17. NON-STANDARD NON-SUPPLEMENTAL TREATMENT SYSTEMS 123
CHAPTER 18. GRAYWATER REUSE 129
CHAPTER 19. REQUIREMENTS FOR THE REPAIR/REPLACEMENT OF FAILING SYSTEMS 130

MANUAL - PART 4 - OPERATION, MONITORING, AND MAINTENANCE 137

CHAPTER 1. APPLICABILITY 139
CHAPTER 2. ADMINISTRATION 139
CHAPTER 3. PROGRAM ELEMENTS 141
CHAPTER 4. INSPECTION FREQUENCY AND MAINTENANCE CHECKS 144
CHAPTER 5. CORRECTIVE ACTION 148

MANUAL - PART 5 – MONITORING AND REPORTING 149

CHAPTER 1. REPORTING REQUIREMENTS 151
CHAPTER 2. RECORD RETENTION AND AVAILABILITY 152
CHAPTER 3. WATER SUPPLIER NOTIFICATION 152

APPENDICES 153

APPENDIX ONE: SEPTAGE PUMPER REPORT 155
APPENDIX TWO: WEBPAGE INFORMATION 157

APPENDIX THREE: RESOLUTION ESTABLISHING MANAGEMENT ENTITY 159
APPENDIX FOUR: WATER QUALITY MONITORING 161

Program Overview

Background

In 2004, the Directors of Public Works, Development Services, and Public Health requested that the Board authorize an in-depth review of Butte County's on-site wastewater program and make recommendations for establishment of a comprehensive wastewater program. The program evaluation was completed by Norm Hantzsche of Questa Engineering Corporation in 20005 and adopted by the Butte County Board of Supervisors in spring 2006.

A Wastewater Advisory Group was established in the fall of 2006, made up of septic installers, pumpers, design engineers, environmental consultants, and representatives from the Regional Water Board, Homebuilder's Association, and the Board of Realtors. The advisory group met at least monthly for the next two years and developed an On-Site Wastewater Ordinance and an On-Site Wastewater Manual. These documents went through the CEQA process in 2009 and were adopted by the Butte County Board of Supervisors in 2010.

The On-Site Wastewater Ordinance provides the key program requirements and includes the administrative framework for the on-site wastewater program. The On-Site Wastewater Manual, authorized in the Ordinance in Chapter 19-5 and adopted by Board of Supervisor Resolution, provides the technical and procedural requirements of the program.

Tier 2 Program

This LAMP is submitted in accordance with Tier 2 of the OWTS Policy. The LAMP is based on a legally binding and enforceable Ordinance and Manual that were developed over a four year period (2006-2010) be an interdisciplinary workgroup of stakeholders that included a voting staff member from the Regional Board, two stakeholders that also served as members of the California Onsite Wastewater Association Board of Directors, an Environmental Consultant, an engineer representing the county's Homebuilders, a Realtor, a member representing proprietary supplemental treatment systems, a supplemental treatment system service provider, and a citizen activist.

The comprehensive set of requirements specified in our Ordinance and Manual are far more protective of water quality and public health than Tier One requirements as can be demonstrated by reviewing the Critical Program Elements summarized in the following section. In addition, the prohibitions specified in the OTWS Policy are specifically prohibited in the Ordinance, with links and code references provided in the Cross Reference Table.

Butte County Environmental Health is committed to adhering to all provisions of the LAMP including all requirements for monitoring and reporting. Any modifications to the LAMP will first be submitted to the Regional Board with a written notice of the intended modifications. The modifications will not be implemented if objections to the proposed modifications are made within 90 days of submittal to the Regional Board for review.

At the time of submittal of this LAMP there are no Clean Water Act section 303(d) impaired water bodies listed for Butte County related to on-site wastewater sources. If a 303(d) impaired water body is identified in the future, this LAMP will be revised to conform to requirements of "Tier 3 – Advanced Protection Management Programs for Impaired Areas", as appropriate.

Critical Program Components

The following is a list of the most critical components in the On-Site Wastewater Ordinance and Manual:

Ordinance

- Requirements generally apply to new on-site wastewater system construction, with the exception of the provisions for operation, monitoring, and maintenance of systems that applies retroactively
- Minimum vertical separation requirements specified to assure that sufficient treatment of sewage will take place even in areas of the county with significant site constraints and environmental sensitivity
- Mechanism provided for applying even more protective standards to specific areas in the county designated as Areas of Special Concern, and applies more protective standard within the Chico Nitrate Compliance Area and protected watersheds
- Provisions established to assure wastewater professionals are qualified for the work they perform, including certification requirements for septage pumpers, installers, designers, and service providers, with continuing education requirements included for all except the septage pumpers
- Wide array of enforcement alternatives authorized

Manual Part One - Process

- Process specified for obtaining a site evaluation, including specifications for soil test hole excavation, groundwater monitoring, and observation for slope instability
- Construction and operating permit requirements specified, including provisions to address disruptions resulting from earthquakes.
- Testing requirement provided for assuring water tight septic tanks

Manual Part Two - Materials

- Specifications delineated for all major components of an on-site wastewater system

Manual Part Three - System Requirements

- General system requirements provided that apply to all on-site wastewater systems provided, including requirements for location and setbacks, determining design flow, system installation, and septic tank destruction
- Requirements specified for the dispersal component of on-site wastewater systems, including requirements for standard gravity, deep trench, pressure distribution, and subsurface drip irrigation drainfields
- Requirements included for major types of supplemental treatment components, including proprietary systems, sand filters, and mound systems

- Additional requirements included for alternative design options, such as system construction in engineered fill, systems constructed in off-site easements, acceptable use of non-standard gravity systems, and graywater reuse systems
- Detailed provisions and guidance for alternatives available for on-site wastewater system repair

Manual Part Four - Operation, Monitoring, and Maintenance

- Roles and responsibilities delineated
- Program elements specified included homeowner education, data management, development of OM&M manuals, use of operating permits, and recorded deed restrictions
- Inspection frequency and system specific inspection requirements specified
- Effluent monitoring requirements included
- Enforcement and corrective action provisions provided

Manual Part Five - Environmental Monitoring and Reporting

- Provisions specified for monitoring permits and environmental conditions associated with on-site wastewater systems

Note: This is new addition to Butte County's Manual and supplemented in the future as the county's monitoring and reporting program activities mature and expand.

<u>Enforcement of Provisions in Ordinance and Manual</u>

All violations of the On-Site Wastewater Ordinance (adopted by the Board of Supervisor as County Code) and the On-Site Wastewater Manual (adopted by the Board of Supervisors by Resolution) are *"determined to be unlawful and declared to be detrimental to the public health, safety and welfare, and are public nuisances"* and subject to enforcement and abatement as prescribed in Butte County Code.

Cross Reference Table

Section	Summary	Description	LAMP Provisions	LAMP Reference(s)
3.0	**Local Agency Requirements and Responsibilities**			
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.	(1) This is addressed in Part 5 of our Manual	(1) Manual Part 5 #Manual_Annual_Report
3.3.1	Complaints	Include numbers and locations of complaints, related investigations, and means of resolution.	(1) This is addressed in Part 5 of our Manual	(1) Manual Part 5 #Manual_Annual_Report
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.	(1) This is addressed in Part 5 of our Manual	(1) Manual Part 5 #Manual_Annual_Report
3.3.3	Permits for New and Replacement OWTS	Include numbers and locations of permits for new and replacement OWTS, and their Tiers.	(1) This is addressed in Part 5 of our Manual	(1) Manual Part 5 #Manual_Annual_Report
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.	(1) This is addressed in Part 5 of our Manual	(1) Manual Part 5 #Manual_Records
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.	(1) This is addressed in Part 5 of our Manual	(1) Manual Part 5 #Manual_Publ_Water_Notify
9.1	**Protection of Water Quality**			
9.1.1	Degree of vulnerability due to local hydrogeology	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).	(1) There are currently no waters so designated at this time; however there are provisions for establishing Areas of Special Concern to allow more stringent requirements for areas needing enhanced protection. (2) Analysis and reporting procedures will be incorporated into Part 5 of the Onsite Wastewater Manual	(1) Ordinance 19-9 Ordinance_Area_of_Spec_Concern
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. 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.	(1) The Ordinance specifies density requirements for Creation of new parcels and for existing parcels within a Watershed Protection Overlay Zone based on water source (public water system or individual wells) and useable soil depth (2) Minimum vertical separation for existing parcels to a limiting layer other than	(1) Ordinance 19-10 D Density_New_Parcel (2) Ordinance 19-7 Vertical_Separation (3) Ordinance 19-3 GG Define_Vert_Sep (4) Manual Part 1 Chapter 1 E Groundwater_Monitor (5) Manual Part 1 Chapter 4 Septic_Leak_Test

Section	Summary	Description	LAMP Provisions	LAMP Reference(s)
			groundwater is 18 inches with supplemental treatment and pressure dispersal, and 12 inches with supplemental treatment and disinfection with array of special design measures; Vertical separation to groundwater is 24 inches with supplemental treatment and pressurized dispersal. (3) Soils that are excessively drained and fractured rock are excluded from consideration of minimum vertical separation (4) Detailed specifications for groundwater monitoring if needed (5) Leak testing in place all septic tanks (6) Special provisions for Chico Nitrate Compliance Area	(6) Ordinance 19-10Table_Soil_System_Type_App_Rate
9.1.3	Shallow soils requiring non-standard dispersal systems	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.	(1) Certification requirements for system designers that include credentials, examination, continuing education, disciplinary procedures, and appeal procedures. (2) Minimum vertical separation requirements as described for 9.1.2 are used to address depth to the limiting layer that could include depth to impermeable soil and fractured rock, as well has shallow seasonal watertable (3) Detailed procedures for application of groundwater monitoring to determine highest seasonal watertable (4) Provisions for pressure dispersal (5) Provisions for subsurface drip dispersal (6) Provisions for supplemental treatment systems (7) Provisions for proprietary systems (8) Provisions for single-pass sandfilter systems (9) Provisions for mound systems (10) Provisions for use of engineered fill	(1) Ordinance 19-13 Cert_Designer_Require (2) Ordinance 19-7 A Vertical_Separation (3) Manual Part 1 Chapter 1 E Groundwater_Monitor (4) Manual Part 3 Chapter 8 Pressure_Dist_Require (5) Manual Part 3 Chapter 9 Subsurface_Drip_Require (6) Manual Part 3 Chapter 10 Suppl_Treatment_Require (7) Manual Part 3 Chapter 11Proprietary_Sys_Require (8) Manual Part 3 Chapter 12 Sand_Filter_Require (9) Manual Part 3 Chapter 13 Mound_Require (10) Manual Part 3 Chapter 14 Eng_Fill_Require
9.1.4	High domestic well usage areas	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 hydro-	(1) Parcel size requirements for creation of new parcels, based on depth of useable soil and type of water system (2) Setback requirements from wells (3) Provisions for use of seepage pits based on type of water available, with supplemental pretreatment required for areas served by	(1) Ordinance 19-10 D Density_New_Parcel (2) Manual Part 3 Chapter 2 Setbacks (3) Manual Part 3 Chapter 17 D Seepage_Pits (4) Ordinance 19-11 D Chico_Nitrates_Watershed_Req

Section	Summary	Description	LAMP Provisions	LAMP Reference(s)
		geology. For pathogens, qualified professionals should ensure that field methods are sufficient to mitigate the potential for false positives.	individual wells (4) Density requirements for parcels within the Chico Nitrate Compliance Area	
9.1.5	Fractured bedrock	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.	(1) Requirements for certifying qualified system designers, including examination, continuing education, discipline, and appeal (2) Minimum vertical separation requirements as described for 9.1.2 are used to address depth to the limiting layer that could include fractured rock	(1) Ordinance 19-13 C Cert_Designer_Require (2) Ordinance 19-7 A Vertical_Separation
9.1.6	Poorly drained soils	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.	(1) Certification requirements for system designers that include credentials, examination, continuing education, disciplinary procedures, and appeal procedures. (2) Site evaluation requirements in Ordinance (3) Site evaluation requirement for new parcels (4) Site evaluation procedures in Manual (5) Minimum vertical separation requirements as described for 9.1.1 are used to address depth to the limiting layer that could include impermeable soil (6) Provisions related to vertical separation (7) Table showing minimum verticals separation and system sizing based on soil type and soil permeability; also percolation testing required in addition to soil textural analysis for poorly drained soil	(1) Ordinance 19-13 C #Cert_Designer_Require (2) Ordinance 19-6 #Ordinance_Site_Eval_Requ (3) Ordinance 19-10 #Ordinance_Site_Eval_Subdiv (4) Manual Part 1 Chapt 1 #Manual_Site_Eval_Process (5) Ordinance Chapter 19-7 A #Vertical_Separation (6) Manual Part 3 Chapter 1 #Manual_Pt3_Ch1_Gen_Require (7) Manual Part 3 Chapter 1 Table 1 Table_Soil_System_Type_App_Rate
9.1.7	Vulnerable surface water	Our key potential concern is eutrophication of fresh surface water. While typically with relatively low mobility in groundwater and recently informally banned in dishwater 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.	(1) Certification requirements for system designers that include credentials, examination, continuing education, disciplinary procedures, and appeal procedures. (2) Density requirements for parcels within Protected Watershed (3) Setback requirements from surface water (4) Detailed procedures for application of groundwater monitoring to determine highest seasonal watertable (5) Special requirements and design considerations to protect surface water when vertical separation requirements are reduced for	(1) Ordinance 19-13 C #Cert_Designer_Require (2) Ordinance 19-10 #Chico_Nitrates_Watershed_Req (3) Manual Pt3 Ch2 #Manual_Setbacks (4) Manual Part 1 Chapter 1 E Groundwater_Monitor (5) Ordinance 19-7 A.4. #Ordinance_Prov_for_Large_Parcels

Section	Summary	Description	LAMP Provisions	LAMP Reference(s)
			large, existing parcels	
9.1.8	Impaired water bodies	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.	(1) There are currently no waters so designated at this time; however there are provisions for establishing Areas of Special Concern to authorize more stringent requirements for areas needing enhanced protection.	(1) Ordinance 19-9 #Ordinance_Area_of_Spec_Concern
9.1.9	High OWTS density areas	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.	(1) Density requirements for parcels within the Chico Nitrate Compliance Area (2) Density requirements for creation of new parcels (3) Provisions for establishing Areas of Special Concern to allow more stringent requirements for areas needing enhanced protection due to problems associated with high OWTS density	(1) Ordinance 19-11 #Chico_Urban_Area (2) Ordinance 19-11 D #Density_New_Parcel (3) Ordinance 19-9 #Ordinance_Area_of_Spec_Concern
9.1.10	Limits to parcel size	At minimum, consider hydraulic mounding, nitrate and pathogen loading, and sufficiency of potential replacement areas.	(1) Parcel size requirements for creation of new parcels, based on depth of useable soil and type of water system (2) Minimum useable wastewater area requirements for creation of new parcels based on soil type (3) Requirement for reserve area for dispersal field replacement (4) Repair areas reserved sized for 100% replacement (5) For design flows exceeding 1,500 gallons per day, provisions for special design analysis and design features to assure the prevention of localized impacts to water quality or public health, including analysis of the potential localized waste loading effects including, at a minimum, groundwater mounding and nitrogen loading, minimum criteria for evaluation of the results of the analysis, and incorporation of the system design measures to address the findings of the analysis (6) Density requirements for parcels within the Chico Nitrate Compliance Area	(1) Ordinance 19-10 D Density_New_Parcel (2) Ordinance 19-10 C #Ordinance_MUWA (3) Ordinance 19-7 B #Ordinance_Repair_Area (4) Manual Pt1 Ch1 I #Manual_Repair_Area (5) Manual Pt3 Ch1 M #Manual_High_Flow_Desgn_Analysis
9.1.11	Areas with OWTS that predate adopted standards	This refers to areas with known, multiple existing OWTS.	(1) Provisions for repair of existing systems requiring systems to be brought up to current code to the extent possible (2) Detailed requirements for system repairs (3) Comprehensive septic tank pumper report and follow up to observed system deficien-	(1) Ordinance 19-4 B #Ordinance_Repair (2) Manual Pt3 Ch 19 #Manual_Repair_Require (3) Appendix One #Appendix_One

Section	Summary	Description	LAMP Provisions	LAMP Reference(s)
			cies identified in red	
9.1.12	Areas with OWTS either within prescriptive, Tier 1 setbacks, or within setbacks that a Local Agency finds appropriate	This refers to areas with known, multiple existing OWTS.	(1) Setback requirements specified consistent with Tier 1 (2) Reduced setbacks between wells and septic systems where no other alternatives are infeasible due to site conditions, requires mitigation providing "equivalent or better" protection of public health and the environment	(1) Manual Pt3 Ch2 #Setbacks (2) Ordinance 19-15 #Ordinance_Equiv_Prot
9.2	**Protection of Water Quality**			
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.	(1) Site inspection requirement (2) Site inspection process (3) Construction permit requirement (4) Construction permit process (5) Construction permit requirements (6) Requirements for local agency notification when permit not required	(1) Ordinance 19-6 #Ordinance_Site_Eval_Requ (2) Manual Part 1 Chapt 1 #Manual_Site_Eval_Process (3) Ordinance 19-7 D #Ordinance_Const_Permit_Req (4) Manual Pt1 Ch2 #Manual_Const_Permit_Req (5) Manual Pt 3 #Manual_Pt3 (6) Manual Pt3 Ch19 K #Manual_Repair_Notif_Require
9.2.2	Special Provision Areas and Requirements near Impaired Water Bodies	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.	(1) There are currently no waters so designated at this time; however there are provisions for establishing Areas of Special Concern to allow more stringent requirements for areas needing enhanced protection	(1) Ordinance 19-9 #Ordinance_Area_of_Spec_Concern
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.	(1) There are no variances from the requirements in the Ordinance. However, the EH Director may approve alternative technical requirements to those in the Manual provided they are at least as protective of public health and the environment. (2) Technical Appeals Board and process established for appeal of EH Director's determinations regarding the Manual	(1) Ordinance 19-15 #Ordinance_Equiv_Prot (2) Ordinance 19-15 #Manual_Tech_Appeals_Bd
9.2.4	Qualifications for Persons who Work on OWTS	Qualifications generally cover requirements for education, training, and licensing. We suggest that Local Agencies review information available from the California Onsite Water Association (COWA), see: http://www.cowa.org/	(1) Certification requirements for septic tank pumpers (2) Certification requirements for installers (3) Certification requirements for designers (4) Certification requirements for OM&M specialists (5) Disciplinary and appeal process specified	(1) Ordinance 19-13 A #Ordinance_Pumper_Req (2) Ordinance 19-13 B #Ordinance_Installer_Req (3) Ordinance 19-13 C #Ordinance_Designer_Req (4) Ordinance 19-13 D #Ordinance_OMM_Req (5) Ordinance 19-14 #Ordinance_Rev_Bd_Appeal

Section	Summary	Description	LAMP Provisions	LAMP Reference(s)
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; see also Tier 4. Also, provide information to appropriate volunteer groups. At minimum, we suggesting providing this information on your webpage.	(1) Requirement for renewable operating permits for owners of pressure distribution and supplemental treatment systems (2) Renewal frequency for operating permits requiring maintenance by certified service provider (3) LEA responsibility for homeowner's education (4) System operating manuals required (5) Website information offered	(1) Ordinance 19-7 D 3 #Ordinance_Operating_Permit (2) Manual Pt4 Ch3 F 2 #Manual_Op_Permit_Renewal (3) Manual Pt4 A Ch 3A #Manual_LEA_Homeowner_Ed (4) Manual Pt4 Ch 3C #Manual_Owner_Manual (5) Appendix Two #Appendix_Two
9.2.6	Septage Disposal	Assess existing and proposed disposal locations, and their adequacy.	(1) Pumpers must take septage to a site approved by the LEA	(1) Ordinance 19-13 A4 #Ordinance_Septage_Disposal
9.2.7	Maintenance Districts and Zones	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.	(1) This has been addressed by the Board of Supervisors that determined that County Service Areas would be the financial mechanism and Butte County Public Works would by the system operators	(1) Appendix Three #Appendix_Three
9.2.8	Regional Salt and Nutrient Management Plans	Consider development and implementation of, or coordination with, Regional Salt and Nutrient Management Plans; see also State Board Resolution 2009-0011:http://www.waterboards.ca.gov/centralvalley/water_issues/salinity/laws_regs_policies/rw_policy_implementation_mem.pdf	(1) No consideration has been given to this	
9.2.9	Watershed Management Groups	Coordinate with volunteer well monitoring programs and similar watershed management groups.	(1) Provisions specified for systems within a watershed protection overlay zone, not actively engaging with any volunteer group regarding wastewater issue.	(1) Ordinance 19-10 #Chico_Nitrates_Watershed_Req
9.2.10	Proximity of Collection Systems to New or Replacement OWTS	Evaluate proximity of sewer systems to new and replacement OWTS. See also Section 9.4.9.	(1) Provisions requiring connection to public sewer	(1) Ordinance 19-8 #Ordinance_Connection_Sewer
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.	(1) Notification requirements included in the Manual.	(1) Manual Part 5B #Manual_Notify_PWS
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; however we will need rationale in detail.	(1) These requirements are incorporated into our Manual's setback requirements.	(1) Manual Part 3 Chapter 2 Setbacks
9.2.13	Cesspool Discontinuance and Phase-Out	Provide plans and schedule.	(1) Cess pools are not allowed; any cess pool identified would be treated like a failed system and require installation of a new OWTS	(1) Ordinance 19-3P #Ordinance_Failing_Cess_Pools

Section	Summary	Description	LAMP Provisions	LAMP Reference(s)
			that meets current program requirements	
9.3	**Management Responsibilities for LAMP**			
9.3.1	Permit Records, OWTS with Variances	Describe your records maintenance; numbers, locations, and descriptions of permits where you have granted variances.	(1) There are no variances allowed for provisions in our ordinance, but the Ordinance provides for variation for the Manual's technical requirements (2) A minimal number of alternatives to the Manual have been approved. (3) The county's Land Use departments use Trakit and GIS for managing permit records	(1) Ordinance 19-15 #Ordinance_Equiv_Prot (2) Manual Part 5 #Manual_Annual_Report
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. We are available to provide further guidance on reporting requirements. In the interim, to assist with analyses and evaluation reports (Section 9.3.3).	(1) Effective January 1, 2016, we will require total and fecal coliform and nitrate testing as a requirement for new residential building permits. This information will be tracked and mapped as described in the new Part 5 of our Manual. (2) Nitrate levels are being monitored within the Chico Nitrate Compliance Area (3) Other water quality data will be tracked as described in Part 5 of the Manual.	(1) Appendix Four #Appendix_Four
9.3.2.1	Domestic Well Sampling	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 δ18O and δ15N 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).	(1) Effective January 1, 2016, we will require total and fecal coliform and nitrate testing as a requirement for new residential building permits. This information will be tracked and mapped as described in the new Part 5 of our Manual. (2) Procedures for analysis and management of this data will be incorporated into the Manual as a new Part 5	(1) Manual Pt5Ch1A2f.#Manual_Nitrate_Monitor and Appendix Four #Appendix_Four (2) Manual Pt5 #Manual_Annual_Report
9.3.2.2	Domestic Well Sampling, Routine Real Estate Transfer Related	This applies only if those samples are routinely performed and reported.	(1) We do not have a regulatory mechanism to require this	
9.3.2.3	Water Quality of Public Water Systems	Reviews can be by you or another municipality.	(1) Water quality data is collected and analyzed by our LPA staff for public water systems with less than 200 service connections.	(1) Manual Pt 5 Ch 1B #Manual_LPA_Mon_Data_Chico_Data

Section	Summary	Description	LAMP Provisions	LAMP Reference(s)
			(2) Water quality data is collected and analyzed by Water Board staff for public water systems with 200 or more service connections	
9.3.2.4	Domestic Well Sampling, New Well Development	This applies if those data are reported.	(1) Effective January 1, 2016, we will require total and fecal coliform and nitrate testing as a requirement for new residential building permits. This information will be tracked and mapped as described in the new Part 5 of our Manual.	(1) Appendix Four #Appendix_Four
9.3.2.5	Beach Water Quality Sampling, H&S Code §115885	Public beaches include those on freshwater.	(1) We do not have a program to monitor or regulate beaches	
9.3.2.6	Receiving Water Sampling Related to NPDES Permits	This refers to existing data from other monitoring programs.	(1) NPDES Permits are issued by the Public Works Department. There is no program to sample receiving waters	
9.3.2.7	Data contained in California Water Quality Assessment Database	This refers to existing data from other monitoring programs.	(1) This is addressed in Part 5 of our Manual	Manual Part 5 #Manual_Annual_Report
9.3.2.8	Groundwater Sampling Related to Waste Discharge Requirements	This refers to existing data from other monitoring programs.	(1) Waste discharge requirements are under the jurisdiction of the Water Board and we do not propose analyzing associated water quality monitoring data	
9.3.2.9	Groundwater Sampling Related to GAMA Program	This refers to existing data from other monitoring programs.	(1) This is addressed in Part 5 of our Manual	Manual Part 5 #Manual_Annual_Report
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.	(1) This is included in our Manual.	(1) Manual Pt 5 Ch 1A #Manual_Annual_Report
9.4	**Not Allowed or Authorized in LAMP:**			
9.4.1	Cesspools	Local Agencies cannot authorize cesspools of any kind or size.	(1) Cess pools are not defined in the Ordinance, but described under the definition of a failing system (2) Operating a failing system is prohibited	(1) Ordinance 19-3 P #Ordinance_Failing_System (2) Ordinance 19-7 C 4 #Ordinance_Prohibit_Discharge_Other_Than
9.4.2	Projected Flow>10,000 gpd	Apply professional judgment to further limit projected flows.	(1) We are modifying our ordinance to allow jurisdiction up to 10,000 gpd with technical engineering assistance provided to the LEA for design flows exceeding 2,500 gpd	(1) Ordinance 19-4 A #Ordinance_10000gdp
9.4.3	Effluent Discharger Above Post-	For example, Local Agencies cannot authorize effluent disposal using sprinklers, exposed drip lines, free-surface wetlands, and ponds.	(1) Surface discharge defined as a failing system requiring repair and subsurface dispersal	(1) Ordinance 19-3 P #Ordinance_Failing_System

Section	Summary	Description	LAMP Provisions	LAMP Reference(s)
	Installation Ground Surface		(2) Use of failing system is prohibited in the Ordinance	(2) Ordinance 19-7 D 5 #Ordinance_Failing_Prohibit
9.4.4	Installation on Slopes >30% without Registered Professional's Report	See also earlier comments, Section 9.1.1, regarding potential geotechnical concerns.	(1) Specific mitigating requirements are specified in the Manual and the following requirements apply: a. A certified designer will design the system. b. Steep slope systems are not permitted for creating lots and parcels. c. Steep slope systems for existing parcels may only be developed in conformance with the county General Plan, zoning restrictions, recorded restrictions and notes on the subdivision or parcel map, and any other applicable county requirements. d. For purposes of determining effective soil depth and vertical separation, the depth of limiting layer beneath the bottom of the trench must be measured from the upslope side of the drainfield trench bottom e. The maximum trench width shall not exceed 24 inches. f. The certified designer will provide a report verifying slope stability prepared by a geotechnical engineer. g. The wastewater system must utilize pressurized or subsurface drip dispersal.	(1) Manual Pt3 Ch17 A #Manual_Steep_Slope
9.4.5	Decreased Leaching Area for IAPMO-Certified Dispersal System with Multiplier <0.70	IAPMO, International Association of Plumbing and Mechanical Officials. Decreased leaching area refers to alternatives to conventional (stone-and-pipe) dispersal systems; these alternatives require relatively less area. The multiplier, <1, allows for a reduction in dispersal field area relative to a conventional system.	(1) A 30% reduction in dispersal field sizing is conditionally allowed for gravelless chambers in the Manual (2) Up to 25% sizing reduction allowed for pressure distribution systems and up to 50% reduction allowed for supplemental treatment followed by pressurized distribution. These reductions are based on use of sidewall for system sizing calculation as specified in the Manual for Septic Tank Practice and are not related to an IAPMO Certified disposal system.	(1) Manual Pt3 Ch6 F #Manual_Gravelless_Req (2) Manual Pt3 Ch1 H #Manual_reduction_pressure_supplemental
9.4.6	Supplemental Treatments without Monitoring and Inspection	Therefore, ensure that the LAMP describes periodic inspection and monitoring for OWTS with supplemental treatments.	(1) Operating Permit required (2) OM&M Specialist required and certification requirements specified	(1) Ordinance 19-7 D 3 #Ordinance_Operating_Permit (2) Ordinance 19-13 D #Ordinance_OMM_Req

Section	Summary	Description	LAMP Provisions	LAMP Reference(s)
			(3) Recorded deed restriction (4) OM&M renewal frequency (5) System inspection frequency (6) Elements of OM&M inspection (7) OM&M effluent monitoring requirements	(3) Manual Pt4 Ch3 E #Manual_Deed_Restrict (4) Manual Pt4 Ch3 F 2 #Manual_Op_Permit_Renewal (5) Manual Pt4 Ch4 #Manual_OMM_Insp_Freq (6) Manual Pt4 Ch4 #Manual_Elements_of_Inspection (7) Manual Pt4 Ch4 D #Manual_Effluent_Mon
9.4.7	Significant Wastes from RV Holding Tanks	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.	(1) Domestic system waste strength is identified in requirements are specified in Part 3 of our Manual and higher strength waste strength requires pre-treatment to domestic waste strength using a supplemental system reviewed by the Regional Board. RV waste is specifically referenced.	(1) Manual Pt3 Ch1 #Manual_Waste_Strength
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. 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.	(1) Minimum depths of vertical separation based on treatment (36 inches gravity, 24 with supplemental treatment and pressure dispersal for newly created parcels (2) Minimum vertical separation for existing parcels is 24 inches to groundwater (3) Minimum vertical separation for existing parcels to a limiting layer other than groundwater is 18 inches with supplemental treatment and pressure dispersal. (4) Vertical separation for existing parcels to a limiting layer other than groundwater may be further reduced to 12 inches with supplemental treatment, disinfection, and subsurface drip dispersal. (5) Seepage pits must maintain a vertical separation to groundwater of 10 ft and the effluent must first receive supplemental treatment.	(1) Ordinance 19-10 D Density_New_Parcel (2) Ordinance 19-7 Vertical_Separation (3) Ordinance 19-7 Vertical_Separation (4) Ordinance 19-7 A 3 b #Ordinance_12_inch_Vertical_Sep (5) Manual Pt3 Ch17 D #Manual_Seepage_Pits
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.)	(1) Requirements for connection to a public sewer our specified in our Ordinance	(1) Ordinance 19-8 #Ordinance_Connection_Sewer
9.4.10	Minimum Setbacks:	These setbacks are from public water systems.		
9.4.10.1	From Public Supply Wells	If the dispersal system is less than 10' in depth, then the setback must be greater than150' from public water supply well.	(1) Setbacks to public water systems and intakes are addressed in the Manual.	(1) Manual Pt3 Ch2 #Setbacks
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.	(1) Setbacks to public water systems and intakes are addressed in the Manual.	(1) Manual Pt3 Ch2 #Setbacks

Section	Summary	Description	LAMP Provisions	LAMP Reference(s)
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'.	(1) Setbacks to public water systems and intakes are addressed in the Manual.	(1) Manual Pt3 Ch2 #Setbacks
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.	(1) Setbacks to public water systems and intakes are addressed in the Manual.	(1) Manual Pt3 Ch2 #Setbacks
9.4.10.5	From Public Surface Water Supplies	If the dispersal system is greater than1,200,' 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.	(1) Setbacks to public water systems and intakes are addressed in the Manual.	(1) Manual Pt3 Ch2 #Setbacks
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.	(1) The Ordinance requires that when wastewater systems fail, they shall be repaired so as to be brought into compliance with the provisions of the Ordinance to the maximum extent feasible (2) Minimum setback requirements our specified in Part 3 of the Manual (3) Reduced setbacks between wells and septic systems where no other alternatives are infeasible due to site conditions, requires mitigation providing "equivalent or better" protection of public health and the environment	(1) Ordinance 19-4 B #Ordinance_Repair (2) Manual Part 3 Chapter 2 Setbacks (3) Ordinance 19-15 #Ordinance_Equiv_Prot
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.	(1) The Ordinance requires that when wastewater systems fail, they shall be repaired so as to be brought into compliance with the provisions of the Ordinance to the maximum extent feasible (2) Minimum setback requirements our specified in Part 3 of the Manual (3) Reduced setbacks between wells and septic systems where no other alternatives are infeasible due to site conditions, requires mitigation providing "equivalent or better" protection of public health and the environment	(1) Ordinance 19-4 B #Ordinance_Repair (2) Manual Part 3 Chapter 2Setbacks (3) Ordinance 19-15 #Ordinance_Equiv_Prot
9.5	**Technical Support of LAMP**			
			This will be described in the introductory section of the LAMP submittal.	

Butte County Onsite Wastewater Ordinance

19-1 Legal Authority

This Chapter is adopted pursuant to Article I, Section 1, of the Butte County Charter, Article XI, Section 7 of the California Constitution, which authorizes the County to exercise the police power of the State by adopting regulations promoting the public health, public safety, and the general welfare of its citizens, and the Porter-Cologne Water Quality Control Act, Water Code Section 13000 et seq.

19-2 Purpose

The purpose of this Chapter is to:

A. Protect public health and the environment by protecting ground and surface water quality.

B. Establish an administrative framework allowing the adoption of science-based standards for design, construction, installation, operation, maintenance, monitoring, replacement, alteration, enlargement, repair and abandonment of on-site wastewater treatment, conveyance, and dispersal systems.

C. Provide for compliance and enforcement of a comprehensive on-site regulatory program.

D. Ensure compliance with applicable standards, laws, and guidelines as adopted, and/or modified by the State of California, Water Resources Control Board or the Central Valley Regional Water Quality Control Board (RWQCB). The California Water Code requires that all dischargers of waste, including sanitary wastewater from homes, file a report of waste discharge. The Regional Board has traditionally waived this requirement for counties that have a program for on-site wastewater systems that is compatible with the RWQCB's "Guidelines for Waste Disposal from Land Developments." The Regional Board has established appropriate procedures for handling on-site wastewater in its Basin Plan under "Guidelines for Waste Disposal from Land Developments." The requirements of this Chapter are intended to comply with these Guidelines and constitute a program for on-site wastewater systems that is adequately protective of water quality.

19-3 Definitions

The following words and terms, when used in this Chapter, have the following meanings, unless the context clearly indicates otherwise. Terms expressed in the singular shall be construed to incorporate the plural, and vice versa, unless the context otherwise requires.

A. "Applicant" shall mean a property owner or the property owner's Authorized Representative.

B. "Areas of Environmental Concern" shall mean geographical areas designated by Resolution of the Board of Supervisors where additional protective measures are appropriate.

C. "Authorized Representative" shall mean a person or persons authorized by the property owner to act on the property owner's behalf on matters pertaining to application for permits and services.

D. "Certified Designer" shall mean a person authorized by the Local Enforcement Agency (LEA) to design pressure distribution and supplemental treatment wastewater systems meeting the requirements for certification as specified in this Chapter.

E. "Certified Installer" shall mean a person authorized by the LEA to install on-site wastewater systems meeting the requirements for certification as specified in this Chapter.

F. "Certified Pumper" shall mean a person authorized by the LEA to pump and perform minor repair of septic tanks and pump chambers meeting the requirements for certification as specified in this Chapter.

G. "Certified Operation, Monitoring, and Maintenance (OM&M) Specialist" shall mean a person authorized by the LEA to perform operation, monitoring, and maintenance inspections and routine maintenance, meeting the requirements for certification as specified in this Chapter.

H. "Chico Urban Area" shall mean the area shown by Appendix P of the Nitrate Compliance Plan and identified as County Service Area 114 (Greater Chico Urban Area).

   1. "Septic Tank Area" shall mean the area within the Chico Urban Area not shown on Figures 1-3a and 1-3b of the Chico Urban Area Environmental Impact Report as an area to be sewered.

   2. "Planned Sewered Area" shall mean the area within the Chico Urban Area shown on Figures 1-3a and 1-3b of the Chico Urban Area Environmental Impact Report as an area to be sewered.

I. "Chico Urban Area Environmental Impact Report" shall mean the environmental impact report adopted by the Board of Supervisors on September 11, 2001 titled "Environmental Impact Report Chico Urban Area Nitrate Compliance Plan."

J. "Chico Urban Area Nitrate Compliance Plan" shall mean the plan adopted by the Butte County Board of Supervisors on September 25, 2001 titled "Chico Urban Area Nitrate Compliance Plan."

K. "Commercial Project" shall mean any project other than those defined as residential. For the purposes of this Chapter, the definition of a commercial project shall not include agricultural storage buildings and primitive-type picnic grounds, campsites, and recreation areas.

L. "Community Wastewater System" shall mean an on-site wastewater system serving two (2) or more residences, parcels, or commercial sources by any method, which

meets State and local minimum standards, excepting a system serving a primary and secondary dwelling sharing facilities on the same lot or parcel.

M. "Disinfection" shall mean the process of destroying pathogenic and other microorganisms in wastewater as specified in the On-Site Wastewater Manual.

N. "Drainfield" shall mean the component of the on-site wastewater system designed to disperse wastewater beneath the surface of the soil.

O. "Effective Soil" shall mean permeable, unsaturated soil providing sufficient aeration and retention for treatment of wastewater effluent.

P. "Environmental Health Director" shall mean the Director of the Environmental Health Division of the Butte County Public Health Department.

Q. "Failing Wastewater System" shall mean any on-site wastewater system that:

1. Discharges untreated wastewater directly into the ground in a subsurface pit or perforated vessel (cess pools); or
2. Discharges untreated or inadequately treated wastewater or septic tank effluent directly or indirectly onto the ground surface, into a dwelling, or into surface or groundwater; or
3. Is not operated in compliance with permit requirements for operation, monitoring and maintenance as specified in this Chapter and the On-Site Wastewater Manual; or
4. Has been retrofitted with unapproved components or been modified from the original approved design; or
5. Does not meet effluent quality standards as specified in the approved wastewater system design.

R. "Industrial Waste" shall mean any liquid, gaseous, radioactive, or solid waste substance, or a combination thereof, resulting from any process of industry, manufacturing, trade, or business, or from the development or recovery of any natural resources.

S. "Land Use Project" shall mean any entitlement process, initiated through the Butte County Department of Development Services, including, but not limited to, tentative maps, parcel maps, use permits, certificates of compliance, and lot line adjustments. The requirements in this Chapter apply only to conditions regulated by the LEA. Other County departments have separate processes and requirements.

T. "Local Enforcement Agency (LEA)" shall mean the Environmental Health Division of the Butte County Public Health Department, which is designated as such by the Board of Supervisors pursuant to Public Resources Code Section 43202.

U. "Minimum Useable Wastewater Area (MUWA)" shall mean the amount of useable ground surface, expressed in square feet, that is required when creating new lots or

parcels in the tentative or parcel map process. The amount of land area is based on the percolation rate and the type of leach field distribution method.

V. “On-Site Wastewater Manual” shall mean the document containing implementing standards and requirements of this Chapter, including specific detail on acceptable on-site wastewater treatment and dispersal systems and processes, developed by the LEA and the Wastewater Advisory Committee and adopted by resolution of the Board of Supervisors.

W. "On-Site Wastewater System" shall mean any system of piping, treatment devices or other facilities that convey, store, treat, or dispose of wastewater and which is not connected to a public sewer system.

X. “Operating Permit” shall mean that administrative document issued by the LEA authorizing the initial and/or continued use of an on-site wastewater system, as specified in the On-Site Wastewater Manual.

Y. “Operation, Monitoring, and Maintenance (OM&M)” shall mean regular inspection, monitoring, and service provided to on-site wastewater systems as delineated in the On-Site Wastewater Manual to insure their long-term viability

Z. “Owner” shall mean any person who alone, or jointly, or severally with others:

1. Has legal title to any single lot, dwelling, dwelling unit, or commercial facility, or an easement. sufficient to allow installation and maintenance of a wastewater system; or

2. Has care, charge, or control of any real property as applicant, executor, executrix, administrator, trustee or guardian of the estate of the holder of legal title.

AA. “Person” shall mean owner or authorized representative, corporation, association, firm, organization, partnership, or company.

BB. “Pressure Distribution” shall mean dispersal of wastewater system utilizing pressurized small diameter distribution lines for equal distribution of effluent.

CC. “Public Sewer System” shall mean any sewer system constructed, installed, maintained, operated and owned by or for a municipality or public entity established for wastewater treatment and discharge.

DD. “Site Evaluation” shall mean the process for determining whether a parcel’s site conditions meet the minimum requirements of this Chapter and the On-Site Wastewater Manual.

EE. “Standard Gravity System” shall mean an on-site wastewater system comprised of a 2-compartment septic tank for primary treatment and dispersal in gravel or gravelless chamber trenches. Effluent will flow to the trenches by gravity, or may be pumped to the first distribution box of the trenches.

FF. "Supplemental Treatment System" shall mean any on-site wastewater system or system component providing enhanced treatment, over that which would be provided by a standard gravity system, and that produces effluent meeting all of the following parameters prior to dispersal in the soil:

1. 30-day average Biochemical Oxygen Demand (BOD) concentration not to exceed 30 milligrams per liter (mg/L), or alternately, a Carbonaceous BOD (CBOD) in excess of 25 mg/L;
2. 30-day average total suspended solids concentration not to exceed 30 mg/L;
3. Total coliform level not to exceed levels as specified in the On-Site Wastewater Manual based on site characteristics; and
4. 30-day average total nitrogen concentration not to exceed 10 mg/L as nitrogen (applicable only when the wastewater system is located in an area where the Central Valley Regional Water Quality Control Board has identified nitrogen as a water quality concern).

GG. "Technical Appeals Board" shall mean three members of the Wastewater Advisory Committee comprised of the committee Chair and a Civil Engineer and non-engineer from the committee who are selected annually to sit on the Technical Appeals Board by the Butte County Board of Supervisors.

HH. "Vertical Separation" shall mean the depth of effective soil that exists beneath the bottom of a dispersal component of the wastewater system and a restrictive or limiting layer or feature including, but not limited to:

1. Permanent or seasonal watertable; or
2. Consolidated soil with insufficient permeability or porosity to provide wastewater treatment; or
3. Fractured rock with excessive permeability to provide wastewater treatment; or
4. Soils outside the range of acceptable texture and percolation as shown in Table One, Section 19-10 of this Chapter.

II. "Wastewater" shall mean sewage that is designated as "blackwater" and/or "graywater."

1. "Blackwater" shall mean wastewater contaminated with human wastes, generally originating from toilets. It includes, but is not limited to, wastewater discharges from water closets, toilets, urinals or similar fixtures alone or in combination with other wastewater.
2. "Graywater" shall mean untreated wastewater that has not been contaminated by any toilet discharge, has not been affected by infectious, contaminated, or unhealthy bodily wastes, and does not present a threat from contamination by

unhealthful processing, manufacturing, or operating wastes. The term includes wastewater from bathtubs, showers, bathroom washbasins, clothes washing machines, and laundry tubs, but does not include wastewater from kitchen sinks or dishwashers.

19-4 Applicability

This Chapter shall apply to on-site wastewater systems with a design flow of less than ten thousand (10,000) gallons per day as follows.

A. Wastewater Systems Applied for After the Effective Date of this Chapter, Excluding System Repair

All provisions specified in this Chapter and in the On-Site Wastewater Manual shall apply to on-site wastewater systems applied for after the effective date of this Chapter, excluding wastewater system repairs, servicing the following types of development:

1. One or more single family or multi-family units sharing the same drainfield with a wastewater flow of less than ten thousand (10,000) gallons per day; and/or
2. One or more non-residential uses sharing the same drainfield with a flow of less than ten thousand (10,000) gallons per day.

B. Wastewater System Repairs

When wastewater systems fail, they shall be repaired so as to be brought into compliance with the provisions of this Chapter to the maximum extent feasible. Repair of failing standard gravity systems with upgraded wastewater systems incorporating supplemental treatment shall not be required, except when specified in the On-Site Wastewater Manual or when the Environmental Health Director has determined that substantial evidence exists indicating that repair of the system without upgrading to supplemental treatment would result in an unacceptable public health or water quality hazard including, but not limited to, continued surfacing of sewage on the ground surface, backup of sewage into the residence, sewage discharge into surface water, or direct sewage discharge into groundwater.

C. Wastewater Systems Constructed or Applied for Prior to the Effective Date of this Chapter

The provisions of this Chapter and the On-Site Wastewater Manual pertaining to on-site wastewater system siting, design, and construction shall not apply to wastewater systems that have been constructed or for which a complete, valid application has been received by the LEA prior to the effective date of this Chapter. However, all other provisions of this Chapter and the On-Site Wastewater

Manual shall apply to wastewater systems applied for prior to the effective date of this Chapter, including but not limited to those pertaining to operation, monitoring, inspections, maintenance, repairs, abandonment and destruction.

19-5 On-Site Wastewater Manual

A. The Butte County On-Site Wastewater Manual shall govern the siting, design, installation, component quality, operation, monitoring, and maintenance of on-site wastewater systems in Butte County. Copies will be maintained and made available to the public at the LEA's main office.

B. The Butte County On-Site Wastewater Manual shall be adopted by resolution of the Butte County Board of Supervisors (Board). The LEA, based on observed need or on recommendation by the Wastewater Advisory Committee, may propose modifications of the Manual. When changes are proposed to the On-Site Wastewater Manual, the changes shall be presented to the Board for adoption by an amending resolution.

19-6 Site Evaluation Requirements

A. Unless waived by the LEA, a site evaluation shall be required on every existing or proposed lot or parcel prior to obtaining an On-Site Wastewater System Construction Permit. The site evaluation shall be conducted as described in the On-Site Wastewater Manual.

B. When required, the site evaluation shall be conducted by either the LEA or the applicant's certified designer in coordination with the LEA so that LEA personnel may be present for any facet of testing in the evaluation process.

C. The site evaluation will examine factors affecting on-site wastewater system design including, but not limited to, ground slope, soil textural characteristics, effective soil depth, horizontal setbacks, and available area for one hundred percent system replacement. Percolation tests may be required under certain circumstances as outlined in the On-Site Wastewater Manual.

D. Prior to completion of the site evaluation, the LEA may require groundwater monitoring during high rainfall periods of the year as described in the On-Site Wastewater Manual prior to completion of the site evaluation.

E. The LEA may require a new site evaluation or other soils testing if it determines that prior site evaluation approvals were based on testing and/or reporting that was incomplete, insufficient, incompatible with known information about a given area, or for a site where subsequent excavation activities may have altered the suitability of the parcel for accommodating an on-site wastewater system.

19-7 On-Site Wastewater System Requirements

A. Minimum Vertical Separation Requirements

1. New Parcels:

   An application for a subdivision or parcel map shall not be approved after the effective date of this Chapter unless the minimum vertical separation requirements and other applicable standards specified in Section 19-10 of this Chapter are met.

2. Existing Parcels:

   a. Except as provided in Section 19-4, B. (Wastewater System Repairs) and Subsections A.3. and A.4. of this Section, new wastewater systems shall not be approved by the LEA for parcels created prior to the effective date of this Chapter, unless the following minimum vertical separation can be met:

      i. Standard gravity systems shall be sited and designed so as to have a minimum vertical separation of 36 inches.

      ii. Supplemental treatment systems shall be sited and designed so as to have a minimum vertical separation of twenty-four (24) inches to groundwater and eighteen (18) inches to restrictive or limiting layers and identified in the definition of Vertical Separation in this Chapter.

   b. Existing on-site wastewater systems that require expansion or modification to meet increased design flow shall be allowed such expansion without being required to meet the vertical separation requirements of this Chapter when the need for system expansion is not the result of a change in use and when the expansion will not impair water quality as determined by the LEA.

3. Existing Parcels: Special Consideration for Enhanced Design Alternatives

   New wastewater systems may be approved by the LEA for parcels created prior to the effective date of this Chapter provided one of the following enhanced design alternatives is utilized within the constraints and specifications outlined in this Chapter and the On-Site Wastewater Manual:

   a. Engineered Fill

      Engineered fill may be utilized, as described in the On-Site Wastewater Manual, where all the following site conditions and system specifications are met:

      i. There shall be a minimum of twelve (12) inches of native effective soil after site preparation and prior to placement of fill;

ii. Wastewater shall receive supplemental treatment; and a sufficient depth of engineered fill added to bring the vertical separation to a minimum of 24 inches.

b. Disinfection

Disinfection using an approved add-on disinfection component may be utilized, as described in the On-Site Wastewater Manual, where all the following site conditions and system specifications are met:

i. A minimum of twenty-four (24) inches of vertical separation to groundwater shall be maintained;

ii. A minimum of twelve (12) inches of vertical separation shall be maintained to other restrictive or limiting layers indicated in the definition of Vertical Separation of this Chapter;

iii. Wastewater shall receive supplemental treatment provided by either a single-pass sand filter or an alternate type of supplementary treatment system. If an alternative type of supplementary treatment system is used, the testing frequency for compliance with effluent quality limits shall be increased from quarterly to monthly for the first year of operation, or longer if needed to verify reliable treatment;

iv. Dispersal shall utilize either pressure distribution or subsurface drip irrigation; and

v. An analysis shall be performed demonstrating that breakout of wastewater will not occur.

4. <u>Existing Parcels: Special Consideration for Large Parcels</u>

When site conditions are such that a 36-inch vertical separation cannot be attained for parcels created prior to the effective date of this Chapter, standard gravity systems may be approved by the LEA when the following criteria are met:

a. The parcel shall be at least 5 acres in size; the provisions of this Section shall apply to multiple parcels that were merged after the effective date of this Chapter, provided the total combined acreage is at least 5 acres in size;

b. The area in which the dispersal component of the wastewater system is located and its designated repair area shall be shown to have a minimum native effective soil depth of 24 inches;

c. The dispersal component of the wastewater system shall be designed and constructed to maintain a vertical separation of at least twenty-

four (24) inches to watertable and at least eighteen (18) inches to other restrictive or limiting layer indicated in the definition of Vertical Separation of this Chapter;

d. There shall be evidence of a restrictive layer between the dispersal component of the wastewater system and the first useable aquifer. If the first usable aquifer is known or estimated to be within 10 feet of ground surface, additional evaluation shall be required to verify that there is at least three feet of unsaturated soil between the bottom of the dispersal system and the anticipated highest level of usable groundwater;

e. The soil conditions at distances of 25 feet and 50 feet downslope of the dispersal field and its designated repair area shall be demonstrated to meet the same soil suitability conditions as required for dispersal field;

f. The wastewater system shall serve only a single family residence;

g. A deed restriction shall be recorded to assure: (a) The parcel will not be subdivided in the future; and (b) The parcel shall not be further developed with a permanent secondary dwelling, until such time that the wastewater system is upgraded to meet the requirements of Subsection A.2. of this Section or until another method of wastewater disposal is approved by the LEA, such as connection to a public sewer;

h. The dispersal component of the on-site wastewater system and the designated repair area shall be sited so as to maximize separation from wells and surface water with the design objective of increasing said separation when feasible, by up to 100% of that which is specified in the On-Site Wastewater Manual. At a minimum, an additional setback distance to any well or surface water in the downslope direction from the dispersal field shall be 50 feet;

i. The increased setback area between wells and surface water, and the dispersal component of the on-site wastewater system and the designated repair area shall be verified through the site evaluation process to not contain rock outcrops, cut banks, or other soil or landscape features that would allow surfacing of wastewater effluent;

j. The dispersal component of the on-site wastewater system and the designated repair area shall be sited so as to maximize separation to property lines with the design objective of increasing said separation when feasible, by up to one hundred (100) feet. At a minimum, the setback distance to any property line in the downslope direction from the dispersal field shall be at least fifty (50) feet; and

k. The dispersal component of the on-site wastewater system and the designated repair area shall be sited so that the minimum natural ground slope within and in the area extending fifty (50) feet downslope of the dispersal field and its designated repair area shall be five percent (5%) or greater. The LEA may waive this requirement where it can be demonstrated that there will be adequate drainage away from the dispersal field.

B. Reserve Area for Wastewater System Replacement

An area reserved for wastewater system repair and replacement shall be set aside and maintained as described in the On-Site Wastewater Manual.

C. Prohibitions

1. No person shall treat or dispose of wastewater in any manner other than by an approved on-site wastewater system, community wastewater system, public sewer system or other method meeting the standards set forth in this Chapter and the On-Site Wastewater Manual.

2. No on-site wastewater system shall be approved after the effective date of this Chapter that is not sited and designed in Soil Group A, B, C, D, or E, as shown in Table One in Section 19-10 and with a percolation rate of one (1) to two hundred forty (240) minutes per inch (mpi), when percolation testing is performed at the request of the applicant or designer, or required by the LEA. Soils that percolate at a rate of one (1) to five (5) minutes per inch (mpi) shall require pressure distribution and shall demonstrate adequate filtration capacity.

3. Designs for on-site wastewater systems to be installed in soils that percolate at a rate of one (1) to five (5) minutes per inch (mpi) shall demonstrate adequate filtration capacity by consideration of design factors identified in the On-Site Wastewater Manual for rapidly drained soil.

4. No person shall construct, operate or maintain an on-site wastewater system or community wastewater system that does not comply with the applicable requirements specified in this Chapter, the Construction Permit, the Operating Permit, and the On-Site Wastewater Manual.

5. No person shall operate a failing on-site wastewater system.

6. No person shall connect any structure to an existing on-site wastewater system where the total projected wastewater flow would be greater than the design flow specified in the original Construction Permit or where, in the opinion of the LEA, the connection of a new and/or replacement structure to an existing wastewater system would not meet the standards contained in this Chapter or the On-Site Wastewater Manual.

7. No person shall discharge anything other than what is specifically described as wastewater in this Chapter, into any on-site wastewater system.

8. No person shall operate an on-site wastewater system constructed after the effective date of this Chapter without a final approval of its Construction Permit by the LEA.

9. No person shall maintain or operate a wastewater system for which the LEA has issued an abandonment order.

10. Unless otherwise specified in the On-Site Wastewater Manual, no person shall maintain or operate a non-discharging wastewater system, such as a holding tank, composting toilet, or vault privy, except for non-residential and non-commercial limited-use applications, such as agricultural storage buildings and primitive-type picnic grounds, campsites, and recreation areas where on-site wastewater systems are not feasible, as determined by the LEA. Portable toilets may be used, on a temporary basis, for community events and at construction sites. Said non-discharging wastewater systems shall meet the specifications for maintenance and operation in the On-Site Wastewater Manual.

D. Permitting

1. Construction Permit

a. Except for a graywater system meeting the requirements of the California Plumbing Code, the On-Site Wastewater Manual, and Subsection D.2. of this section, no person shall construct or replace an on-site wastewater system without first having applied for and been issued a Construction Permit. An application shall not be deemed complete unless it contains all the requirements specified in the On-Site Wastewater Manual.

b. No On-Site Wastewater System Construction Permit shall be issued for a Community Wastewater System unless the operation, repair, and replacement of said system will be provided by a County Service Area as specified in Butte County Board of Supervisors Resolution 13-080.

c. Permits that authorize construction of on-site wastewater systems shall remain valid for a period of two (2) years from the date initially issued. Renewal procedures shall be as set forth in the On-Site Wastewater Manual if additional time is required to complete construction.

d. No person shall construct or replace an on-site wastewater system unless it complies with Butte County Code Chapter 50, Stormwater Management and Discharge Control.

e. No person shall construct or replace an on-site wastewater system unless it complies with Butte County Code Chapter 13, Article 1, Grading.

2. LEA Notification and Plan Review

Except for removal of solids from a septic tank by a certified pumper, no person shall service or replace an approved wastewater system's components without first notifying the LEA so that parcel files can be updated, trends in equipment reliability can be tracked, and so that the contractor can be advised of any technical updates or requirements relevant to service that will be provided. Services requiring LEA notification and plan review without the requirement for permitting include, but are not limited to the following:

a. Replacement of mechanical or electrical parts with parts of the same type, size, and capacity for pump to gravity wastewater systems;

b. Minor repairs of septic tanks, such as repair or replacement of baffles or sanitary "T"s, repair or replacement of distribution boxes;

c. Repair or replacement of sewer pipes running from septic tanks to the distribution boxes; and

d. Design and installation of graywater systems identified as Clothes Washer Systems and Simple Systems in the California Plumbing Code and meeting the requirements therein.

3. Operating Permit

a. Any person using a pressure distribution or a supplemental treatment system, any person using a standard gravity system within an Area of Environmental Concern, and any person operating a wastewater system whose design flow exceeds two thousand five hundred (2,500) gallons per day shall obtain an Operating Permit. Said operating permit shall be renewed thereafter at the frequency specified in the On-Site Wastewater Manual. An application shall be deemed complete when it is accompanied by a complete Operation, Monitoring, and Maintenance (OM&M) Report prepared by a Certified OM&M Specialist.

b. A person selling a parcel in which there is an approved Operating Permit shall notify the LEA of the transfer.

4. Any requirement placed upon a permit for compliance with the provisions of this Chapter and the On-Site Wastewater Manual shall be binding upon the property owner and successive property owners for the life of the system.

5. The LEA may deny any Construction or Operating Permit application that fails to comply with the requirements of this Chapter or the On-Site Wastewater Manual for a primary or replacement wastewater system.

E. Abandonment/Destruction

Any person abandoning/destroying an on-site wastewater system or system component shall obtain a permit and do so in accordance with the procedures specified in the On-Site Wastewater Manual.

F. Construction and Operating Permit Inspection

The person on whose property the on-site wastewater system is located shall grant the LEA access to the property for purposes of inspecting the wastewater system in accordance with the requirements of this Chapter, the On-Site Wastewater Manual, and with any conditions specified in the Construction Permit or Operating Permit, and, for those parcels utilizing pressure distribution or supplemental treatment, shall record a statement disclosing said requirements to future property owners

19-8 Connection to Public Sewer System

A. Other than where an exception is granted by the Environmental Health Director pursuant to Subsection B of this Section, connection to a public sewer system shall be required by the LEA whenever the sewer main is no more than two hundred fifty (250) feet from the existing or proposed dwelling and all of the following circumstances apply:

1. Application has been made for new development or a failing on-site wastewater system has been identified by the LEA; and
2. The public sewer system has adequate capacity for the connection; and
3. Connection to the public sewer is permitted by the sewer utility.

B. Exceptions may be granted by the Environmental Health Director to Subsection A of this Section where the sewer main is not adjacent to the property line. Factors that may be considered prior to making a decision to grant or deny an exception include, but are not limited to, the following:

1. Feasibility and cost of connection; and
2. Reasonable expectation for future expansion plans of the sewer utility; and
3. Willingness of the applicant to commit to connect to the public sewer in the future; and
4. Suitability of the parcel for siting an on-site wastewater system.

19-9 Areas of Environmental Concern

A. The Butte County Board of Supervisors (Board) may establish Areas of Environmental Concern, after considering factors affecting on-site wastewater system placement and performance, including, but not limited to:

1. Area-wide soil and drainage characteristics;
2. Flooding and seasonal watertable;
3. Commercial or residential density;
4. Special status species populations and/or habitat;
5. Riparian habitat, wetlands, and oak woodlands and proximity to surface water; and
6. Habitat preserves identified in any adopted Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP).

B. Areas of Environmental Concern shall have clear geographical boundaries and be established by Resolution, only after a public hearing before the Board.

C. The Board may establish additional requirements in Areas of Environmental Concern, including but not limited to:

1. Increased setback requirements;
2. Increased permitting requirements, such as requiring operating permits for standard gravity systems; and
3. Increased inspection requirements by Certified OM&M Specialists.

19-10 Minimum Requirements for Creation of All New Parcels and for Existing Parcels within a Watershed Protection Overlay Zone

A. An applicant initiating a parcel or subdivision map shall utilize a certified designer to perform the site evaluation. The soil suitability investigation shall be performed jointly by the certified designer and the LEA, using the site evaluation process as described in this Chapter and the On-Site Wastewater Manual.

B. No parcel or subdivision map shall be recorded and no on-site wastewater system shall be approved for existing parcels within a Watershed Protection Overlay Zone unless all proposed lots or parcels which rely on on-site wastewater systems have an approved site evaluation report that verifies, at a minimum, the following site characteristics:

1. Vertical separation will be not less than 36 inches. The required depth of effective soil for the creation of new parcels and for parcels within Watershed Protection Overlay Zones may be reduced by the LEA when all of the following conditions are met:

a. Wastewater system designs are provided by a certified designer demonstrating that a supplemental treatment and dispersal alternative meeting the provisions of this Chapter and the On-Site Wastewater Manual will maintain a vertical separation of 24 inches and include the use of pressure distribution or subsurface drip dispersal of the treated effluent; and

b. Primary and repair dispersal areas are designated on the parcel map to assure subsequent construction activities do not take place that would adversely impact the soil in those areas.

2. Slope is no greater than 30%

3. Receiving soils are in Soil Groups A-E, as identified in Table One, subsection C of this section.

4. When percolation testing is required, percolation rate is 1-120 minutes per inch (mpi). Percolation testing shall be required by the LEA as shown in Table One in Subsection C of this Section, and shall be conducted by a certified designer and verified by the LEA. Soils that percolate at a rate of 1-5 mpi shall require pressure distribution and shall demonstrate adequate filtration capacity. Designs for On-Site Wastewater Systems that will be installed in soils that percolate at a rate of 1-5 mpi shall demonstrate adequate filtration capacity by consideration of design factors identified in the On-Site Wastewater Manual for rapidly drained soils.

C. Minimum Useable Wastewater Area

1. No parcel or subdivision map shall be recorded, and no on-site wastewater system shall be approved for existing parcels within a Watershed Protection Overlay Zone, unless all parcels, which rely on individual wastewater systems, have an approved site evaluation, that specifies whether the parcel has the required minimum useable wastewater area (MUWA) in accordance with the area requirements shown on Table One for each residence, or for each Residential Equivalent (360 gallons per day) in the case of non-residential development.

2. Usable parcel area shall not include areas contained in the following:

a. Wastewater system setbacks to buildings as specified in the On-Site Wastewater Manual.

b. Easements dedicated or reserved for surface or underground improvements unless dedicated or reserved for sewage disposal purposes.

c. Easements for access for roadway purposes.

d. Areas within five (5) feet of the property line.

e. Areas that are within minimum setbacks as specified in the On-Site Wastewater Manual.

f. Paved areas.

g. Areas with a slope in excess of thirty (30) percent.

h. Areas where the percolation rate is slower than one hundred twenty (120) mpi or faster than one (1) mpi.

i. Areas that would provide less vertical separation than specified in Sub-section B of this Section.

Table One. MUWA Requirements per Residence or Residential Equivalent

Soil Group	USDA Soil Texture Classification	Rate of Percolation (Minutes/Inch)	MUWA (Total Square Feet for Primary and Repair Areas)	
			Gravity Distri-bution	Pressure Dis-tribution
	Gravel, coarse sand, fractured rock	<1	Not Suitable for Parcel Creation	
A[1,2]	Medium to coarse sand	1-5	Not Allowed	6,000
B[3]	Fine sand, loamy sand	>5-15	9,000	6,000
C	Sandy loam, loam, sandy clay loam	>15-30	12,000	8,000
D	Silt loam	>30-60	15,000	10,000
E[4]	Clay loam, silty clay loam, sandy clay	>60-120	Not Allowed	15,000
	Clay, highly compacted soil	>120	Not Suitable for Parcel Creation	

[1] Subject to percolation test in addition to using soil texture determination.
[2] Must demonstrate adequate filtration capacity
[3] Subject to percolation test in addition to soil textural determination if 35% or more (by volume) coarse fragments (defined as > 2 mm size)
[4] Clay shall be non-expansive.

D. Minimum Parcel Size

Until such time that Butte County General Plan 2030 is completed and the Butte County Zoning Code is amended, as may be necessary to implement the General Plan, and with the exception of development approved pursuant to Butte County Code Chapter 24-210, Planned Unit Development, no parcel or subdivision map shall be recorded unless the minimum parcel size meets the requirements for each residence, or for each Residential Equivalent (360 gallons per day) in the case of non-residential development, as specified in Table Two. For Planned Unit Development, the minimum parcel sizes specified in Table Two shall be minimum average parcel size. This requirement shall be reevaluated when the General Plan and Zoning Code have been updated as specified herein.

Table Two. Minimum Parcel Size

Effective Soil Depth	Minimum Parcel Size per Residence or Residential Equivalent (360 gpd)	
	Public Water System	Individual Well
More than 5 ft	0.5 acres	1.0 acres
4 ft – 5 ft	1.0 acres	

3 ft - < 4 ft	2.0 acres
Less than 3 ft	5.0 acres Not allowed unless consultant can show that 2 ft vertical separation can be maintained with supplemental treatment

E. No parcel or subdivision map shall be recorded where any parcel relies on an on-site wastewater system that cannot be sited within the boundaries of the proposed parcels, except where the LEA authorizes use of a Community Wastewater System, as approved by the Central Valley Regional Water Quality Control Board, meeting the provisions of this Chapter and the On-Site Wastewater Manual.

F. No parcel or subdivision map shall be recorded where any parcel relies on a seepage pit for disposal of sewage.

G. When a proposed parcel or subdivision map is located within a reasonable distance of an existing public sewer system and it is practicable and feasible for the proposed parcels to be connected to, and be served by, the same, the LEA may require that the parcel or subdivision map be conditioned to connect to the public sewer system.

H. Actions taken by the Planning Commission, based upon recommendations made by the LEA through the discretionary land use permitting processes may be appealed pursuant to the procedures set forth in Butte County Code Chapters 20 or 24, as applicable.

I. This Chapter and/or the On-Site Wastewater Manual are intended to be consistent with and implement the Butte County General Plan, any applicable Community Plan, or any other applicable plan of any agency having jurisdiction.

19-11 Chico Urban Area Requirements

A. Septic Tank Density

1. Density - Unless approved in writing by the Central Valley Regional Water Quality Control Board (RWQCB), the maximum allowable density within the Chico Urban Area shall be one residence, or one Residential Equivalent (360 gallons per day) for non-residential development, per acre as derived from Chapter 3, Scope and Results of Technical Program - Chico Urban Area Nitrate Compliance Program.

2. Regional Board Review - For projects of over one thousand (1,000) gallons per day wastewater flow within the Chico Urban Area, septic tank permits and related entitlements shall not be issued or authorized until the project applicant has secured concurrence of RWQCB.

B. Future Public Sewer Connection Infrastructure

Within the Proposed Sewer Area as identified in the Chico Urban Area Nitrate Compliance Plan, septic tank development shall include the construction of sewer laterals to the property line for future sewer connection. Sewer laterals shall meet standards of the expected sewer service provider and, if the expected provider is not known, of the Butte County Improvement Standards adopted by Butte County Board of Supervisors Resolution pursuant to Butte County Code Chapter 20.

C. Sewer Connection

New development and/or substantial upgrades to existing development on parcels within the Chico Urban Area shall be connected to a public sewer in compliance with the provisions outlined in Section 19-8 of this Chapter.

19-12 Wastewater Advisory Committee

A. The Wastewater Advisory Committee is hereby established to consist of ten (10) members appointed by the Board of Supervisors, one from each of the following categories:

1. Board of Realtors or Association of Realtors;
2. Building Industry Association;
3. Certified On-Site Wastewater Operation and Maintenance Specialist;
4. Engineer specializing in environmental consultation;
5. Engineer specializing in on-site wastewater consulting;
6. Certified septic tank pumper or septic tank manufacturer;
7. Certified installer;
8. Registered Environmental Health Specialist;
9. Wastewater component vendor or proprietor; and
10. Citizen-at-large

B. The Wastewater Advisory Committee shall advise the LEA on matters pertaining to on-site wastewater, including but not limited to:

1. Development and maintenance of the On-Site Wastewater Manual;
2. Application of new on-site collection, treatment, conveyance, and dispersal technology;
3. Development and oversight of a system for assuring that on-site wastewater systems are appropriately operated, maintained, and monitored;
4. Future revisions to this Chapter and the On-Site Wastewater Manual; and

5. Policies, practices, and procedures to improve protection of public health and delivery of customer service pertaining to the implementation of this Chapter and the On-Site Wastewater Manual.

C. Members of the Wastewater Advisory Committee shall meet at least once quarterly.

D. The LEA shall provide staff support for the Wastewater Advisory Committee.

19-13 Local Certification of On-Site Wastewater Professionals

A. Certified Pumper Requirements

1. It shall be unlawful for any person to engage in pumping any septic tank, seepage pit or chemical toilet, or removing other accumulations of sewage without first having obtained a pumper's certificate from the LEA. A current pumper certificate shall be deemed by the LEA as compliance with the registration requirements specified in the California Health and Safety Code Sections 117405 - 117450.

2. Pumpers shall not pump any septic tank or wastewater holding tank without completing a Septage Pumper Report, at the time the service is provided, using a reporting format prescribed by the LEA. Septage Pumper Reports shall be submitted to the LEA at a frequency not less than monthly.

3. Any person seeking a certificate shall file and maintain a current mailing address with the LEA and shall agree that correspondence and notices may be sent to said addresses.

4. Requirements for initial pumper certification and for recertification when the certification has lapsed without renewal shall include the following:

   a. The pumper shall verify to the LEA that a disposal site approved by the LEA will be used for deposition of septage or holding tank wastes; and

   b. The pumper shall demonstrate to the LEA that the vehicles used to pump and transport septage meet the following requirements:

      i. The pump tank shall hold a volume at least equal to or exceeding the volume of the tank being pumped, be in good repair, and be constructed in a manner to facilitate cleaning;

      ii. All outer contact surfaces and fittings shall be kept in a clean and sanitary condition while stored or in transit, and all premises served and equipment used shall be left in a clean and sanitary condition;

iii. All discharge valves shall be in good repair, free from leaks and fitted with water-tight caps; and

iv. The name of the operating firm shall be prominently displayed on the sides of any pump tank vehicle.

5. Requirements for pumper certificate renewal shall include the following:

   a. The pumper shall renew the certification prior to the date of the certificate's expiration;

   b. The pumper shall provide the LEA with an opportunity to inspect pump vehicles and demonstrate compliance with the requirements in this Section; and

   c. The pumper shall verify to the LEA that a disposal site approved by the LEA will be used for deposition of septage or holding tank wastes.

6. Pumper certificates shall remain valid for two (2) consecutive years and may be renewed. A pumper's certificate shall not be transferable.

B. Certified Installer Requirements

1. It shall be unlawful for any person, firm or corporation to engage in construction, alteration, repair or modification of an on-site wastewater system within Butte County without first obtaining an installer's certificate from the LEA, however nothing contained herein shall prohibit a resident owner from installing an on-site wastewater system or making repairs or alterations to an on-site wastewater system on said resident owner's property when the conditions specified in this Chapter and the On-Site Wastewater Manual are met.

2. Any person seeking a certificate shall file and maintain a current mailing address with the LEA and shall agree that correspondence and notices may be sent to said addresses.

3. Requirements for initial installer certification and for recertification when the certification has lapsed without renewal shall include the following:

   a. The installer shall successfully complete a written and/or field examination of the applicant's knowledge of wastewater system principles and the rules, regulations, laws, and ordinances affecting the public health and safety with respect to on-site wastewater systems. Examination and/or certification for wastewater system installation by a third-party entity shall be reviewed and may be determined by the LEA to satisfy the requirement for examination specified herein;

b. The installer shall provide verification to the LEA of the applicant's current status as a Class A (General Engineering Contractor), Class B (General Building Contractor), Specialty C-42 (Sanitation Service Contractor), or Specialty C-36 (Plumbing Contractor) licensed in accordance with the provisions of the California Business and Professions Code; and

c. The installer shall provide verification to the LEA of a minimum of one (1) year experience working with a certified installer, or some other experience that can be demonstrated to the LEA as providing knowledge and skills equivalent to having worked with a certified installer for a minimum of one year.

4. Requirements for installer certificate renewal shall include the following:

a. The installer shall renew the certification prior to the date of the certificate's expiration; and

b. The installer shall demonstrate to the LEA a minimum annual attendance of four (4) hours of classes approved by the LEA dealing with subject matter related to application, design, and construction of on-site wastewater systems. Eight (8) hours may be averaged over two (2) consecutive years, and may be demonstrated to the LEA by certification of completion provided by the instructor or sponsor of said educational activity.

5. Installer certificates shall remain valid for two (2) consecutive years and may be renewed. An installer's certificate shall not be transferable.

C. Certified Designer Requirements

1. Any work associated with design of a supplemental treatment on-site wastewater system within Butte County shall be performed by a designer certified by the LEA, except nothing contained herein shall prohibit a resident owner from designing a standard on-site wastewater system when the requirements of this Chapter and the On-Site Wastewater Manual are met.

2. Unless pre-empted by State law, statutes, or regulations, the following registered and/or licensed professionals shall be eligible to apply to the LEA for certification as designers:

a. California Professional Engineer;
b. California Professional Geologist;
c. California Professional Hydrogeologist; adn Registered Environmental Health Specialist

3. Unless such a requirement is pre-empted by State law, statutes, or regulations, and notwithstanding Subsection C.2. of this Section, other persons may be considered, on a case-by-case basis, for certification as designers when

their knowledge and experience is determined by the LEA to provide an equivalent basis for certification and all other requirements of this section are met. Equivalency in knowledge and experience shall be determined by the LEA as follows:

a. Provisional Certification

   An applicant for certification as a designer that meets all the requirements of this section other than those requirements specified in Subsection 2 of the Section, shall be provisionally certified by the LEA when evidence is provided showing a minimum of two (2) years' experience actively designing supplemental treatment wastewater systems under the supervision of a certified designer or professional engineer;

b. Full Certification

   A provisionally certified designer that meets all the requirements of this section other than those requirements specified in Subsection 2 of the Section, shall be fully certified by the LEA when five (5) or more supplemental treatment system designs are submitted and the wastewater system construction has been overseen by the provisionally certified designer in a manner that demonstrates to the LEA competency in the field of supplemental treatment system design and wastewater system construction oversight.

4. Any person seeking a certificate shall file and maintain a current mailing address with the LEA and shall agree that correspondence and notices may be sent to said addresses.

5. Requirements for initial designer certification and for recertification when the certification has lapsed without renewal shall include the following:

   a. The designer shall successfully complete a written and/or field examination to assure knowledge of wastewater system principles and the rules, regulations, laws, and ordinances affecting the public health and safety with respect to on-site wastewater systems. Examination and/or certification of a wastewater system designer by a third-party entity shall be reviewed and may be determined by the LEA to satisfy the requirement for examination specified herein;

   b. The designer shall provide verification to the LEA of the applicant's current licensure and/or registration status as required in this Section; and

   c. The designer shall provide verification to the LEA of either a minimum of one year experience working with a certified designer, or demonstration of attendance in training for on-site wastewater treatment design or operation, monitoring, and maintenance from the California On-Site Water

Association or the equivalent, or some other experience that can be demonstrated to the LEA as providing knowledge and skills equivalent to having worked with a certified designer for a minimum of one year.

6. Requirements for designer certificate renewal shall include the following:

   a. The designer shall renew the certification prior to the date of the certificate's expiration; and

   b. The designer shall demonstrate to the LEA an ongoing minimum annual attendance of eight (8) hours of classes dealing with subject matter related to application, design, and construction of on-site wastewater systems. Sixteen (16) hours may be averaged over two (2) consecutive years. Attendance may be demonstrated to the LEA by certification of completion provided by the instructor or sponsor of said educational activity.

7. Designer certificates shall remain valid for two (2) consecutive years and may be renewed. A designer's certificate shall not be transferable.

D. Certified Operation, Monitoring, and Maintenance (OM&M) Specialist Requirements

1. Any operation, monitoring, and maintenance inspection required by the LEA shall be performed by a certified OM&M Specialist as specified in the On-Site Wastewater Manual. Copies of said standards shall be kept on file and made available to the public at the LEA's office.

2. Any person seeking a certificate shall file and maintain a current mailing address with the LEA and shall agree that correspondence and notices may be sent to said addresses.

3. There shall be two levels of OM&M Specialists certified by the LEA. Level One OM&M Specialists shall be limited in their practice to the operation, monitoring, and maintenance of septic tanks, effluent pumps, and dispersal fields utilizing gravity or pressurized distribution. Level Two OM&M Specialists shall be authorized to perform operation, monitoring, and maintenance on any type or configuration of on-site wastewater system.

4. Requirements for initial OM&M Specialist certification and for recertification when the certification has lapsed without renewal shall include the following:

   a. In order to demonstrate the applicant's knowledge of wastewater system principles and the rules, regulations, laws, and ordinances affecting the public health and safety with respect to on-site wastewater systems, Level One OM&M Specialists shall successfully complete a written examination and certification by a third-party entity approved by the LEA equiva-

lent to "OM&M 1" provided by the National Onsite Wastewater Transporter Association and the California Onsite Water Association, and Level Two OM&M Specialists shall successfully complete a written examination and certification by a third-party entity approved by the LEA equivalent to "OM&M 1" and "OM&M 2" provided by the National Onsite Wastewater Transporter Association and the California Onsite Water Association; and

b. Level One OM&M Specialists shall provide verification to the LEA of current certification as a Butte County Certified Pumper or Certified Installer and Level Two OM&M Specialists shall provide verification to the LEA of a minimum of one year experience working with a certified OM&M Specialist, or working as a certified designer, or some other experience that can be demonstrated to the LEA as providing knowledge and skills equivalent to having worked with a certified OM&M Specialist or as a certified designer for a minimum of one year.

5. Requirements for OM&M certificate renewal shall include the following:

   a. The OM&M Specialist shall renew the certification prior to the date of the certificate's expiration;

   b. The OM&M Specialist shall demonstrate to the LEA a minimum annual attendance of eight hours of classes dealing with subject matter related to application, design, construction, operation, monitoring, and/or maintenance of on-site wastewater systems provided by an approved third-party entity. Sixteen hours may be averaged over two consecutive years, and may be demonstrated to the LEA by certification of completion provided by the instructor or sponsor of said educational activity; and

   c. The OM&M Specialist shall present to the LEA manufacturer's training and certification as applicable to the scope of the OM&M Specialist's work.

6. OM&M Specialist certificates shall remain valid for two consecutive years and may be renewed. An OM&M Specialist's certificate shall not be transferable.

19-14 Contractor Review and Oversight

A. A Certificate Holder's certificate may be suspended by the LEA for a period not to exceed ninety (90) days for incompetency, negligence, misrepresentation, or for failure by the Certificate Holder to comply with any other requirement of this Chapter. The LEA shall serve the Certificate Holder with a Notice of Certificate Suspension by first class mail, postage-prepaid, including a copy of the Certificate of Mailing. The Notice shall state the reasons for which the certificate is subject to suspension

and shall advise the Certificate Holder that the suspension will become effective ten (10) days from the date of service, unless a written request for Administrative Review is filed with the LEA following the procedure specified in Subsection E of this Section.

B. A Certificate Holder's certificate may be revoked by LEA for a period of one year for serious or repeated violations of any of the requirements of this Chapter. The LEA will serve the Certificate Holder with a Notice of Certificate Revocation by first class mail, postage-prepaid, including a copy of the Certificate of Mailing. The Notice shall state, in writing, the reasons for which the certificate is subject to revocation and shall advise the Certificate Holder that the revocation will become effective ten (10) days from the date of service, unless a written request for Administrative Review is filed with the LEA following the procedure specified in Subsection E of this Section

C. Any Certificate Holder whose certificate has been revoked may not reapply until one year has elapsed from the date of revocation and shall be required to take the written examination again before issuance of a new certificate.

D. Administrative Review

1. Any Certificate Holder whose certificate may be suspended or subject to revocation by the LEA may file a Request for Administrative Review. The Request must be in writing and filed with the LEA on or before the tenth (10th) day following service of the LEA's Notice of Suspension or Revocation. The Request must state both the legal and factual bases in support thereof, and must include at a minimum the requested modification(s), if any, of the Notice together with a summary of the issues, facts and legal authorities to be raised at the hearing. The time requirement for filing the Request shall be deemed jurisdictional and may not be waived. In the absence of a timely filed Request that complies fully with the requirements of this Section, the findings of the LEA contained in the Notice shall be deemed true and correct.

2. Upon timely receipt of a Request for Administrative Review that complies with the requirements of this Section, the LEA shall refer the matter to an Administrative Hearing Officer to conduct a hearing. The Administrative Hearing Officer shall be selected pursuant to the protocol set forth in that document entitled the "Butte County Administrative Hearing Officer Program," On file in the office of the Chief Administrative Officer of the County. Notice of the hearing shall be sent by first class mail postage prepaid to the Person(s) filing the request. The notice shall state the date, time and place of the hearing (which in no event shall be sooner than seven (7) days from the date of the mailing, unless otherwise agreed to by the requesting party and the LEA.

3. Any administrative hearing conducted under this Section need not be conducted according to technical rules relating to evidence and witnesses. Any rele-

vant evidence shall be admitted if it is the type of evidence on which responsible persons are accustomed to rely in the conduct of serious affairs, regardless of the existence of any common law or statutory rule that might make improper the admission of the evidence over objection in civil actions. The Hearing Officer has discretion to exclude evidence if its probative value is substantially outweighed by the probability that its admission will necessitate undue consumption of time.

4. The Administrative Hearing Officer shall issue a written decision that shall include findings to support the decision. The written decision is final upon the date it is mailed by first-class mail, postage prepaid, including a copy of the Certificate of Mailing to the Certificate Holder. Written notice of the decision shall be given by mail within seven (7) calendar days after the date of the decision to the person subject to the Notice and any person filing a written request for notice of the decision.

19-15 Appeal of Provisions of On-Site Wastewater Manual

A. Environmental Health Director

1. An applicant may request in writing on forms provided by the LEA that the Environmental Health Director review any staff decision made as to any interpretation of this Chapter or to any standard contained in the On-Site Wastewater Manual.

2. The Environmental Health Director may interpret provisions of this Chapter and of the On-Site Wastewater Manual.

3. The Environmental Health Director may approve alternative requirements to those contained in the On-Site Wastewater Manual, provided said alternatives are consistent with the purpose of this Chapter and provide a level of protection of public health and the environment that is at least equivalent to that which would be provided should the interpretation not be made or the alternative requirements not approved.

B. Technical Appeals Board

1. Any person dissatisfied with the interpretations or alternative requirements specified by the Environmental Health Director may, on forms provided by the LEA, appeal that decision to the Technical Appeals Board.

2. The LEA, within 15 working days of the date that a completed appeal application is received, shall schedule a hearing with the Appeals Board.

3. The appeal hearing shall be de novo. Written notice of the time and place of the hearing shall be given at least ten (10) calendar days prior to the date of the hearing to each interested party, to the LEA whose determination is be-

ing appealed, and to other interested persons who have requested in writing that they be so notified.

4. The Technical Appeals Board, within 30 calendar days of the date of completion of the hearing, shall render a decision in writing.

C. The LEA shall notify the Central Valley Regional Water Quality Control Board of Environmental Health Director interpretations and alternative requirements and of Technical Appeals Board determinations.

19-16 LEA Fees

Any applicant for permits, services, or certification pursuant to this Chapter shall pay fees to the LEA as established by Butte County Code Chapter 43, at the time of submission of application and in advance of the requested or required service.

19-17 Enforcement and Penalties

A. All violations of this Chapter and the On-Site Wastewater Manual are determined to be unlawful and declared to be detrimental to the public health, safety and welfare, and are public nuisances.

B. All conditions which render any building, structure, premises, land use or portion thereof to be used or maintained in violation of this Chapter may be abated pursuant to provisions set out in Butte County Code Chapter 32.A. if provisions for their continuance made pursuant to this Chapter and the On-Site Wastewater Manual are not satisfied.

C. A violation or failure to comply with any of the requirements of this Chapter or the On-Site Wastewater manual shall be subject to enforcement actions pursuant to Chapter 41 of this Code.

D. The LEA may condemn, according to law, any residence or other establishment that is accumulating or disposing of wastewater in a manner contrary to the requirements of this Chapter and the On-Site Wastewater Manual.

E. In addition to the use of any other remedy, the LEA may seek legal or equitable relief in Butte County Superior Court to enjoin any act or practice and to abate any conditions that constitute or will constitute a violation of this Chapter or the On-Site Wastewater Manual.

F. No person shall obstruct, impede or interfere with the LEA or authorized representative of the LEA in the performance of code enforcement and nuisance abatement duties pursuant to this Chapter and the On-Site Wastewater Manual.

G. When it is necessary to make an inspection to enforce the provisions of this Chapter or the On-Site Wastewater Manual, or when the LEA has reasonable cause to believe that there exists in a building or upon a site a condition which is contrary to or in violation of the sections of this Chapter or the On-Site Wastewater Manual, the official may enter the building or site at reasonable times to inspect or to perform duties imposed by this Chapter, provided that if such building or site is occupied at the time of inspection, proper credentials shall be presented to the occupant and entry shall be requested. If such building or site is unoccupied, the LEA shall first make a reasonable effort to locate the owner or other person having charge or control of the building or site and shall request entry to the building or site. If entry is refused, the LEA shall have recourse to the remedies provided by law to secure entry/access.

Manual - Part 1 - Process

Part One: Process

Chapter 1. Site Evaluation

Site evaluations are required for approval of all parcel and subdivision maps and for construction of on-site wastewater systems. Site evaluations are not required for on-site wastewater system modification or replacement, although elements contained in this section, such as soil analysis, may be incorporated into the process for permitting the construction of said modifications or replacements.

A. Site Preparation and Application

1. With the exception of Water Well Reports and complaint information, LEA parcel files are accessible to the public and customers are encouraged to review their property file before applying for a Site Evaluation.
2. Site Evaluation applications will only be accepted when determined by the LEA to be complete, including the following information:
   a. All portions of the application form are completed and legible
   b. Clear, written directions to the site accompanied by a vicinity sketch
   c. Dimensional site plan that includes location of soil test holes in relationship to property boundaries, and landmarks as necessary
   d. For other than single family residential systems, information indicating the estimated amount of soil disturbance (in acres) and grading (in cubic yards).
   e. Signature of the applicant
   f. Fees as specified in county code
3. Site Evaluation applications are not considered complete until the test holes have been excavated and are ready for inspection and the site is flagged at the road and at the test hole location. Flagging tape is provided by the LEA at the time of application.

B. Soil Test Hole Excavation

1. Number and Location of Test Holes

   Unless otherwise approved by the LEA, a minimum of 4 test holes will be required for each parcel, with two holes excavated in the primary and two holes excavated in the replacement drainfield areas. At the discretion of the LEA, additional test holes may be needed to adequately characterize site conditions or fewer test holes may be allowed based on considerations such as space limitations on smaller parcels or uniformity of area soil characteristics.

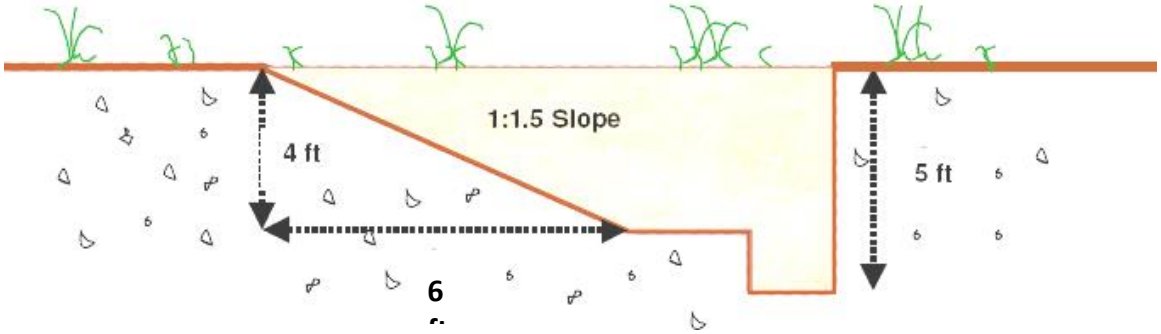
For legally created parcels five acres or greater in size, the LEA shall accept soil data recorded at the time of parcel creation in lieu of excavating and evaluating new test holes at the time of site evaluation.

2. Dimensions of Test Holes

   a. The holes are generally excavated by a backhoe, but hand dug holes are acceptable when dug to proper dimensions and with adequate spoils pile setback. Test holes only need to be dug into the restrictive layer. When a restrictive layer is not identified during test hole excavation, test holes must be dug a minimum of 5 feet deep. The reason for this depth is to verify that the site cans accommodate a 2 foot deep drainfield with an additional 3 foot of vertical separation.

   b. Excavator requests for test holes shallower than 5 feet (without encountering a restrictive layer) due to site specific concerns such as soil sloughing characteristics and access to the site by children or animals, will be considered on a case-by-case basis. The LEA will work to identify ways to meet the excavator's concerns other than digging shallow test holes, such as arranging to meet the excavator on site so the holes can be immediately covered.

   c. All holes should be excavated to Cal-OSHA standards, but at a minimum the test holes need to be dug a minimum of 5 feet deep or into the restrictive layer, whichever is shallower. The holes must be 2 feet wide, and long enough for an entrance ramp. The ramp must be no steeper than 1 foot vertical to 1.5 foot horizontal. If the hole is deeper than 4 feet, a platform must be constructed at the 4 foot depth to allow the inspector to complete the test hole inspection while standing no deeper than 4 foot deep. The toe of the spoils pile must be 2 foot from the test hole.



   d. In some cases hand dug test holes may be preferred by the applicant or designer. Hand dug test holes might be preferable for sites that have a shallow restrictive layers or sites where construction equipment could damage the usable soil. Nevertheless, in all

cases, hand dug test holes must be dug to the specifications listed above.

C. Site Inspection and Evaluation

1. Phase One Review

a. LEA staff will inspect the site, log the soil test holes, and make an initial determination of whether site conditions are suitable for a standard, gravity system, based on the following factors:

(1) 4 ft of native effective soil

(2) Slope less than 30%

(3) Soils in Soil Groups A-E, as identified in Part 3, Chapter 1 of this Manual

b. Site Evaluations will provide the applicant with soil profiles, the depth of effective soil, the application rate, a statement of whether the wastewater system would be conventional gravity or require consultant review and possible supplemental treatment

2. Phase Two Review

a. If site conditions are not suitable for a standard gravity system, the applicant will be asked to select a certified design consultant, who will contact LEA staff to arrange a joint site evaluation

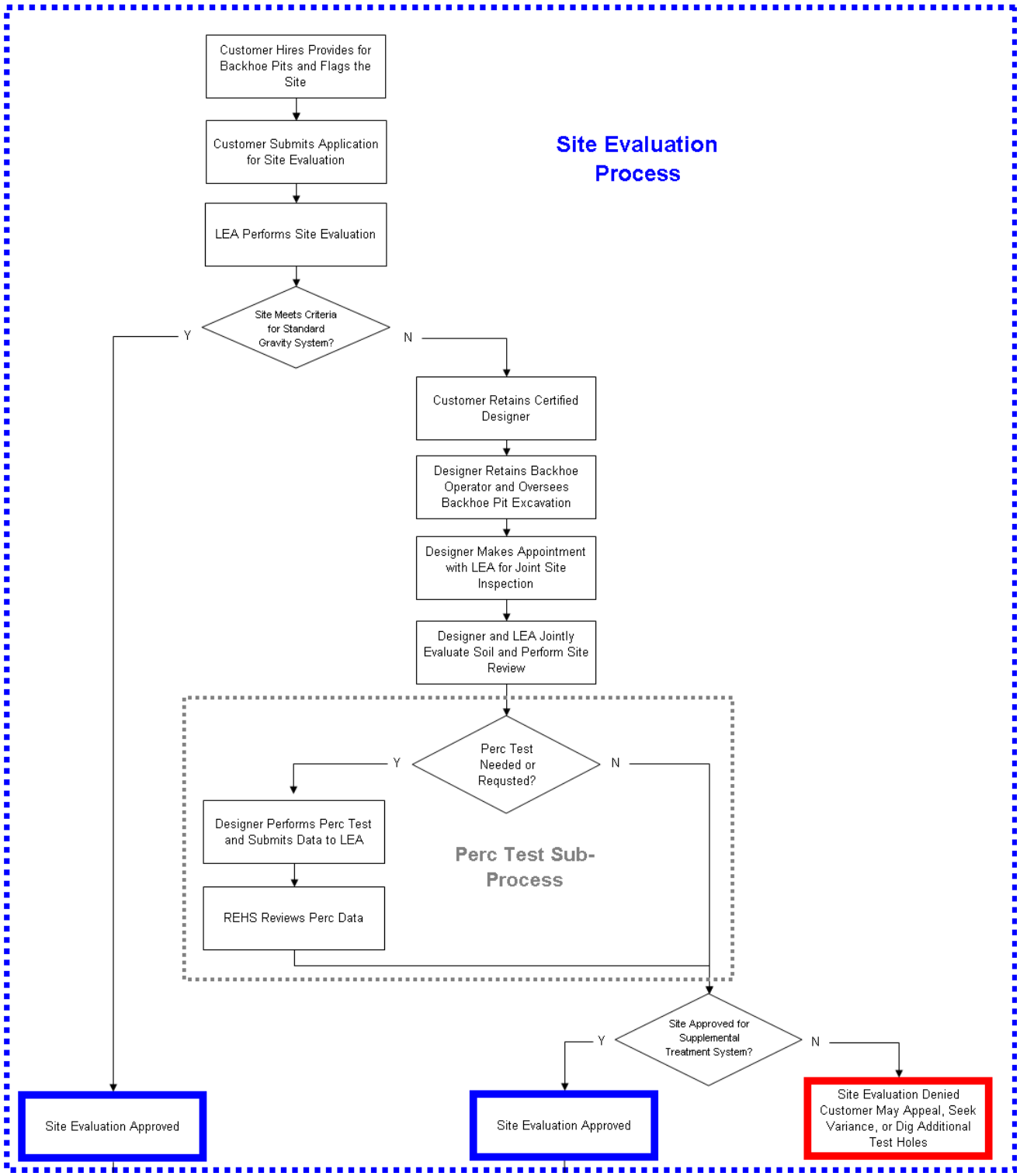
(1) The LEA may request joint site evaluation without initially evaluating the site in cases where site conditions are known to be outside of the range described as suitable for standard, gravity systems as identified in Part 3, Chapter 1 of this Manual.

(2) After joint site evaluation, sites may be approved for standard gravity systems where there is less than 4 ft of native, effective soil provided 3 ft vertical separation can be maintained.

D. Expiration

Site Evaluations have no expiration date, except for when there is a change in site conditions adversely affecting the drainfield area or when there has been a change in regulatory requirements.

Butte County Hybrid Model



E. Groundwater Monitoring

1. Purpose

   a. The LEA routinely requires groundwater monitoring information for projects in groundwater concern areas to determine if on-site wastewater and/or subdivision ordinance requirements can be met.

   b. Unusual situations may require additional groundwater review of a specific site completed by a professional such as a California Professional Geologist, Hydrogeologist, or Civil Engineer.

2. Area Identification

   Parcels with suspected seasonal groundwater issues requiring rainy season monitoring include:

   a. Valleys, Ravines, Swales

   b. Waterways

   c. Confined and Unconfined Sand and Gravel Strata

   d. Shallow Topsoil Areas

   e. Springs or other indications, such as swampy/marshy appearance or presence of water-loving vegetation such as cattails, willows, perennial grasses

   f. History of seasonal groundwater in the vicinity of the project

   g. Visual indication of seasonal groundwater, such as mottling or gleying in soil profiles

3. Application and Coordination

   Groundwater monitoring may be conducted in the following circumstances:

   a. As part of a pre-application review for a land use project;

   b. As a condition for preliminary map approval for land use applications, where the owner has signed a disclosure document for concurrent review;

   c. As a condition for site evaluation approval or as a stand-alone review, where the applicant has agreed to payment of the LEA's hourly rate.

   d. In all cases, the certified designer will discuss the monitoring plan ahead of time with the LEA, and provide the LEA with a map showing the number and location of monitoring wells.

4. Groundwater Observation Period

   a. The groundwater observation period is November through April.

b. The LEA may allow the certified designer to install and initiate observation of monitoring wells after November, on a case-by-case basis, provided there is reasonable likelihood that maximum groundwater elevations may still be observed during the remainder of the groundwater observation period.

c. Snow pack influenced areas may require observation through the entire spring snowmelt.

5. Collection of Rainfall Data

a. Observation data shall be collected by the certified designer at least every two weeks during the monitoring period;

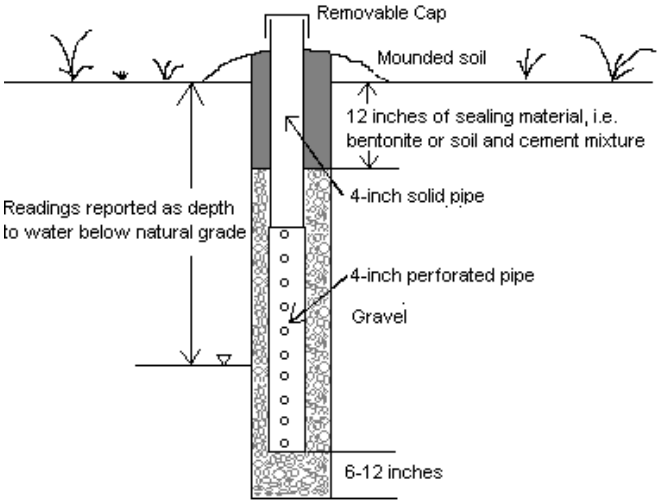
b. Additional readings shall be taken by the certified designer within 2 days following a significant rain, such as when there has been 1 or more inches of rainfall within a 24-hour period;

c. Daily observations by the certified designer may be necessary during elevated groundwater periods to identify maximum groundwater levels;

d. Confirmatory observations will be made periodically by the LEA.

6. Monitoring Well Design

a. Monitoring well depth should be equal to or greater than the required depth to groundwater necessary for project approval. The usual depth is eight (8) feet. For larger flow systems, deeper wells may be required to assess ground water mounding.



b. Monitoring well design should generally be as shown in this diagram. Holes will be constructed using an auger and 4-inch diameter pipe shall be used. However, approval of alternate designs will be considered on a case-by-case basis by LEA staff.

c. Monitoring wells must be staked and flagged so that they can be readily located by LEA staff.

7. Certification Criteria

a. Rainfall Data Source

Unless the certified designer justifies another source of rainfall data acceptable to the LEA, the following site will be used for tracking daily and monthly rainfall and for determining average rainfall:

http://www.cimis.water.ca.gov/cimis/info.jsp

Note: The California Irrigation Management Information System (CIMIS) is a program in the Office of Water Use Efficiency (OWUE), California Department of Water Resources (DWR) that manages a network of over 120 automated weather stations in the state of California. CIMIS was developed in 1982 by the California Department of Water Resource and the University of California at Davis to assist California's irrigators manage their water resources efficiently.

b. Minimum Rainfall for Certification

(1) Minimum rainfall shall be 80% of average for the observation months of November through April for sites where, based on geographical location, absence of restrictive layer, and absence of visual evidence of seasonal watertable, there appears to be 36 inches or more of effective soil.

(2) Minimum rainfall shall be 90% of average for the observation months of November through April for sites where, based on geographical location, presence of a restrictive layer, or visual evidence of seasonal watertable, there may be less than 36 inches of effective soil.

(3) Low Rainfall Years

(i) Lower rainfall years will normally not be certifed. However, during multiple years of low rainfall, a secondary data source may be considered. After completion of at least one groundwater observation period (normally November through April) that does not reach the average rainfall requirement for certification, an applicant may submit, for consideration by the Regional Board and the LEA, a complete groundwater report prepared by a certified engineering geologist or by a certified hydrogeologist.

(ii) The report should contain supporting data for groundwater elevation conclusions and include an analysis of expected maximum groundwater eleva-

tions for the proposed dispersal site. Elements of the report will include:

- Topographical and geographical characteristics of the site, including slope of the land, that could affect surface and subsurface drainage characteristics;
- Soil classification and hydraulic conductivity of the soil;
- Presence of restrictive layers in the soil profile;
- Presence of visual indication of seasonal groundwater (e.g. soil mottling) within the soil profile;
- Historical rainfall patterns and relationship to groundwater monitoring observations; and
- Depth of observed groundwater in relationship to minimum soil depth requirements and proposed depth of trenches.

(iii) The Regional Board, in consultation with the LEA, must approve groundwater reports in order to determine that groundwater monitoring requirements have been met.

8. Determination of Maximum Seasonal Watertable Elevation

a. Maximum seasonal watertable is the highest level of groundwater determined to be the **characteristic level** for the groundwater monitoring well, based on a series of observations recorded by the certified designer and verified by representative quality control observations of the LEA. To assure consistent correlation of of LEA and certified designer measurements, the certified designer will notify the LEA within 24 hours of observing high seasonal watertable in monitoring wells.

b. Seasonal groundwater levels are known to temporarily spike in some monitoring wells after periods of heavy rainfall. This will be allowed to occur in a limited manner (within tolerance limits) without affecting the groundwater level determined to be the **characteristic level** for the monitoring well, provided the following conditions are met:

(1) The groundwater level spikes must not occur at any time above the depth proposed for the dispersal field (with the exception as noted in the table, below; and

(2) The number of days in which the groundwater is above the **characteristic level** must not exceed that which is shown on the following table:

Rainfall as % of Average Annual Rainfall	Tolerance for Groundwater Exceeding Characteristic Level (# days within 30 day period)	
	< 5% Slope	5%+ Slope
80% - 110%	2	2
110% - <130%	7	2
130% - <200%	14	2
200%+	21(*)	2

(*) Special Exception: Groundwater may rise to a level above the proposed bottom of the dispersal field for up to 2 days.

c. Groundwater monitoring results will be determined to be unsatisfactory when the **characteristic level** of the seasonal watertable does not meet minimum Butte County soil depth requirements.

F. Percolation Testing

Percolation tests may be performed by a Certified Installer, Certified Designer, or Certified Operation and Maintenance Specialist to provide additional on appropriate effluent application rate during the site evaluation process at the discretion of either the LEA or the designing certified designer and when soil conditions warrant. When percolation tests are utilized the following requirements will apply:

1. Test hole preparation requirements

a. Unless otherwise indicated by the LEA, there shall be a minimum of 3 percolation test holes when the disposal area and replacement area are in the same proximity as determined by the LEA; 6 percolation test holes may be required when separate areas are chosen for primary and replacement systems. Additional test holes may be required by the LEA to completely identify a suitable area.

b. Percolation test holes shall be 6 inches in diameter.

c. Unless otherwise approved by the LEA, the test hole bottom depth shall be deeper than the proposed drainfield trench bottom

depth and within the most restrictive strata of useable soil beneath the dispersal field.

d. The percolation test hole sidewall in the test section should be roughened to remove any smearing or compaction caused by the hole excavation process. All loose soil shall be removed and 2 inches of pea gravel or other material approved by the LEA shall be placed in the bottom of the hole.

e. In order to prevent silting of the bottom of the hole and sidewall cave-in, a 1-inch sidewall gravel pack shall be used. The gravel pack shall be perforated plastic pipe in 12 inch (or longer) sections

2. Presoak requirement

The hole shall be filled with clean water to a minimum depth of 12 inches above the base of the hole. The presoak shall be maintained for a minimum of 4 hours.

3. Test measurement requirements

a. Percolation tests shall be measured to the nearest 1/8-inch from a fixed point.

b. The percolation test shall begin within 4 hours following completion of the presoak. Adjust the water level to 6 inches over the pea gravel bottom and begin the test. This may require adding or removing water to adjust the level.

c. Readings shall be taken at 30-minute intervals. Refill as necessary to maintain 6 inches of water over the pea gravel bottom at each interval. Readings shall be taken until two consecutive readings do not vary by more than ten percent per reading, with a minimum of 3 readings. The last 30 minute interval is used to compute the percolation rate. If 4 inches or more of water seeps from the hole during the 30 minute interval, readings may be taken at 10 minute intervals. Readings shall be taken until 2 consecutive readings do not vary by more than ten percent per reading with a minimum of 3 readings. The last 10 minute interval is used to compute the percolation rate.

4. Test rate determination

a. The following correction factor shall be used to determine the corrected percolation rate:

Hole Diameter	Gravel Pack Thickness	Correction Factor
6"	1"	1.59

Calculation:

Standard percolation value (minutes per inch) =

Test percolation value (minutes per inch) X (correction factor)

Example: A six (6) inch hole is used with a one (1) inch gravel pack. The test percolation value is 25 mpi.

25 mpi (1.59) = 40 mpi

The mean percolation rate calculated from all test hole results accepted by the LEA shall be the final percolation rate (design percolation rate) assigned for sizing the system.

G. Slopes 15%-30%

The site evaluator for parcels with slopes between 15% and 30% shall observe and note any evidence of slope instabilities in the proposed dispersal field area, including such indicators as tension cracks on hillsides, old scarps or headwalls, hummocky terrain, debris deposits below open slopes or in channels, scoured stream channels or gullies, and tilted or cured tree trunks.

H. Suspected Slope Instability

The site evaluator shall identify and note areas of known or suspected slope instabilities that are within 50 feet of the proposed primary or repair dispersal field area.

Chapter 2. Construction Permit

A. Application

1. Construction Permit applications will only be accepted when determined by the LEA to be complete, including the following information:
   a. All portions of application form completed and legible
   b. Complete system design attached, including site plan
   c. Payment of all applicable fees
2. The LEA will refer to the Department of Public Works, any site where it is noted by the applicant that more than one acre of soil disturbance and/or more than 1,000 cubic yards of grading will take place.

B. System Design

1. LEA design forms must be used to facilitate efficient design review
2. All required drawings and sketches must be included
3. This portion of the design requires three items that show sufficient detail to allow the design to be reviewed and the system to be installed. Checklists are included for each drawing and all applicable items in the checklist must be shown. Plot plans, design details, and cross-sections may be combined on one or more design sheets, provided there is sufficient de-

tail and clarity to specify components, dimensions, spacing, and setbacks as outlined in the design checklists.

a. Scaled Plot Plan

This drawing shows the placement of the septic system in relationship to the overall development plan for the property. The plot plan must match the building permit plot plan (the same sketch is accepted by the building department for their application), and should verify that the system can be installed in conformance with setbacks and site limitations.

b. Scaled Layout Sketch Detail

This item shows the detail of the drainfield layout and details of the system design. The layout detail is intended to be a close-up of the portion of the plot plan where the septic system is located.

c. Cross-Section Detail

This item shows the depth from original grade of the septic system components. The cross-section is intended to be used both as a guide for system construction and as verification that vertical separation and component depths meet code.

4. Design forms must be signed and dated by the contractor for standard gravity systems or by the certified designer for pressure distribution or supplemental treatment systems.

5. Special design analysis will be performed by the certified designer for on-site wastewater systems with design flows exceeding 1,500 gallons per day. The analysis will include:

   a. Analysis of the potential localizing waste loading effects including, at a minimum, groundwater mounding and nitrogen loading;

   b. Minimum criteria for evaluation of the results of the analysis; and

   c. Incorporation of system design measures to address the findings of the analysis.

6. For any drainfield with a design flow exceeding two thousand five hundred (2,500) gallons per day, the LEA may utilize a Civil Engineer with experience in the design and construction of on-site wastewater systems to act as a third-party consultant on behalf of the LEA to review the system design. The cost for the consultant's services will be borne by the project applicant.

7. A project may be referred by the LEA to the Central Valley Regional Water Quality Control Board for consultation or for regulatory oversight if the Environmental Health Director determines that additional technical assistance or regulatory oversight is warranted due to the unique characteristics of the project or site characteristics.

8. Any proposed on-site wastewater primary or repair system within an Area of Environmental Concern designated as such due to special status species populations or habitat shall be surveyed by a qualified biologist. If the site contains a population of special status species or habitat critical to the survival of a special status species, then either an alternative site will be identified, or the biologist will identify on- and off-site mitigation that is acceptable to County and to the California Fish and Game.
9. Any proposed on-site wastewater primary or repair system within an Area of Environmental Concern designated as such due to wetlands, riparian habitat, wetlands, or oak woodlands shall be surveyed by a qualified biologist. If the site contains one or more of these habitat types, then either an alternative site will be identified, or the biologist will identify on and off site mitigation that is acceptable to County and to the California Fish and Game. Mitigation may include construction of replacement woodlands, replanting degraded reparian habitat on- or off-site, replanting oak trees, payment to the State Oak Woodlands Conservation Fund, orh other measures approved by the County and State.
10. Any proposed on-site wastewater primary or repair system within an Area of Environmental Concern designated as such due to an adopted HCP/NCCP shall be surveyed by a qualified biologist to identify on and off site mitigation that is acceptable to County and to the California Fish and Game. Mitigation may include avoidance of especially critical habitat, planting of replacement woodlands, replanting degraded reparian habitat on- or off-site, replanting oak trees, or other measures approved by the County and State.

C. Design Stakeout

A Construction Permit application will not be considered complete unless the designer has first staked out and ribboned the primary and replacement drainfield areas. This will alert homeowners of these critical developmental features so that building and excavation activities can be controlled appropriately. This will also allow the LEA to confirm the adequacy of designs prior to installation of systems.

D. Notification, Inspection, and Final Approval

1. The installer must contact the LEA and system designer to make arrangements for an inspection of the system construction. The system must then be left open for a maximum of two working days, allowing the installation to be inspected by the designer and the LEA.
2. The installer will leave a signed as-built drawing at the site in a sealed, zip lock plastic bag. The LEA will use the checklist on the as-built form for

their inspection and approve or deny cover of the system based on the LEA's assessment of the installation.

3. The system installation will be verified as complete and within current code, and will be given final approval by the LEA, when all the following actions have taken place:
   a. An as-built drawing signed by both the installer and the LEA is attached to the construction permit.
   b. The certified designer (if one was used) verifies that the system was constructed in substantial conformance with the design.
   c. The "Installation" box at the bottom of the Construction Permit application is marked "Approved" and signed by the LEA.
   d. If an Operating Permit is required:
      (1) The certified designer has provided the homeowner with a system Operation, Monitoring, and Maintenance Manual as described in Part 4 of this Manual.
      (2) The homeowner has recorded the ongoing need for an Operating Permit on the property deed.
      (3) An Operating Permit has been issued as described in Chapter 3 of this Part.

E. System Repairs, Replacement, Modifications, Expansions, and Septic Tank Destruction

1. When Construction Permit Required
   a. Construction Permits are required to repair or significantly modify existing on-site wastewater systems, or to destroy a septic tank. However, these permits are not required for servicing or replacing installed mechanical or electrical parts of the systems, including:
      (1) Float switches
      (2) Pumps
      (3) Electrical boxes
      (4) Sanitary tees in the septic tanks
      (5) Minor structural corrections to the tank
      (6) Repair/replacement of the distribution box, or repair/replacement of the sewer line from the tank to the distribution box.
   b. Other than replacement of septic tank inlet and outlet T's or replacement of septic tank access lids, LEA Notification and Plan Review must take place BEFORE the service is performed.

2. When Elements of Site Evaluation Required

   Unless sufficient site information is available to the LEA, supplemental site information, such as soil analysis data, will typically be required for on-site wastewater system expansion, relocation, repair or replacement.

3. Special Considerations for System Repairs

   a. A failing system must be repaired as soon as reasonably possible.

   b. If an immediate repair cannot be accomplished, the LEA may allow a delay in making the repair. In this case, an enforcement order will be issued and the LEA will specify temporary measures required to eliminate any immediate public health hazard or pollution of ground or surface waters.

Chapter 3. Operating Permit

A. Issuance

Operating Permits will be issued by the LEA automatically for all new pressure distribution and supplemental treatment systems, upon their certification of completion and, thereafter, upon receipt of a complete application for Operation Permit Renewal.

B. Valid Operating Permits Required

Valid Operating Permits will be required by the LEA for verifying the adequacy of pressure distribution and supplemental treatment systems at their point-of-sale.

C. Required Information

Operating Permit applications and Operating Permit Renewal applications will include, at a minimum, the following information:

1. Owner name, address, and telephone number
2. Assessor's Parcel Number
3. TrakIt number
4. Wastewater system description and as-built drawing
5. General description of O&M program
6. Specific O&M frequency based on system type
7. Date of permit expiration

D. Cleveland Hills Alquest-Priolo Earthquake Fault Zone

Operating Permits shall require, for wastewater systems located within the Cleveland Hills Alquest-Priolo Earthquake Fault Zone, inspection in the event of an earthquake centered on the Cleveland Hills Fault resulting in appreciable sur-

face fault displacement. Any damage to or deficiencies noted in the wastewater system during this inspection shall be corrected immediately.

E. Richter Magnitude of 5.0 and Above

Operating Permits shall require, in the event of an earthquake centered within 25 miles of the County with Richter Magnitude of 5.0 and above, post-seismic inspection. Any damage to or deficiencies noted in the wastewater system during this inspection shall be corrected immediately.

Chapter 4. Testing Septic Tanks to Assure Watertight Construction

A. Septic Tanks in Use at Time of Testing

1. Dwelling Occupied
   a. If the water level is at the invert of the outlet "T," then return after 24 hours to recheck the level. If there has been no measurable drop of the liquid volume in the tank, then the tank has passed the inspection.
   b. If the water level is slightly below the invert of the outlet "T", then the tank may be leaking at the penetration (knock-out) for the outlet. All penetrations should be excavated and sealed with Quickrete or equivalent. After cement cures, fill to the invert of the outlet tee and return after 24 hours to recheck the level. If there has been no measurable drop of the liquid volume of the tank, then the tank has passed the inspection.
   c. If the operating level is substantially below the invert of the outlet "T," or at the tank's seam (for clamshell tanks), then the tank should be cleaned, and its integrity evaluated.
2. Dwelling Unoccupied
   a. Bring the water level up to the invert of the outlet tee and return after 24 hours to recheck the level. If there has been no measurable drop of the liquid volume of the tank, then the tank has passed the inspection.

B. New Construction or Tank Replacement

1. All new tanks must be certified by the manufacturer to be watertight, allowing no more than 1% liquid volume loss over a 24 hour period.
2. All tanks must be tested after installation to be watertight by the following process:
   a. Install risers
   b. Install and cap inlet and outlet fittings

c. 24 hour pre-soak for concrete tanks

d. Fill tank 2 inches into the riser, and no higher

e. Return after 24 hours. If there has been no measurable drop of the liquid volume of the tank, then the tank has passed the inspection.

Chapter 5. Implementation of Certification Requirements

A. Installers

1. The LEA will develop and maintain an informational packet and an open-book take-home exam that covers the essential elements of our local ordinance and manual related to system installation;
2. The person in charge at any job site must have taken and passed the examination;
3. The LEA will not distinguish between certification to install standard gravity systems from certification to install pressure distribution or supplemental treatment systems;
4. The LEA recognizes that many manufacturers and distributors of proprietary products have their own certification requirements for installation of their products, but will leave enforcement of that matter between the certified designer, certified installer, and product distributor or manufacturer;
5. The LEA will provide two local meetings or educational sessions each year for certified professionals and attendance of these sessions will meet the continuing education requirements for certified installers.

Manual - Part 2 - Materials

Part Two: Materials

Chapter 1. Building Sewer

The building sewer must be constructed with materials in conformance to building sewer standards identified in the California Plumbing Code. The building sewer pipe must have a minimum diameter of three (3) inches.

Chapter 2. Septic Tank

A. General criteria for septic tanks

1. Tanks must be constructed of precast reinforced concrete or other material approved by the LEA. Wood and metal tanks are prohibited. Cast-in-place, and fiberglass may be considered on a case-by-case basis provided there is adequate engineering justification and provided they meet the requirements outlined in this Manual. Polyethylene and polypropylene tanks that meet the International Association of Plumbing and Mechanical Officials (IAPMO) standard IAPMO/ANSI Z1000 (standard for design, material, performance testing, and marking) are approved by the LEA, unless otherwise noted.
2. Tanks must have the manufacturer's name and tank capacity in gallons permanently displayed on the uppermost portion of the tank. If the tank is constructed of fiberglass, polyethylene, or polypropylene then the model number must also be displayed.
3. Tanks must be protected against flotation under high ground water conditions.
4. Tanks must be approved by the International Association of Plumbing and Mechanical Officials (IAPMO) or meet IAPMO minimum standards as demonstrated to the LEA by a certification program equivalent to that provided by IAPMO with the following program elements:
    a. Evaluation and certification by an engineering firm, approved by the LEA, with expertise and experience related to septic tank design and construction, to verify substantial equivalency with IAPMO standards and compliance with the requirements of this Manual as pertaining to:
        (1) Structural design of the tank;
        (2) Quality of materials used in construction of the tank;
        (3) Acceptable construction methods and practices;
        (4) Quality control and quality assurance plan proposed by the manufacturer;
    b. Unannounced inspection of manufacturer's facilities and observation of construction methodology by a qualified third party approved by the LEA to assure compliance with the items listed above;

c. Reciprocity:

(1) A certification program of tanks by another oversight agency in a manner substantially equivalent to that which is outlined in this Manual may be accepted by reciprocity;

(2) Reports generated from unannounced inspections conducted by a qualified independent third party on behalf of another oversight agency may be accepted by the LEA provided the certification requirements of the other oversight agency are substantially equivalent to that which is specified in this Manual.

d. All associated costs shall be borne by the manufacturer requesting the alternative certification process.

5. Tanks must be accompanied by a Manufacturer's Guarantee for a minimum period of one year and be installed in strict accordance with the manufacturer's instructions.

6. Tanks must be constructed and installed so as to be watertight. Septic tanks for new construction must be verified as watertight through manufacturer certification and insitu testing. Testing methods are described in Part 1 of this Manual.

B. Configuration

1. The tank must be designed to ensure removal of settleable solids. To accomplish this, the tank must provide:

a. Liquid volume as specified in Part 3 of this Manual. This is to allow sufficient retention time for treatment and sufficient sludge storage space to prevent the discharge of sludge or scum into the drainfield.

b. Inlet and outlet sanitary "T"s to prevent the discharge of sludge or scum in the effluent.

c. Venting provisions to allow for the escape of accumulated methane and hydrogen sulfide gases.

d. Inlet sanitary "T" must be extended to penetrate at least 12 inches into the liquid from the inlet flow line. If the submerged scum depth is expected to be greater than 12 inches, the inlet fixture should be extended into the liquid two inches below the expected lowest scum depth.

2. Septic tanks must have a minimum of two compartments. Installation of multiple single compartment tanks in a series is not acceptable, unless approved by the LEA prior to installation. The first compartment must have a liquid capacity of two-thirds (2/3) of the total required liquid capacity, as measured from the invert of the outlet fitting.

3. Each compartment must have access provided by a manhole having not less than eighteen (18) inches across its shortest dimension unless otherwise approved by the LEA.
4. At least ten (10) percent of the inside volume of the tank must be above liquid level to provide scum storage.

C. Structural Integrity

All treatment units and tanks, regardless of material or method of construction shall:

1. Be designed and constructed to withstand all potential lateral earth pressures under saturated soil conditions with the tank empty.
2. Pass Top Load = 300 psf (the tank shall be capable of supporting long-term unsaturated soil loading in addition to the lateral hydrostatic load.)
3. Pass Lateral Load = 62.5 pcf (the tank shall be capable of withstanding long term hydrostatic loading with the water table maintained at ground surface.)
4. Have a minimum live load at the surface of 300 pounds per square foot with twelve (12) inches of cover unless heavier loads are expected. For heavier loads, (i.e. vehicles), proof of traffic rating is required.
5. Successfully withstand an above ground static hydraulic test if the tank is 2,000 gallons or smaller.
6. Precast concrete tanks must have a minimum wall, compartment and bottom thickness of three (3) inches, and must be adequately reinforced. The top must be at least four (4) inches thick.
7. Tanks must be built such that all construction joints are sealed watertight and bonded together in a structurally sufficient manner to prevent separation as certified by the manufacturer's registered engineer.

D. Risers

1. Each compartment must be provided with a concrete (or other material approved by the LEA) watertight riser, extending to the finished grade or above, with a minimum inside horizontal measurement equal to or greater than the access manhole.
2. All joints must be properly sealed with a sealant and/or an interlocking mechanism approved by the LEA. Cement grout sealing alone is not an acceptable method of sealing joints.
3. Surface water must be diverted away from the riser cover by creating a sloping surface away from the riser, or extending the riser two (2) inches above finished grade.
4. The cover must be securely fastened with stainless steel or other corrosion resistant fasteners to make the riser vandal, tamper, and child resistant. No cover may exceed seventy-five (75) pounds.
5. Risers must have a minimum inside horizontal diameter of twenty-four (24) inches.

Chapter 3. Fittings

A. The inlet and outlet fittings must be of Schedule 40 PVC, Schedule 40 ABS, or other materials approved by the LEA, with a minimum diameter of three (3) inches.

B. All fittings must be secured with a sealant approved by the LEA and must be constructed so as to be watertight. Tank fitting locations must be properly engineered to ensure the structural integrity of the tank.

C. The inlet fitting must be a sanitary "T" with minimum pipe diameter not less than the connecting building sewer or less than three (3) inches. It must extend at least four (4) inches above and twelve (12) inches below the liquid level.

D. The outlet fitting must be a sanitary "T" with minimum pipe diameter no less than the connecting influent sewer pipe and not less than four (4) inches in order to accommodate an effluent filter. The outlet fitting must extend at least four (4) inches above liquid level, and below liquid level a distance approximately equal to the flow level through the baffle separating the two compartments of the tank. The diameter of the vertical leg extending below the liquid level must not be less in size than the building sewer nor less than four (4) inches.

E. An effluent filter is recommended prior to discharge of the effluent to the effluent sewer. It must be commercially designed and manufactured, intended for effluent filtration, and be readily accessible for inspection and cleaning.

F. The invert of the inlet fitting must not be less than one (1) inch and preferably three (3) inches above the invert of the outlet fitting.

G. Sanitary "T"s must be accessible and directly below the manhole access riser.

H. Baffles must be a three (3) inch or larger diameter "T" fitting or baffle slot (with the same opening area as the fitting) that is located in the shared compartment wall, using the same material specifications as required for the outlet fitting. The invert of the "T" fitting or baffle slot must be located approximately at fifty (50) percent of the liquid depth. There must be a minimum two-inch vent opening in the baffle above the liquid level. The baffle must be constructed of the same material as the tank and extend a minimum of four (4) inches above the liquid level.

Chapter 4. Distribution Box

A. Distribution boxes must be constructed of concrete or other materials acceptable to the LEA.

B. Distribution boxes must be designed to accommodate the necessary distribution laterals and expected flows. The top, walls, and bottom of concrete distribution boxes must be at least one and one-half (1-1/2) inches thick.

C. Distribution boxes must be installed for equal distribution to the drainfield trenches.

D. Each distribution box must be provided with a sump extending at least one (1) inch below the invert of the outlets.

E. For initial use of a manufacturer's distribution box design proposed for use in Butte County, or when a revised box design is proposed for same, the commercial manufacturer of the

prefabricated box must provide the LEA with written documentation that the box design, materials and construction comply with all requirements of the California Plumbing Code.

F. All distribution boxes must be installed level on LEA-approved bedding material and as described in Part 3 of this Manual.

Chapter 5. Diversion Valve

A. Diversion valves must be constructed of durable material and be of a design approved by the LEA. They must be corrosion resistant, watertight, and designed to accommodate the inlet and outlet pipes.

B. Each diversion valve must have a positive stop.

C. For initial use of a manufacturer's diversion valve design proposed for use in Butte County, or when a revised valve design is proposed for same, the commercial manufacturer of the prefabricated valves must provide the LEA with written documentation verifying that the valve design, materials and construction comply with all requirements of the California Plumbing Code.

Chapter 6. Dosing and Pump Tanks

A. The tank may be:

1. The second compartment of a two compartment septic tank provided:

   a. The septic tank is a minimum of 1,500 gallons;

   b. The wall separating the two compartments of the tank is equipped with a properly placed sanitary “T” to prevent the discharge of sludge or scum into the second compartment that is utilized as the pump chamber, or with a flow-through port. If a sanitary “T” is utilized, the tank must have an access lid over the “T” to allow servicing;

   c. The wall separating the two compartments has the structural integrity to allow the first compartment to remain full while the second compartment is empty.

2. A separate tank meeting the requirements specified in this manual.

B. Each dosing tank employing one (1) or more pumps must have a liquid capacity sufficient to deliver the design dose, and have a minimum additional capacity of one day’s design flow between the high level alarm and the tank’s “soffit” (inner ceiling).

C. Each dosing tank must be marked on the uppermost surface with the liquid capacity and manufacturer’s business name, or a number assigned by the LEA.

D. When a revised tank design is proposed, the manufacturer of the tank must provide the LEA with written documentation that the tank design, materials and construction comply with all requirements of the California Plumbing Code. The manufacturer must provide a set of

plans and specifications prepared by a registered professional engineer for each tank design and a set reflecting any subsequent revisions. The appropriate fee must accompany plans.

E. Any pump tank transporting effluent or solids to a septic tank must have its own penetration into the tank with a 3-inch minimum diameter sanitary "T." Because effluent entering the septic tanks should not do so under pressure that could cause turbulence in the septic tank, the pressure line from the dosing/pump tank needs to connect to the larger diameter pipe at least 10 feet before entering the septic tank.

Chapter 7. Pumps, Controls, and Alarms

Electrical components used in systems must comply with the Uniform Electrical Code, and the following provisions:

A. Motors must be continuous-duty, with overload protection.

B. Pumps must have durable impellers of bronze, cast iron, or other materials approved by the LEA.

C. Submersible pumps must be provided with an easy, readily accessible means of electrical and plumbing disconnect, and a noncorrosive lifting device as a means of removal for servicing.

D. Pumps must be automatically controlled with mechanical switches designed for use with pumps and control panels.

E. Pumps must have automatically resetting audible and visual high water level alarm with manual silence switch that is located in or near the building served by the pump. Only the audible alarm may be user cancelable. The electrical box for the pump and alarm system must not be located in an environment that may damage the components.

F. Wiring must be of proper construction and gauge and permanently fixed to a supporting structure under permit from the local Administrative Authority.

G. The pump and alarm must be connected to separate circuits.

H. There must be a non-resettable digital pump cycle counter in the electrical box.

I. There must be a manual override switch in the electrical box to facilitate dosing control during inspections.

Chapter 8. Pipe

A. All pipe throughout the wastewater system must be clearly labeled and installed so that the labeling can be readily identified by LEA inspectors. Labeling, consisting of durable ink, must cover at least 50% of the length of the pipe. Labeling may consist of a solid line, letters, or a combination of the two. Intervals between markings must not exceed 12 inches.

B. Schedule 40 ABS must be used from the house to the septic tank

C. Schedule 40 ABS or SDR 35 (ASTM D 3034) must be used as follows:

   1. From the septic tank to the distribution box (if applicable)

2. From the distribution box outlet for a minimum of 5 feet
3. From the septic tank to the pump chamber (if applicable)

D. Gravity Distribution (leachline) Dispersal
1. One of the following grades of 4-inch perforated pipe must be used:
   a. SDR 35 (ASTM D 3034) 4-inch diameter
   b. Triple Wall ASTM F810
2. Gravelless chambers, may be used provided the products meet IAPMO standard PS-63.
3. The pipe described in subsection D.1. of this section must have 2 rows of holes spaced 120 degrees apart and 60 degrees on either side of a centerline. The holes of each row must not be more than 5 inches on-center and must have a minimum diameter of one-half inch.

E. Pressure transport pipe, pressure distribution manifolds, and pressure distribution laterals (piping and fittings), must meet the most current requirements for schedule 40 PVC pressure pipe as identified in ASTM Specifications D-1785, or other material approved by the LEA. All pressure distribution laterals and all pressure transport and manifold piping must be adequately sized for the design flow.

F. Curtain drain pipe must meet the requirements specified in the Manual for gravity drainfield pipe. Other types of pipe may be approved by the LEA, provided it can be demonstrated that the selected pipe has the structural strength for the application proposed.

Chapter 9. Drainrock

A. Gravel used for drainrock must be ¾ inch to 2½ inches in diameter. Uniformly graded material is recommended to maximize pore space. Drainrock must be clean, washed, non-deteriorating gravel, with the percent by weight passing the U.S. No. 200 sieve no greater than 0.5%. Alternatives to drainrock, as described in this Chapter, may be accepted on a case-by-case basis.

B. Gravelless systems are allowed provided the requirements for such systems as described in Part Three of this Manual are followed.

Chapter 10. Barrier Material

A. Untreated building paper or two inches of compacted straw may be used for standard gravity systems.

B. Filter fabric must be used for non-standard gravity systems and must meet or exceed the specifications described in the following table:

Property	Requirement	Test Method
Grab Strength	80 lbs.	ASTM D4632
Puncture Strength	25 lbs.	ASTM D4833
Trapezoid Tear	25 lbs.	ASTM D4533

Property	Requirement	Test Method
Apparent Opening	AOS < 0.297 mm, or > #50 US Standard Sieve	ASTM D4751
Size	> #50 US Standard Sieve	
Permeability	0.4 cm/sec for Soil Types 1,2 0.004 cm/sec for Soil Types >2	ASTM D4491

[1] Examples of filter fabrics meeting this specification include: Mirafi 140 NSL.

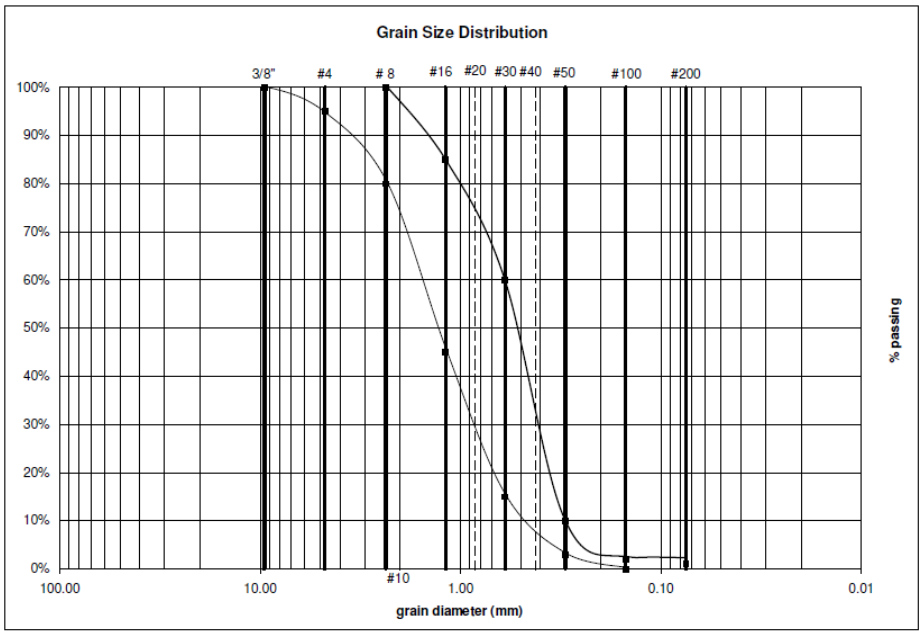
Chapter 11. Bundled EPS Synthetic Aggregate

A. As substitute for pipe, drainrock, and barrier material, Bundled Expanded Polystyrene (EPS) Synthetic aggregate meeting IAPMO standard IGC 276 may be used for wastewater dispersal. Units are cylindrically shaped; having a seamless external permeable netting that contains EPS synthetic aggregate. A geotextile is pre-inserted between the EPS synthetic aggregate and netting as a barrier material to overlying soil. At least one bundled EPS synthetic aggregate unit in the configuration shall include an internal 4-inch pipe. The internal pipe shall comply with ASTM F405.

B. Bundled EPS synthetic aggregate shall be H-10 rated. Units may contain a plastic pipe for longitudinal conveyance of water.

C. EPS synthetic aggregate participles shall be relatively uniform in shape and size. The aggregate particle size may range from 0.5 inches to 2.0 inches along any axis. EPS synthetic aggregate must provide a minimum porosity of 30%.

Chapter 12. Single-Pass Sand Filter and Mound System Filter Material



A. All filter materials used in single-pass sand filters and mound systems must fall within the limits of the specifications shown in the following graph for the amounts of material retained/passing (by weight). This specification closely follows the ASTM C-133 concrete sand specification.

B. The material must also have a uniformity coefficient of 4 or less. The uniformity coefficient is calculated by dividing D60 (the size of screen opening where 60 percent of a sample passes and 40 percent is retained) by D10 (the size of screen opening where 10 percent of a sample passes and 90 percent is retained). For sands with a D10 less than 0.3 mm, the designer should consider a loading of no greater than 1.0 gallon/square foot-day, and specify fre-

quent dosing. A sieve analysis, (done in accordance with ASTM D 136 for dry product, or ASTM C-117 for wet product), of the material is required prior to transport to the construction site.

C. A report of the sieve analysis and on-site analysis results must be available for the LEA prior to system approval and for inclusion in the system's permanent file.

Chapter 13. Containment Vessel for Intermittent Sand Filter

A. Lined Pit: when a sand filter is constructed in an excavated pit the following criteria are to be met.

B. Unsupported polyvinyl chloride (PVC) shall have the following properties:

Property	Test Method	
Thickness	ASTM D1593 Para 9.1.3	30 mil minimum
Specific Gravity (Minimum)	ASTM D792 Method A	
Minimum Tensile Properties (each direction)	ASTM D882	
A) Breaking Factor (pounds/inch width)	Method A or B (1 inch wide)	69
B) Elongation at Break (percent)	Method A or B	300
C) Modulus (force) at 100% Elongation (pounds/inch width)	Method A or B	27
Tear Resistance (pounds, minimum)	ASTM D1004 Die C	8
Low Temperature	ASTM D1790	-20°F
Dimensional Stability (each direction, percent change maximum)	ASTM D1204 212°F, 15 min.	± 5
Water Extraction	ASTM D1239	-0.35% max.
Volatile Loss	ASTM D1203 Method A	0.7% max.
Resistance to Soil Burial (percent change maximum in original value)	ASTM D3083	
A) Breaking Factor		-5
B) Elongation at Break		-20
C) Modulus at 100% Elongation		±10
Bonded Seam Strength (factory seam, breaking factor, ppi width)	ASTM D3083	55.2
Hydrostatic Resistance	ASTM D751 Method A	82

C. Concrete Containment Vessel: to be designed and/or approved by a qualified professional engineer if the following conditions are not met.

1. Above ground tank
   a. Walls
      (1) At least 6 inches thick
      (2) 4 feet or less in height

(3) Rebar reinforcement: 3/8 inch diameter rebar on 2-foot centers horizontally and vertically, with continuous lengths wrapped around the corners.

b. Floor

(1) At least 3 1/2 inches thick

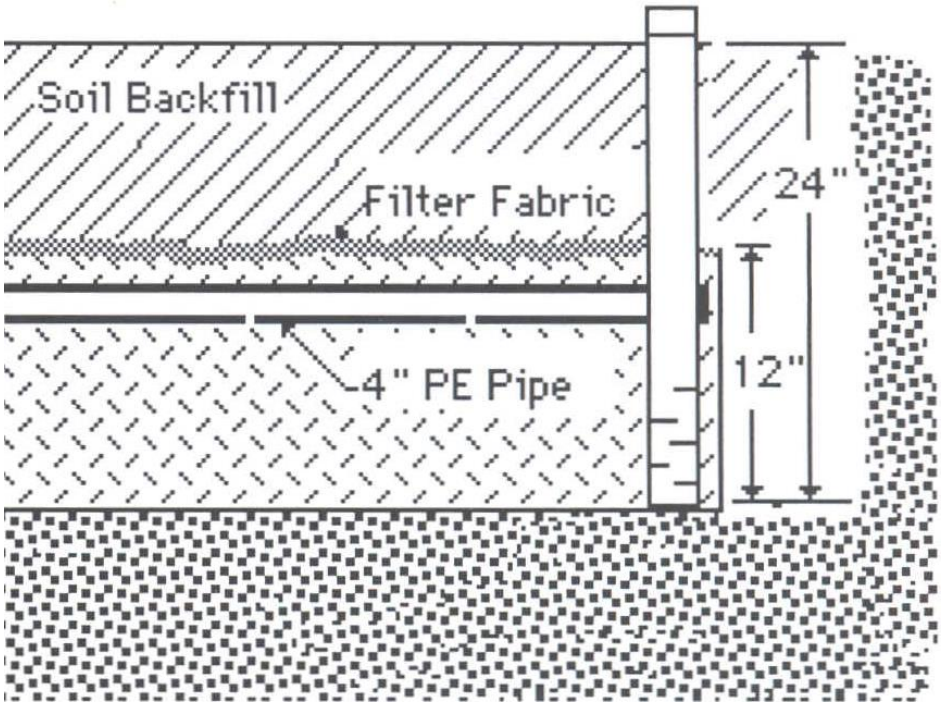
(2) Reinforced with steel mesh (CRSI standard #6-1010) to prevent cracking and to maintain water-tightness

c. Tank is to be designed, constructed, and sealed to be water-tight.

2. Below ground tank

Any below ground concrete tank must be watertight. The design of any such tank is to be approved by a qualified professional engineer and meet the specifications of this Manual.

Chapter 14. Observation Port Design



Manual - Part 3 - System Requirements

Part Three: System Requirements

Chapter 1. General Requirements

These general requirements apply to all onsite wastewater systems, unless otherwise specified within this Manual.

A. Wastewater Strength

1. Domestic strength wastewater, for the purpose of this Manual, is wastewater with the following characteristics:
   a. Total suspended solids less than or equal to 300 ppm
   b. Five-day Biochemical Oxygen Demand less than 300 ppm
   c. Total Nitrogen as Nitrogen less than or equal to 75 ppm
   d. Grease and oil less than 100 ppm
2. Unless otherwise demonstrated by a Certified Designer, recreational vehicle holding tank wastes, when discharged in a concentrated and undiluted volume, such as at a commercial RV dump station, shall be considered high strength waste.
3. Wastewater from non-residential sources or high strength wastewater from residential sources must receive pretreatment sufficient to lower the waste strength to the level of that commonly found in domestic residential septic tank effluent before discharge into a standard gravity or supplemental treatment wastewater system.
4. The Central Valley Regional Water Quality Control Board will be notified by the LEA whenever the LEA approves a pretreatment system or methodology for high strength wastewater.

B. Table 1 provides application rate requirements based on the USDA soil texture classification system. Soil textural classification should be considered the primary data source for system sizing.

C. Seasonal groundwater monitoring will be required by the LEA for on-site wastewater systems with a design flow of 1,500 gpd or greater whenever soil coloration (redoximorphic features) indicates the seasonal groundwater level may be elevated to within six inches of the required vertical separation, or where other factors, including but not limited to soil maps, historical observations, vegetation, or topography indicate that elevated seasonal groundwater may be present. For on-site wastewater systems with a design flow of less than 1,500 gpd, seasonal groundwater monitoring may be required by the LEA for the conditions described above. Further information about seasonal groundwater monitoring is found in Part 1 of this Manual.

D. Figure 1 provides application rates based on percolation test results. Percolation testing should be considered a source of supplemental information for system sizing.

E. Soils that percolate at a rate of 1-5 mpi require pressure distribution and are not to be permitted by the LEA unless there is demonstration of adequate filtration capacity by utilizing design features including, but not limited to:

1. Use of supplemental treatment systems, including the single-pass sand filter;
2. Use of pressure distribution or subsurface drip irrigation for dispersal;
3. Reduction in application rate of wastewater to the dispersal field, beyond that which is specified in the Manual;
4. Increase in vertical separation, beyond that which is specified in the Manual; and
5. Increase in horizontal setback distances to wells and/or surface water to that which is specified in this Manual.

F. When sizing by soil group and more than one soil group is encountered within a soil profile, drainfield trench sizing must be based on the most restrictive soil group encountered within 36 inches from the bottom of the drainfield trench for on-site wastewater systems with a design flow of 1,500 gpd or greater. For on-site wastewater systems with a design flow of less than 1,500 gpd, drainfield trench sizing must be based on the most restrictive soil group encountered within 18 inches from the bottom of the drainfield trench.

G. When calculating the required lineal feet of the dispersal field, only the trench bottom area may be considered.

H. The LEA may allow up to a 25% reduction in drainfield sizing based on inclusion of a portion of the trench sidewall area for determining absorptive area when pressurized distribution is utilized. The percent of reduction would be based on the formula used in the Manual of Septic Tank Practice. An additional 25% reduction in drainfield sizing may be allowed when supplemental treatment is utilized. The combined reduction shall be no more than 50%. The base from which the reduction would be made is the size of the system calculated from trench bottom only utilizing the application rates associated with soil classifications in Table One in this Chapter.

I. Reserve Area. A reserve area with suitable site conditions for a new dispersal system installation must be set aside. The reserve area must be:

1. Equal to 100 percent of the capacity required for a replacement dispersal system
2. Totally separate from the initial dispersal system area,

3. Able to meet all current design requirements for the type of replacement system proposed, including soil depth, soil type, slope restrictions, and setbacks, etc.
4. Fully protected to prevent damage to soil and any adverse impact on the immediate surroundings that may affect the installation of the replacement dispersal system or its function

J. Systems must be designed to disperse effluent to subsurface soils in a manner that provides unsaturated zone treatment and aerobic decomposition of the effluent. The base of the dispersal system must be designed and installed at the shallowest practicable depth at or below the original elevation of the soil surface to maximize elements critical to effective treatment of effluent in the soil. Elements critical to effective treatment include oxygen transfer, biological treatment, and vegetative uptake of nutrients.

K. The minimum liquid capacity of any septic tank installed must be 1500 gallons for up to a 4 bedroom residence and an additional 200 gallons for each bedroom thereafter.

L. Where the site evaluation reveals the probable existence of slope instabilities within 50 feet of the primary or repair dispersal field areas, the LEA will require a Professional Engineer or Registered Civil Engineer inspect the site and recommend mitigation measures to prevent slope instabilities form impacting the on-site wastewater system. Such measures may include, but are not limited to, the following:

1. Altering the proposed system location to avoid steep slopes and/or slope instabilities;
2. Establishing specified recommended setbacks from identified slope instabilities or from steep slopes; and
3. Incorporating wastewater system design measures to minimize the creation of localized saturated flow conditions, such as pressure distribution or subsurface drip irrigation instead of gravity flow.

M. For on-site wastewater systems with design flows exceeding 1,500 gallons per day, the LEA will require the certified designer to include a special design analysis and design features to assure the prevention of localized impacts to water quality or public health. The analysis and design features must include:

1. Analysis of the potential localized waste loading effects including, at a minimum, groundwater mounding and nitrogen loading;
2. Minimum criteria for evaluation of the results of the analysis; and
3. Incorporation of the system design measures to address the findings of the analysis.

N. For on-site wastewater systems located within a 100-year flood zone, the LEA will require the certified designer to include a special design analysis and design features to prevent caused by inundation with water. The analysis and design features must include includes:

1. Protection of supplemental treatment, pressure distribution, and subsurface drip irrigation components; and
2. Prevention of discharge of wastewater into flooded dispersal areas from pumps or dosing siphons where the distribution piping is less than 12 inches below ground surface.

Table 1. Soil Depth and Application Rate Requirements

Soil Group	USDA Textural Classification	Structure	Application Rate (gpd/ft^2)
A[1]	Course to medium sand	N/A	1.2
B[2]	Fine sand	Weak to strong	1.2
		Massive	0.7
	Loamy sand	Moderate to strong	0.9
		Massive or weak	0.6
C	Sandy loam	Moderate to strong	0.9
		Weak, weak platy	0.6
		Massive	0.5
	Loam	Moderate to strong	0.8
		Weak, weak platy	0.6
		Massive	0.5
D	Silt loam	Moderate to strong	0.8
		Weak, weak platy	0.3
		Massive	0.2
E[3]	Sandy clay loam	Moderate to strong	0.6
		Weak, weak platy	0.3
		Massive	See Footnote [4]

[1] Percolation test required for course sand and use prohibited if percolation is faster than 1 minute per inch

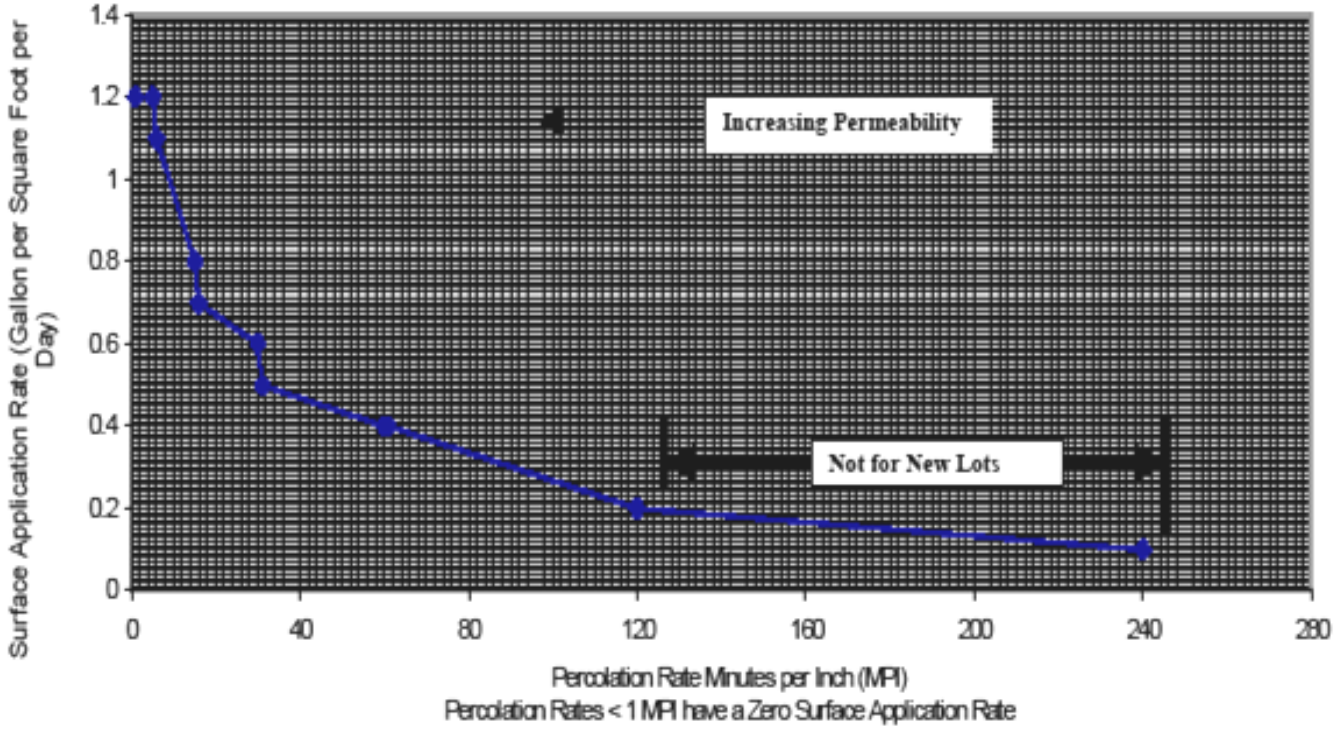
[2] Subject to percolation test in addition to soil textural determination if 35% or more (by volume) coarse fragments (defined as > 2 mm size)

[3] Clay must be non-expansive

[4] Not acceptable for on-site wastewater dispersal unless adequate percolation rate verified and on-site wastewater system designed by a Certified Designer

Soil Group	USDA Textural Classification	Structure	Application Rate (gpd/ft^2)
	Clay loam	Moderate to strong	0.6
		Weak, weak platy	0.3
		Massive	See Footnote [4]
	Silty clay loam	Moderate to strong	0.6
		Weak, weak platy	0.3
		Massive	See Footnote [4]
	Sandy clay	Moderate to strong	0.3
		Massive to weak	See Footnote [4]

Figure 1: Design Infiltrative Surface Application Rates



Note: Application rates with a percolation rates higher than 120 are restricted to existing parcels.

Chapter 2. Location and Setbacks

The horizontal setbacks[5] shown in the following table will apply to all on-site wastewater systems unless otherwise specified in this Manual.

Distance Required From:	From Drainfield	From Septic Tank, ATU, or Lined Sand Filter
Wells[6]		
Public well[7]	150’	150’
Private well	100’	50’
Other wells, excluding monitoring wells	100’	50’
Surface waters[2]		
Reservoirs or lakes (downslope from wastewater system components)	200'	50’
Reservoirs or lakes (upslope from wastewater system components	100’	50’
Year-Round Springs, Streams, Creeks, or Ponds	100’	50’
Intermittent streams, drainage swales	50’	50’
Curtain drains--Vertical/Curtain drains		
Up gradient of system	20’	20’
Down gradient of system	50’	25'
Cuts manmade in excess of 2.5 feet (top of down slope cut) or escarpments[8]	4 X height[4] of the bank, to a maximum of 50'	20’
Property lines, foundation lines of any structure including garages, out-buildings, in-ground swim pools, water lines[9.10]	5’	5’
Easements[11]		
Public access easement	20’	20’
Other easement	Clear	Clear

[5] If a setback is not specified in this table, the most recent Board of Supervisors-adopted California Plumbing Code setback will be applied

[6] Additional setback may be required from dispersal field for community or larger wastewater systems

[7] The 150’ setback is increased to 200’ if the dispersal system exceeds 10’ in depth. Where the dispersal system is within 600 feet of a public water well and exceeds 20 feet in depth the horizontal setback required to achieve a two-year travel time for microbiological contaminants shall be evaluated. A qualified professional shall conduct this evaluation. However in no case shall the setback be less than 200 feet. Where the effluent dispersal system is within 1,200 feet from a public water systems’ surface water intake point, within the catchment of the drainage, and located such that it may impact water quality at the intake point such as upstream of the intake point for flowing water bodies, the dispersal system shall be no less than 400 feet from the high water mark of the reservoir, lake or flowing water body. Where the effluent dispersal system is located more than 1,200 feet but less than 2,500 feet from a public water systems’ surface water intake point, within the catchment area of the drainage, and located such that it may impact water quality at the intake point such as upstream of the intake point for flowing water bodies, the dispersal system shall be no less than 200 feet from the high water mark of the reservoir, lake or flowing water body.

[8] The height (in feet) of the cut or escarpment as measured from the toe of the cut or vertically to the projection of the natural ground slope.

[9] The LEA encourages the placement of septic tanks and other treatment units as close as feasible to the minimum separation from the building foundation in order to minimize possible clogging of the building sewer.

[10] Unless otherwise approved by the LEA, crossing of water lines and effluent sewer lines is prohibited.

[11] A system may be installed underneath overhead power lines or cross other utilities (e.g., canals) providing all of the following conditions are met:

a. Written authorization is received from the utility company operating and maintaining the utility affected or for which the easement or restriction was granted;

b. The LEA determines that the encroachment is necessary and there is no other viable area in which to install the system; and

c. All construction modifications required by the LEA and the affected utility company (is) are instituted to carry out the purposes of this Manual.

Chapter 3. Design Flow

A. Projected daily sewage flow from single family residences must be calculated at 240 gpd for 2 bedrooms, 360 gpd for 3 bedrooms, and 60 gpd for each additional bedroom.

B. Projected daily flows for other than single-family dwellings shall be estimated using the following table unless, on a case-by-case basis, the LEA approves metered water use data, or other supporting data in lieu of the estimated sewage flows set forth in the table. However, in no case shall a system be designed for a flow of less than 100 gpd. Existing data may be used, provided the following specifications are met:

1. The design flow may be calculated by actual potable water meter readings, or facility wastewater influent or effluent meter readings if water records are from billing records of the service provider or from water meters certified to be within 2% by the water purveyor or, in the case of wastewater metering, the meter read values are certified as "correct" by a certified designer.
2. The average daily flows shall be adjusted for peak flow days as follows:
   a. If the water meter records are recorded on a daily basis, the highest ten day flows can be averaged and used for the design flow.
   b. If the water meter records are recorded on a weekly basis, the design flow shall be calculated by dividing the number of days the facility was in use into the highest weekly flow, and multiplying by 1.2
   c. If the water meter records are recorded on a monthly basis, the design flow shall be calculated by dividing the number of days the facility was in use into the highest monthly flow, and multiplying by 1.5.
   d. If the water meter records are recorded on a quarterly basis, the design flow shall be calculated by dividing the number of days the facility was in use into the highest quarterly flow and multiplying by 2.0.

Design Flows

Type of Business or Facility	Minimum Flow (Gallons/ Day)
Bathhouses and swimming pools	10 (per person)
Barbershop/salon	100 (per chair)
Camps (4 persons per campsite, where applicable)	
-with central comfort stations	35 (per person)
-with flush toilets, no showers	25 (per person)
-construction camps (semi-permanent)	50 (per person)
-day camps (no meals served)	15 (per person)
-resort camps (night and day) with limited plumbing	50 (per person)

Type of Business or Facility	Minimum Flow (Gallons/ Day)
Churches	
-with kitchen	15 (per seat)
-without kitchen	5 (per seat)
Country clubs	
-per resident member	100
-add per nonresident member present	25
-add per employee	15 (per 8 hour shift)
Department store with public bathrooms	400
Dentist office	
-per wet chair	200
-add per non-wet chair	50
Factories	
-with shower facilities, no food service or industrial wastes	35 (per person, per shift)
-without shower facilities, no food, service or industrial wastes	15 (per person, per shift)
Hospitals	250 (per bed space)
Hotels or motels	
-with private baths	100 (per room)
-without private baths	80 (per room)
Institutions other than hospitals	125 (per bed)
Laundries, self-service washing machines	500 (per machine)
Limited agricultural building	100 (per building)
Mobile home parks	250 (per space)
Parks, public picnic areas	
-with toilet wastes only	5 (per person)
-with bathhouses, showers and flush toilets	10 (per person)
Restaurants	
-with multi-use utensils	50 (per seat)
-with single service utensils	25 (per seat)
-with bars and/or cocktail lounges	50 (per seat)
Residential Structures	
-Second dwelling, condominium, multi-family (duplex, triplex, etc.)	-Same as for full single family residence
-Guesthouse	-Same a for additional bedroom
Retail stores	
-for customer	-Use comparable flows from similar business-es and population
-add for each employee	15 (per 8-hr shift)
Shopping center	2 (per parking space)
Schools	
-boarding	100 (per person)
-day (without gyms, cafeterias or showers)	15 (per person)
-day (with gyms, cafeterias and showers)	25 (per person)
-day (with cafeteria, no gym or showers)	20 (per person)
Service stations	500 for 1st pump set, 300 for each addn'l
Swimming pools and bathhouses	10 (per person)
Theaters	
-movie	5 (per seat)
-drive-in	20 (per car space)
Recreational vehicle parks	
-without individual water and sewer hookups	50 (per space)
-with individual water sewer hookups	100 (per space)

Chapter 4. Installation

A. Septic tanks must be installed on a level, stable base of either pea-gravel or sand.

B. Septic tanks located in high groundwater areas must be accompanied with engineered anti-buoyancy calculations to prevent flotation.

C. All septic tanks must be installed with watertight risers extending to finished grade, with surrounding grading to facilitate drainage away from the riser.

D. Septic tanks must be installed in a location that provides access for servicing and pumping.

E. Systems will not be installed when moist or wet conditions cause trench sidewall or bottom area degradation of soil structure and porosity (which frequently appears as smearing and compaction).

F. Each drainfield trench will have distribution piping that is centered horizontally in the trench.

G. Drainfield trenches must be installed on contour.

H. Prior to backfilling the trench, the drain rock must be covered with filter fabric, a minimum of 2 inches of compacted straw or with untreated building paper.

I. Backfill must be carefully placed to prevent damage to the system.

J. Backfill must be native soil free of large stones, frozen clumps of earth, masonry, stumps, waste construction materials, or other materials that could damage the system.

K. All distribution boxes must be bedded on level pea gravel or sand base.

L. Observation ports, of a design approved by the LEA, must be installed at the end of each drainfield trench.

M. Adequate erosion control measures must be utilized at all times in conformance with applicable county regulations and per the consultant's design.

N. Slope of Lines

1. Tightline From House

   Maintain 1/8 to 1/4 inch drop per running foot (1% to 2% slope). Use two 45 degree fittings and a cleanout when a step-down is necessary. Locate step-down as close to house and as far from septic tank as possible to avoid unnecessary turbulence in septic tank.

2. Tightline From Septic Tank

   Maintain minimum of 6 inch drop per 100 feet (0.5% slope) to perforated drain lateral.

3. Perforated Lateral

   Level each lateral; maximum allowed tolerance will be ± 1 inch. Place an end cap on each lateral. Rotate each section of lateral pipe so holes are at 5:00 and 7:00 position

O. Whenever a trench excavation could act as a conduit for groundwater movement between system components, the trench must be back-filled with a mini-

mum of 5 lineal feet of sufficiently restrictive material, such as clay, to prevent the flow.

Chapter 5. Septic Tank Destruction

A. Application

1. The application for a Destruction Permit may be obtained through the LEA (Butte County Environmental Health). The completed application needs to be submitted along with the required fee and a scaled site plan indicating the location of the existing septic tank(s) and current or known future structures.

B. Issuance

1. The Destruction Permit will be issued along with a Declaration of Destruction form to be returned after final inspection. The LEA strongly recommends that all work be performed by a Licensed Contractor, although some work may be done by do-it-yourself property owners with prior LEA authorization. All work must meet LEA and Building Division requirements and pass inspection.
2. Obtaining the permit gives the LEA oversight of the abandonment process to ensure that all structural requirements are met and that the Declaration of Septic Tank Destruction is submitted at the time of inspection.

C. Process

1. The septic tank must be pumped and certified empty by a Certified Septage Pumper.
2. If the tank is to be destroyed in place and is greater than 5’ from any existing or future proposed structures, the person performing the work must ensure that the bottom of the tank is broken such that it is unable to hold water, and then filled with self-compacting soil, sand, or pea gravel. Should the person performing the work choose to fill the empty tank with 2-sack slurry, breaking the bottom of the tank is not required. Should the person performing the work choose to remove the tank, the excavation must be backfilled with clean self-compacting soil, sand, or pea-gravel.
3. If the tank is less than 5’ from any existing or future proposed structures, a two-sack slurry mixture must be used to fill the tank; otherwise, a Professional Engineer must certify the destruction methodology utilized.
4. Arrangements for inspection of the system destruction must be made with the LEA. In some instances, the Licensed Contractor may be able to submit electronic documentation of the destruction process in place of an on-site inspection.

5. The person performing the work must submit the Declaration of Destruction form provided.

Chapter 6. Standard Gravity Systems

Standard gravity systems are on-site wastewater systems consisting of a septic tank and a gravity distribution drainfield. Standard gravity systems, as used in this Manual, include those that utilize shallow trench depth, standard trench depth, or deep trench depth gravity drainfields. (Note: Deep trench drainfields requiring pressurized rather than gravity distribution may be found under other applicable requirements of this Manual.)

A. Site Requirements

1. Soils in the primary and replacement drainfield area will allow a vertical separation of 36 inches to be maintained.
2. The site has not been filled or the soil has not been modified in a way that would adversely affect functioning of the system.
3. The site will not be on an unstable landform, where operation of the system may be adversely affected.
4. The site of the drainfield and replacement areas must not be covered by asphalt or concrete unless site constraints allow no other feasible alternative.
5. The site of the drainfield and replacement areas must not be subject to the activity associated with vehicular traffic, corrals, pens, arenas or other concentrations of livestock, or other activity which would adversely affect the soil or integrity of the system.
6. The slope of the ground in the drainfield and replacement areas will not exceed 30% for a standard gravity system. When the slope of the ground exceeds 30%, the requirements of Chapter 16 of this Manual for Steep Slope Systems will apply.

B. Drainfield Excavation Requirements

1. Drainfield trenches must be constructed in accordance with the following standards, unless otherwise specified:
   a. Length maximum: 100 feet
   b. Bottom width minimum: 12 inches
   c. Bottom width maximum: 36 inches for drainfield trenches; wider excavations may be considered by the LEA on a case-by-case basis
   d. Depth: 12-36 inches
      (1) 6-18 inches for Shallow Trench

(2) 18-36 inches for Standard Trench

(3) >36 inches is not considered a standard gravity system. Refer to Chapter 6 of this Part of the Manual.

2. Minimum distance of undisturbed soil between drainfield trenches (inner sidewall-to-inner sidewall) must be 6 feet.
3. There must be a minimum of 12 inches of backfill over the drain rock.
4. Drain rock will extend the full width and length of the drainfield trench. There must be at least 6 inches of drain rock under the distribution pipe and at least 2 inches over the distribution pipe.
5. A soil barrier must be placed on top of the drain rock to exclude fines from the drain rock. The barrier will consist of filter fabric meeting the minimum specifications outlined in this Manual, straw, or untreated building paper.
6. Inspection ports must be installed at the end of each drainfield trench as follows:
   a. Each inspection port must extend to the finished grade.
   b. The ground surrounding the inspection port must be graded so that surface water does not accumulate adjacent to the port.
   c. The inspection port must be capped to prevent vandalism and tampering.
   d. Inspection ports must have a minimum diameter of four (4) inches.

C. Distribution

1. Level Sites
   a. For two or more laterals use a distribution box.
   b. Tie in the ends of the laterals to create a closed loop system when site conditions allow.
   c. Level distribution boxes with water to assure even flow. Flow equalization devices are recommended.
2. Sloped Sites
   a. Use a distribution box at the uppermost lateral and tightline from the distribution box to the beginning of the down slope laterals

D. Shallow Trench Systems

When the drainfield trench (measured at down slope sidewall) is excavated less than 24 inches into the original grade, the following additional requirements will apply:

1. Soil used for cover must be the same Soil Group (identified in Chapter 1 of this part of the Manual) as that which was excavated for the trench or

a Soil Group that has a higher rate of percolation that that which has been excavated.

2. The drainfield area will have the vegetation removed and must be scarified, parallel to contours, no deeper than 2 inches at the time of construction.
3. Soil cap will extend a minimum of 5 feet beyond the exterior trench sidewall on the upslope side and 10 feet elsewhere.
4. The site must be contoured and landscaped in accordance with the approved construction plan and permit requirements in order to shed water, control erosion and to prevent surface drainage onto the system.
5. The site must be protected from the activity of vehicular traffic, corrals, horse arenas, stables, or other activities that could damage the system or the integrity of the soil.

E. Pump Systems

When a pump is utilized to enable gravity drainfield trenches upslope of the structure to be served, the following additional requirements will apply:

1. The pump chamber, pump tank, and/or dosing tank must meet the requirements specified in Part Two of this Manual.
2. The pump intake must be provided with a screen.
3. The pump tank (or second compartment of the septic tank) will have capacity sufficient to deliver the design dose and have a minimum additional storage capacity above the high level alarm of one-half the daily design flow so that, in the case of pump failure or power outage the tank has the capacity to accept a limited amount of wastewater from the residence or commercial establishment.
4. Each tank must be installed on a stable level base, generally consisting of 3 inches of pea gravel or sand.
5. Each pump tank must be provided with a watertight riser extending to the ground surface or above, with a minimum inside horizontal measurement equal to or greater than the tank access manhole. Provision must be made for securely fastening the manhole cover.
6. Pump tanks in high groundwater areas must be weighted or provided with an anti-buoyancy device to prevent flotation as per the manufacturer's recommendation and as required in Part 2 of this manual.
7. Specialized Use of Pump with Pump Basin

   A specialized purpose for use of a pump and pump basin is to address the issue of plumbing elevation for a portion of a residence, or a remote

bathroom for outbuildings, being too low in elevation relative to the septic tank to allow gravity flow to the septic tank. In these cases,

a. A pump basin with pump may be utilized when any toilet being serviced, in the case of residential application, is not the sole toilet utilized by the residence.

b. A solids handling pump, rather than a grinder pump, must be used and must pump directly into the septic tank with a 4 inch penetration 10 ft from the tank inlet.

F. Gravelless Chamber and Bundled Expanded Polystyrene (EPS) Synthetic Aggregate Systems

1. With 100% of the area required for a gravel-filled drainfield established and dedicated (for initial and replacement fields) reduced-size gravelless chamber bundled EPS synthetic aggregate drainfields may be designed and installed.
2. System design, layout, and installation must be done in a manner easily facilitating the installation of additional gravelless chamber or bundled EPS synthetic aggregate drainfield if future conditions necessitate such action.
3. Except for those serving seasonal dwellings, the drainfield size using gravelless chambers or bundled EPS synthetic aggregate products may be reduced by 30%, provided no additional sizing reductions (such as would otherwise be allowed for use of pressurized distribution or supplemental treatment) are utilized in the design of the drainfield system.
4. Wastewater from residential sources must receive pre-treatment at least equal to that provided in a conventional two-compartment septic tank, before discharge to a gravelless drainfield.
5. Drainfields using gravelless distribution products must be installed according to the manufacturer's instructions, in a manner that is consistent with these standards and with state and local rules.

Chapter 7. Deep Trench Systems

When the drainfield trench is excavated deeper than 36 inches into the finished grade, the following additional requirements will apply:

A. The trench will be filled with an approved medium to course sand to within 24 inches of the finished grade so that wastewater from the pipe and gravel dispersal system will discharge over the sand bedding in the deep trench.

B. The system will be sized based on the texture and/or percolation rate of the receiving soil at the bottom of the trench.

C. If the trench is deeper than 48 inches beneath the finished grade, pressurized distribution over the sand will be required.

D. Minimum distance of undisturbed soil between drainfield trenches (inner sidewall-to-inner sidewall) within a deep trench drainfield must be 2 times the depth of the trench, up to 10 feet, except in the case of a steep slope system as otherwise described in this Manual.

Chapter 8. Pressurized Distribution Systems

A. Pipe, Valves, and Fittings

1. All pressure distribution pipes and fittings, including transport lines, manifolds, laterals and fittings, must be adequately sized for the design flow.
2. Pressure transport piping must be uniformly supported along the trench bottom, and at the discretion of the LEA, it must be bedded in sand or other material approved by the LEA.
3. The ends of lateral piping will have 90 degree long sweeps and ball valves or threaded caps housed in valve boxes that accommodate threaded plugs or caps.
4. All joints in the pressure distribution manifold, lateral piping, transport pipe, must meet ASTM Specification D-1785.
5. A gate valve or ball valve must be placed on the pressure transport pipe inside or outside of the pump riser, in or near the dosing tank.
6. A check valve must be placed between the pump and the gate valve, when required. A check valve is not required if the pump has an internal check valve. All check valves and gate valves must be in an accessible and protected location for maintenance and repair.
7. An anti-siphon valve must be placed between the pump and leach field when the leach field is down slope of the pump.
8. All valves must be placed in boxes accessible for maintenance from the surface.

B. Dosing Tanks

1. The pump chamber, pump tank, and/or dosing tank must meet the requirements specified in Part Two of this Manual.
2. Duplex alternating pumps may be required by the LEA for some installations (e.g. large systems approved for commercial facilities).
3. The dose volume must be sufficient to fully pressurize the lines, assuring equal distribution through the system. The dose volume must be sufficient to refill any part of the pressure distribution system (including supply line and lateral lines) that has been designed to drain following a dose (for example, where necessary to prevent freezing in cold weather), and

then deliver sufficient additional volume to disperse the daily design flow in an appropriate number of doses per day. Drainfield performance is enhanced when the daily flow is dispersed in smaller, more frequent doses throughout the day. In most applications, between 12 and 24 doses per day per zone, is appropriate, although a number outside of that range may be appropriate in some cases where it is not practical to design the system to deliver twelve or more doses, or where it is otherwise undesirable to design the system within that range of doses.

C. Dispersal Trenches or Beds

1. The top of the drain rock must be covered with filter fabric, straw or untreated building paper.
2. A minimum of 12 inches of backfill is required over the filter material within the drainfield trench.

D. Hydraulic Design

1. Orifices will have a minimum diameter of 1/8 inch and be evenly spaced at a distance between 2 and 6 feet. Orifices larger than 1/8 inch shall be evaluated on a case by case basis due to design constraints related to dose volume, effluent quality, and dispersal field size.
2. There must be a minimum 2 foot head at the orifice farthest from the manifold and no more than 10% head variation within a drainfield trench.
3. The effect of back drainage of the pressure distribution system must be evaluated for its impact upon the dosing tank and system operation.

E. Installation

1. All orifices of pressure distribution laterals must be covered with orifice shields to prevent soil washout.
2. Lateral piping must be laid in the horizontal center of the trench and level to within 2 inches in 100 feet.
3. Inspection ports must be placed at the end of the pressure distribution lateral within the drainfield trench.
4. Each dosing tank must be installed on a stable level base.
5. Each dosing tank must be provided risers as described in Part 2 of this Manual.
6. Dosing tanks located in high groundwater areas must be weighted or provided with an anti-buoyancy device to prevent flotation as per the manufacturer's recommendation and as required in Part 2 of this manual.

F. Sloping Sites

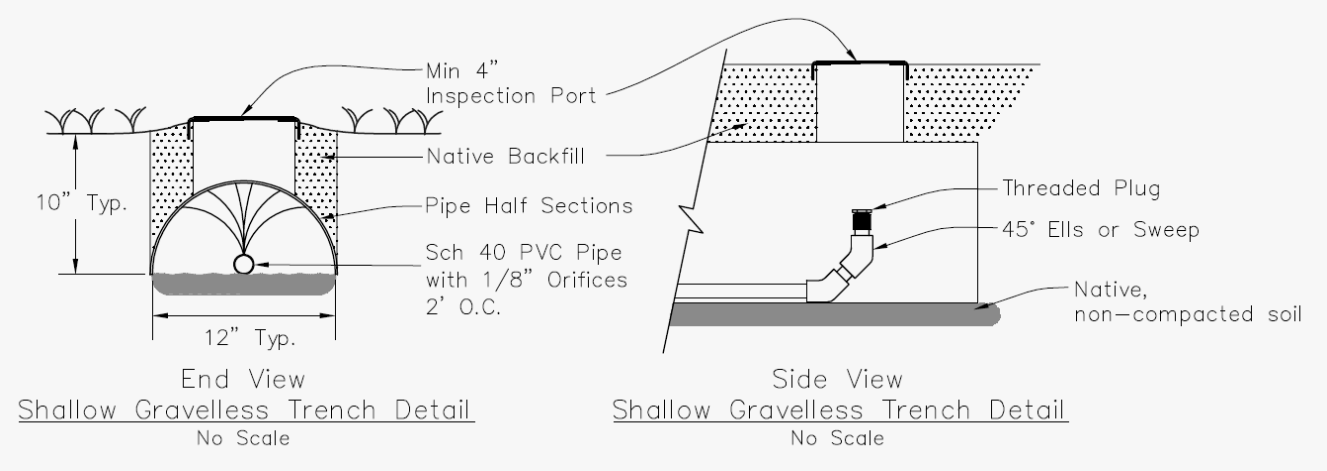
1. Ball or gate valves or flow restrictors must be installed on each pressure distribution lateral to facilitate regulation of flow within each lateral.

2. The LEA will inspect the pressure distribution system for verification of hydraulic head over the pressure distribution laterals ("squirt height test").
   a. Water and a source of generated electricity must be available for this inspection.
   b. Photographic documentation of the pressure test may be accepted by the LEA on a case-by-case basis.
   c. Where site conditions preclude the entire drainfield being left open for the pressure test, the LEA may allow a portion of the trenches to be covered prior to the test and observe the pressurized flow at the distal end of each lateral.

G. Shallow Pressure Drainfields Utilizing Small Diameter Chambers

Pressure distribution systems may be installed within shallow, small diameter chambers constructed from plastic irrigation pipe. These systems must meet the following criteria:

1. Dispersal is preceded by supplemental treatment certified by NSF/ANSI to achieve BOD and TSS reduction to 10 mg/l each (mean).
2. The chambers must have an adequate footing to support the soil cover and all normal activity.
3. The plastic pipe or chamber must be minimum 12-inches in diameter and be rated Schedule 40 or H-10.
4. The LEA may allow trenches on minimum 3-foot centers maintaining at least 2 feet of undisturbed soil between parallel trench sidewalls.
5. The distribution piping will use 1/8-inch diameter orifices.
6. Each line must be equipped with a minimum 4-inch diameter inspection port.
7. The system must be installed so that the trench depth will be 10-12 inches beneath the original ground surface.
8. Effluent must be micro-dosed to the dispersal field at least 18 times in each 24-hour period.



Chapter 9. Subsurface Drip Irrigation

Subsurface Drip Irrigation is a method of dispersing wastewater uniformly over a large area by using numerous emitters installed at a shallow depth and very small doses.

A. Supplemental treatment is required prior to dispersal utilizing subsurface drip irrigation.

B. Minimum depth of drip line must be 6 inches.

C. Subsurface drip dispersal systems must be designed, installed and managed to provide even distribution and unsaturated subsurface flow.

D. All subsurface drip dispersal system materials must be warranted by the manufacturer for use with wastewater and resistant to clogging from solids, bacterial slime and roots.

E. Fittings used to join drip line to the distribution and flush manifolds must be in accordance with the manufacturer's recommendations.

F. All emitters in the drip tubing installed on sloping sites must be pressure compensating.

G. The subsurface drip dispersal system must be designed in the configuration that would minimize the flowing of effluent to the lowest area of the field when the pump shuts off or when the flow depressurizes.

H. A minimum velocity of 0.5 ft/sec or greater velocity if recommended by the manufacturer for field flushing of the laterals is required.

I. All subsurface drip dispersal systems must be designed with a dosing controller with automatic field flushing, for zone alternating, for dose frequency, for dose volume and for flushing of the filters.

J. All subsurface drip dispersal systems must be designed with a bypass line to facilitate field flushing.

K. All subsurface drip dispersal systems must be designed with filters to remove articles 100 microns or larger.

L. All subsurface drip dispersal systems must be designed with air relief valves placed at the highest point on both supply and return manifolds.

M. All the drip dispersal systems must be designed to accept flows that have residential-like wastewater quality.

N. Sizing criteria must be based application rates shown in Table One of this Manual.

O. All subsurface drip dispersal systems must be installed by certified installers with specific training in the installation of subsurface drip dispersal systems. Proof of the specified training by way of certification or a letter from an approved trainer is required.

P. Installation of the subsurface drip dispersal system must be per the manufacturer's instructions.

Chapter 10. Supplemental Treatment Systems

Supplemental treatment systems are on-site wastewater systems that provide a specified level of treatment prior to dispersal into the drainfield.

A. Supplemental Treatment Components

1. Supplemental treatment components must be designed to meet the following BOD and TSS concentrations and, where nitrogen is identified in the RWQCB basin plan as a water quality concern, the following nitrogen effluent concentration:

   a. 30-day average BOD concentration will not exceed 30 milligrams per liter (mg/L), or alternately, a carbonaceous BOD (CBOD) in excess of 25 mg/L

   b. 30-day average TSS concentration will not exceed 30 mg/L

   c. 30-day average TN concentration will not exceed 10 mg/L as nitrogen

2. Testing to comply with these performance levels must be conducted based on effluent analysis with the following minimum detection limits:

Parameter	Detection Limit
BOD	2 mg/L
TSS	5 mg/L
Total Nitrogen	1 mg/L

B. Disinfection Components

1. Add-on components performing disinfection must be designed to achieve an effluent total coliform bacteria concentration, at the 95th percentile, of not greater than the following:
   a. 10 MPN per 100 ml prior to discharge into the dispersal field where the soils exhibit percolation rates of 1-10 minutes per inch or where the soil texture is sand; or
   b. 1,000 MPN per 100 ml prior to discharge into the dispersal field where the soils exhibit percolation rates greater than 10 minutes per inch or consist of a soil texture other than sand.
2. Testing of supplemental treatment components that perform disinfection must be evaluated quarterly based on analysis of total coliform with a minimum detection limit of 2.2 MPN. Such systems must be maintained to comply with the performance requirements at all times.
3. When supplemental treatment is required followed by disinfection in order to meet reduced vertical separation requirements for existing parcels, the supplemental treatment system utilized will typically be a single-pass sand filter. When supplemental treatment system other than a single-pass sand filter is utilized preceding disinfection, the testing frequency for compliance with effluent quality limits will be increased from quarterly to monthly for the first year of operation, or longer if needed to verify reliable treatment,

C. Where feasible, as determined by the LEA, supplemental treatment components must be equipped with a telemetric alarm that notifies the owner and O&M Specialist in the event of system malfunction.

D. All supplemental treatment systems must be followed by pressurized distribution or subsurface drip irrigation for dispersal, except for where seepage pits are utilized.

E. All supplemental treatment systems must be designed by certified designers and installed by certified installers with specific training in the installation of the type of system utilized. Proof of the specified training by way of certification or a letter from an approved trainer is required.

F. All supplemental treatment systems must maintain a current Operating Permit and be periodically inspected and monitored by a certified Operation and

Maintenance Specialist as required in the On-Site Wastewater Ordinance and Part 4 of this Manual.

G. Supplemental Treatment Systems in Lieu of Standard gravity systems

1. When a drainfield site is utilized that meets the criteria described above, nothing will preclude the applicant from opting to use a supplemental treatment system in lieu of a standard gravity system.
2. When siting an on-site wastewater system, the drainfield must be located, whenever possible, on that portion of the parcel with a minimum vertical separation of 36 inches, Soil Groups B, C, or D, and a percolation rate (when performed) of 6-60 minutes per inch .

Chapter 11. Proprietary Systems

A. A proprietary supplemental treatment system provides treatment of wastewater by exposing the effluent to a contact medium under diverse environmental conditions in a self-contained enclosure.

B. Proprietary supplemental treatment systems must be designed to meet the level of treatment specified in Chapter 9 of this Manual.

C. All proprietary supplemental treatment systems must be designed by certified designers and installed by certified installers with specific training in the installation of the type of system utilized. Proof of the specified training by way of certification or letter from an approved trainer is required.

D. All owners of proprietary treatment systems must maintain current Operating Permits and be periodically inspected and monitored by certified Operation and Maintenance Specialist.

E. Where feasible, as determined by the LEA, supplemental treatment components must be equipped with telemetric alarms that notify the owner and O&M Specialist in the event of system malfunction.

F. All proprietary supplemental treatment systems must meet NSF/ANSI (National Sanitation Foundation/ American National Standards Institute), Standard 40.

G. NSF approved proprietary components may not be used independently. Proprietary components may be used as part of the overall wastewater treatment system as tested and approved by NSF.

H. Manufacturers of proprietary systems must provide for the initial two years of serve and maintenance.

I. Manufacturers of proprietary systems must provide homeowners with Operation and Maintenance Manuals.

J. When proprietary supplemental treatment is required followed by disinfection in order to meet reduced vertical separation requirements for existing parcels, test-

ing for compliance with effluent quality limits will be required for the first year of operation, or longer if needed to verify reliable treatment.

K. Manufacturer of proprietary systems must provide the LEA at least every two years with a list of O&M providers and installers certified by the manufacturer to provide those services.

Chapter 12. Single-Pass Sand Filters

A. Influent Wastewater Strength

1. Single-pass sand filters are designed for treating residential strength wastewater. The wastewater applied to the single-pass sand filter must not be higher in strength than 220 mg/l BOD_5 or 145 mg/l TSS). Lower wastewater strengths, without increased flow rates are preferable for assuring long term operation of a single-pass sand filter system. High strength wastewater shall require pretreatment in order to reduce its strength prior to introduction into a single-pass sand filter and the soil dispersal component.

B. Daily Wastewater Flow - Design Estimates

The minimum wastewater design flow shall be as specified in Chapter 3 of this part of the Manual.

C. Locational Requirements

1. The minimum setback requirements for closed bottom single-pass sandfilters will be the same as those for septic tanks.
2. The minimum setback requirements for open bottom single-pass sandfilters will be the same as those for a standard gravity drainfield or leach bed.

D. Design Standards

1. Filter media must meet the specifications outlined in Part 2 of this Manual.
2. Filter Bed Sizing
   a. The loading rate to the sand filter must not exceed 1.0 gallon/day/square foot, using appropriate daily wastewater flow design estimates.
   b. The media depth must be a minimum of 24 inches.
3. The filter bed is contained either in a flexible membrane lined excavation as specified in Part 1 of this Manual, or in another containment vessel approved by the LEA.
4. Wastewater Distribution

a. Pressure distribution is required within the sandfilter and pressure distribution of subsurface drip irrigation is required for dispersal of sandfilter-treated effluent and must comply with the requirements specified in Chapters 7 and 8 of this Manual.

b. The wastewater must be applied to the layer of drain rock atop the filter media as specified in Chapters 7, or sprayed upward against the top of gravelless chambers.

E. Timed dosing system is required and the dosing frequency or dose volume is dependent on the media specification used with the sand filter. To assure that appropriate dose volumes are delivered to the sand filter, the timer must be set to dose a minimum of 12 times daily.

F. Installation

1. Containment must be structurally sound and have sufficient geometric and dimensional integrity to protect the liner.
2. In order to prevent differential settling when the sand filter is put into service, the filter media must have a uniform density throughout.
3. A geotextile filter fabric must be placed on top of the gravel bed.
4. The cover must consist of no more than one foot of soil. The cover soil must be capable of maintaining vegetative growth while not impeding the passage of air (sandy loam or coarser) and be contoured and landscaped in accordance with the approved construction plan and permit requirements in order to shed water, control erosion and to prevent surface drainage onto the sand filter. Plant cover must be shallow root vegetation as generally described in the system design and operation and maintenance manual.
5. Two observation and monitoring ports must be installed in the sand filter. One observation and monitoring port must be installed to the interface between the bottom of the drainrock and the top of the media. A second observation and monitoring port must be installed to the bottom of the under drain. The pumpwell may be used as the second observation port.
6. Liner patches, repairs and seams shall have the same physical properties as the parent material.
7. Site considerations and preparation:

   a. The supporting surface slopes and foundation to accept the liner shall be stable and structurally sound including appropriate compaction. Particular attention shall be paid to the potential of sink hole development and differential settlement.

b. Soil stabilizers such as cementations or chemical binding agents shall not adversely affect the membrane; cementations and chemical binding agents may be potentially

c. Every effort shall be made to minimize the strain (or elongation) anywhere in the flexible membrane liner.

8. Construction and installation:

a. For contained-design sand filter, grade the bottom of the excavation to provide a sloping liner surface, from the outer edge of the filter toward the point of under drain collection. Slope shall equal 8 inches fall overall or one inch of fall per foot of run, whichever is the greatest.

b. Sides of the excavation shall be smooth, free of possible puncture points.

c. Boots shall be bedded in sand and installed in accordance with manufacturer's specifications.

d. Liner placement

(1) Liners shall be installed in accordance with manufacturer's specifications, including those for:

(i) Temperature, precipitation

(ii) Sand bedding

(iii) Sealant type and procedure for use

(iv) Liner size

(v) Transport, handling, and storage

(vi) Deployment of panels

(vii) Anchoring of liner edges

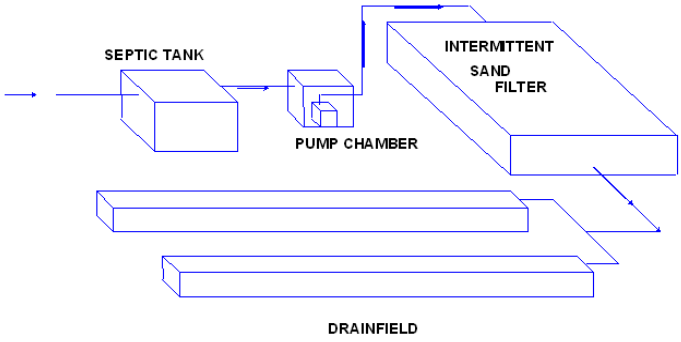
(viii) Field seaming when necessary

(ix) Field repairs

(2) A site inspection shall be carried out by the LEA or by the certified designer and the installer prior to liner installation to verify surface conditions and adherence to manufacturer's and designer's specifications

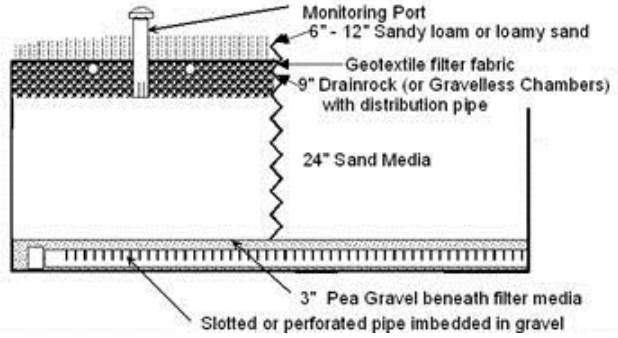
(3) Completed liner installations shall be visually checked for punctures, rips, tears and seam discontinuities before placement of any backfill. At this time the installer shall also manually check all factory and field seams with an appropriate tool. In lieu of, or in addition to, manual checking of seams by the installer, either of the following tests may be performed;

(i) Wet Test: The lined basin shall be flooded with wa-



ter to within 6 inches of the bottom of the liner after inlets and outlets have been plugged. There shall not be any loss of water in a 24-hour test period.

(ii) Air Lance Test: Check all bonded seams using a minimum 50 PSI (gauge) air supply directed through a 3/16 inch (typical) nozzle held not more than 2 inches from the seam edge and directed at the seam edge. Riffles indicate unbonded areas



within the seam, or other undesirable seam construction.

(iii) If the boot may be submerged in a seasonal high water table, performance testing of the sand filter/boot for leakage must be conducted by blocking the outlet pipe, and flooding the liner with a sufficient depth of water to submerge the boot seams. There shall not be any loss of water in a 24-hour test period.

G. System Drawings

Chapter 13. Mound Systems

A. Influent Wastewater Strength

Mound systems are designed for treating residential strength wastewater. The wastewater applied to the mound system must not be higher in strength than 220 mg/l BOD_5 or 145 mg/l TSS). Lower wastewater strengths, without increased flow rates are preferable for assuring long term operation of a mound system. High-strength wastewater shall require pretreatment in order to reduce its strength prior to introduction into a mound system.

B. Daily Wastewater Flow - Design Estimates

The minimum wastewater design flow shall be as specified in Chapter 6 of this Part of the Manual.

C. Locational Requirements

The minimum setback requirements for mound systems will be the same as those for a standard gravity drainfield or leach bed.

D. Design Standards

1. Media Specifications. Filter media must meet the requirements outlined in Part 2 of this Manual.
2. Minimum Effective Soil Depth

   A minimum of 18 inches of undisturbed, unsaturated, original soil as measured from the original ground surface is required for placement of a mound after all clearing, leveling and other site disturbance during lot development is complete.
3. Media Specifications.
   a. Filter media must meet the specifications outlined in Part 2 of this Manual.
   b. In order to prevent differential settling when the mound is put into service, the filter media must have a uniform density throughout.
4. Application Rates.
   a. The application rate for the mound infiltration area (gravel bed) must not exceed 1.0 gpd/ft^2.
   b. The application rate for basal area will be based on soil type.
5. Minimum Dosing Frequency

   Timed dosing system is required. The dosing frequency or dose volume is dependent on the media specification used as the filter material. To as-

sure that appropriate dose volumes are delivered to the mound system, the timer must be set to dose a minimum of 12 times daily.

E. Installation

Unless otherwise specified in this Manual, mound systems shall be installed following the procedures and specifications delineated in the "Recommended Standards and Guidance for Performance, Application, Design, and Operation & Maintenance Mound Systems" (Washington State Department of Health, July 2012). . Copies of this document will maintained and provided by the LEA.

1. Cap and Topsoil Depth
   a. The cover soil must be capable of maintaining vegetative growth while not impeding the passage of air (sandy loam or coarser) and be contoured and landscaped in accordance with the approved construction plan and permit requirements in order to shed water, control erosion and to prevent surface drainage onto the sand filter.
   b. The final settled depth of the cap and topsoil should be no less than 12 inches above the center and 6 inches above the outer edge of the bed. Additional depth of topsoil may be needed during final construction activities to assure that the minimum depths are achieved following natural settling of the soil.
   c. The mound must not be left without a vegetative cover or allowed to be covered with weeds. Mowed turf grass and turf sod are the best vegetative covers for mounds.

F. Mound Placement

1. On sloping sites, the mound must be aligned with its longest dimension parallel to the site contours so as not to concentrate the effluent into a small area as it moves laterally down slope.
2. The mound must not be aligned, by design or construction, perpendicular to the contours.
3. On all sites the infiltration bed must be as long and narrow as possible to limit the linear loading rate of effluent to assure that all the effluent infiltrates into the natural soil before it reaches the toe of the filter media.
4. If the site does not permit the design of a "long and narrow" mound along the contours of the site, other on-site sewage treatment and dispersal technology must be selected. Mound systems are only suitable for sites where all of the design and siting criteria can be satisfactorily met.
5. Two or more beds on the same downhill plane.

G. Effluent Dispersal within Mound

A method providing uniform distribution with timed dosing throughout the bed in the filter media is required, either through use of pressure distribution as specified in Chapter 10 of this part of the Manual, or through use of subsurface drip irrigation, as specified in Chapter 10 of this part of the Manual.

H. Monitoring and Observation Ports

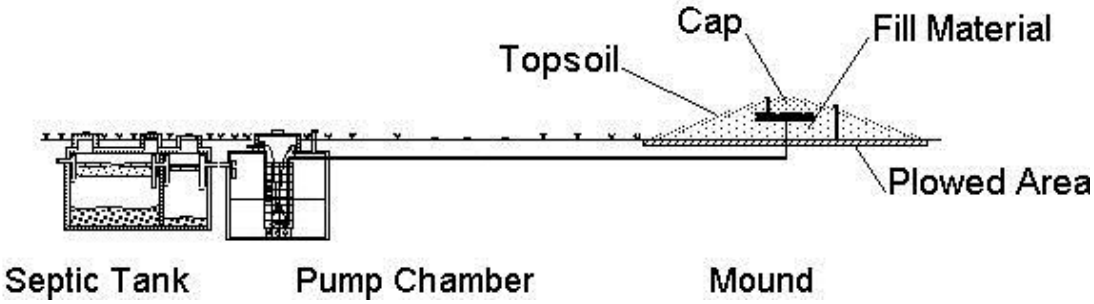
Each mound should have a minimum of two monitoring and observation ports, one placed in the infiltration bed down to the gravel-sand, and one down slope from the bed down to the sand-native soil interface. Unless otherwise specified in this Manual, down gradient observation and monitoring ports shall be installed as specified in the Mound System Manual (State Water Resources Control Board) in its current final draft or as hereafter adopted and updated by the State Water Resources Control Board.

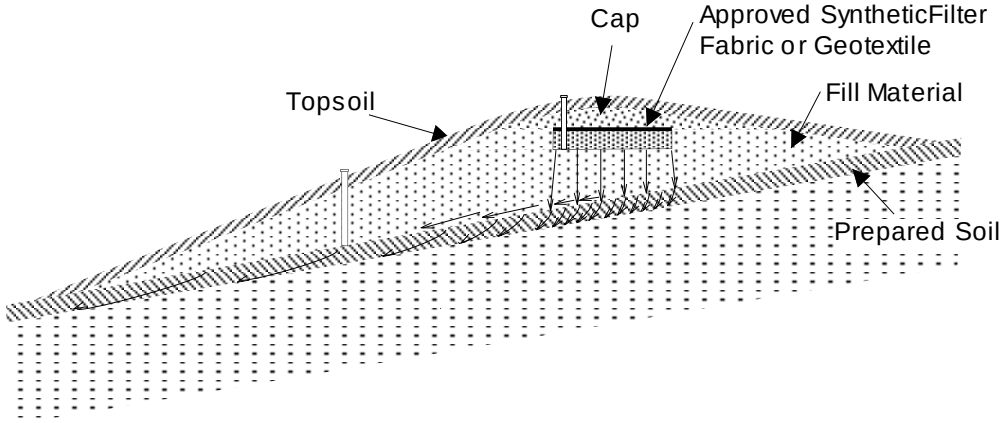
I. Protection of mound system placement area

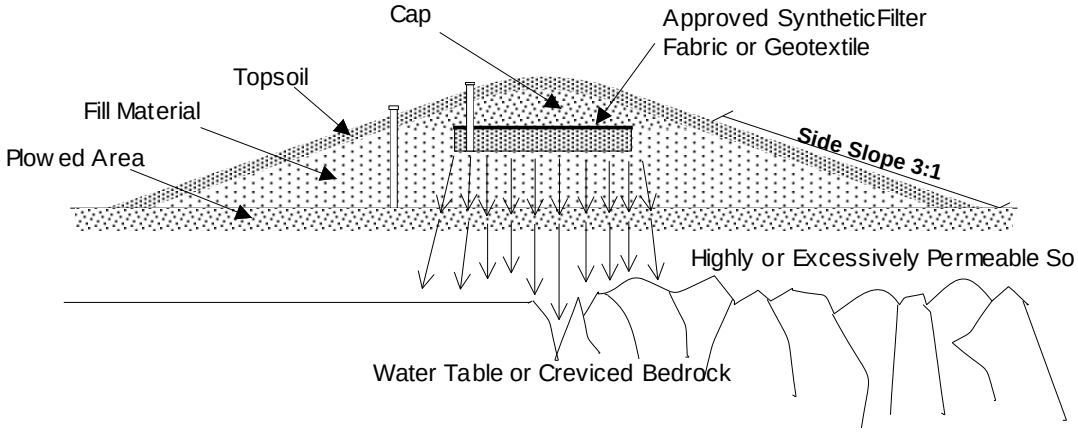
The designer will be responsible for the adequacy of, and the installer's substantial compliance with, the installer's construction plan. The construction plan must include provisions addressing:

1. Type of excavation equipment that will be used
2. Routes of ingress and egress of construction vehicles to assure maximum protection of the mound placement area
3. Means to assure that the area reserved for system replacement is not disturbed during the mound construction process including as necessary, instructions for erecting a temporary construction fence to protect the primary and reserve mound areas and adjacent area down slope of the mound placement area
4. Method to assure that soil moisture content is sufficient to allow construction of the mound without soil compaction or smearing
5. Method for preparing the native soil-filter material interface
6. Method for removing native vegetation

J. System Drawings


Cap
Fill Material
Topsoil
Plowed Area
Septic Tank
Pump Chamber
Mound


Cap
Approved SyntheticFilter
Fabric or Geotextile
Topsoil
Fill Material
Prepared Soil


Cap
Approved SyntheticFilter
Fabric or Geotextile
Topsoil
Fill Material
Plowed Area
Side Slope 3:1
Highly or Excessively Permeable So
Water Table or Creviced Bedrock

Chapter 14. Engineered Fill

A. Pre-Treatment

Wastewater discharged into engineered fill will have supplemental treatment meeting the effluent specifications specified in this Manual.

B. Site/Fill Evaluation

1. Primary and replacement area will be analyzed by a California registered civil engineer to assure that breakout of wastewater will not occur outside the boundaries of the disposal area.
2. Site preparation and placement of fill must be under the direct supervision of a California registered professional geologist, engineer, or nationally certified soil scientist.
3. Engineered fill shall be evaluated for winter groundwater when site conditions or previous groundwater monitoring results indicate the seasonal groundwater level may be less than two feet from original grade.
4. Engineered fill shall be evaluated after stabilization by the LEA and supervising engineer, geologist, or soil scientist for adequate permeability and percolation.
5. At least 3 percolation tests shall be performed on the consolidated fill soil after placement.
6. A minimum of two sieve analyses shall be conducted prior to placement to test for oversize material.

C. Native Receiving Soil

1. Native soil depth shall be a minimum of 12 inches (after removal of the organic top soil layer) in all areas of the proposed drainfield and repair area.
2. If the limiting layer consists of material coarser than sand, or fractured material, the system designer shall demonstrate that there will be no saturated soil conditions formed at the soil/limiting layer interface due to capillary forces in the soil.

D. Fill Material

1. Fill shall compensate for the lack of in-place soil at a 1.5 to 1 ratio so that a one foot deficiency in soil column depth shall require one and one half feet of fill. A minimum of 12 inches of compensating fill shall be required.
2. Fill will be engineered to the specifications of loamy sand with no more than 15% fines. At least 75% of fill material shall pass the 2mm sieve. Any sieve analysis falling outside of a loamy sand specification shall be cause for rejection of all fill material.

3. Engineered fill, after stabilization, must have a percolation rate between 5 and 60 mpi.
4. All organic material and material over 1" in diameter shall be removed from fill.

E. Dispersal

1. Pretreated effluent application rate shall be applied by drip irrigation at a maximum application rate of 0.2 gallons/square foot/day.
2. The drip line layout design shall be reviewed by the approved subsurface drip system manufacturer's factory trained designer.
3. The emitters will be placed at the top of the compensating fill layer, with an additional minimum 12 inches of cover material over the emitters.

F. Construction

1. The slope in the area to be filled shall be no more than 20% slope. For slopes greater than 20%, a slope stability analysis by a California registered geotechnical engineer shall be provided.
2. The organic top soil layer shall be removed from the native soil. Grubbed, native soil shall be worked with a chisel or shank plow with crawler or tracked equipment (no rubber tired vehicles allowed) to scarify the top 4". All stumps and roots in excess of ¼" diameter shall be removed from the native soil.
3. If fill soil must be transported to the fill site over long distances, care shall be taken to prevent excessive segregation of soil separates.
4. Fill shall be placed as dry as possible and when its moisture content will not cause excessive compaction.
5. An initial fill soil lift of 6” shall be blended into the scarified native soil. Subsequent lifts of fill shall be no greater than 6". The top 2 to 3 inches of each subsequent lift shall be scarified prior to addition of subsequent lifts.
6. After placement, soil shall be consolidated by a means chosen by the design engineer (e.g. light compaction by tracked equipment, by allowing the soil to consolidate naturally over a rainy season, or by watering with at least the estimated pore volume of the fill).
7. Side slopes of any soil “mound” shall be a 3 to 1 slope. For low transmissivity soils a certified design consultant may design shallower slopes. The side slopes shall begin 48 inches from any dispersal line.
8. After fill is placed and approved, system shall be crowned with a loam or sandy loam soil type to create a final cap. The bed cap shall be seeded

with shallow rooted grass. Seeded areas shall be watered as necessary to establish and maintain vegetation over the life of the unit.

9. "Toes" of built areas shall remain accessible and visible with no vegetation taller than two inches high.
10. Each system shall be provided with one up gradient and two down gradient shallow monitoring wells finished into the limiting layer.

Chapter 15. Curtain Drains

A. A curtain drain may be required to intercept and/or drain water from a dispersal area. It shall be required to demonstrate that the site can be de-watered prior to issuing a permit.

B. Curtain drains are considered an integral part of the onsite wastewater system and will meet the minimum setback requirements to drainfield and repair areas and to the septic tank as set forth in this manual. However, curtain drains do not need to meet setback requirements to property lines, streams, lakes, ponds or other surface water bodies provided the designer certifies that the curtain drain will not pick up wastewater.

C. The curtain drain will consist of a trench a minimum of 12 inches wide dug to a depth of at least 6 inches into a limiting impermeable layer. There must be a minimum of 6 inches of pea gravel in the bottom of the trench on which a 4 inch perforated pipe is placed.

D. The curtain drain trench must be filled with drain rock. Prior to backfilling the trench, the drain rock must be enveloped and covered with filter fabric.

E. The trench must be situated so that captured water drains by gravity flow out of outlet pipes. Trench bottoms will maintain a minimum of 1% slope throughout the drainage trench. In areas where the outlet pipe will be subject to damage, the pipe must be adequately protected.

F. In the event that the discharge outflow from a curtain drain will impact a neighboring property, the trench outlet from a curtain drain will only discharge into a drainage channel or other conveyance designed for the transport of water, unless otherwise approved by the LEA.

Chapter 16. Off-Site Sewage Easements

A. When a system cannot be located on the lot or parcel to be served, an off-site easement may be considered.

B. Off-site easements may not be considered as an option for creating new lots or parcels, except when utilized for placement of and/or connection to a community wastewater system.

C. Whenever a system crosses a property line separating properties under different ownership, a recorded easement and/or covenant against conflicting uses must be provided. For properties under common ownership a recorded deed restriction must be provided.

D. Exhibits and legal descriptions of easements and deed restrictions must be prepared by a licensed land surveyor. Unless otherwise indicated by the LEA, a licensed surveyor will flag or otherwise delineate the easement area for field inspection.

Chapter 17. Non-Standard Non-Supplemental Treatment Systems

Non-standard non-supplemental treatment systems are onsite wastewater systems designed to address specific site and/or generation considerations. Examples include: steep slope systems, commercial systems, holding tanks, seepage pits, vault privies, and portable toilets.

A. Steep Slope Systems

When the site's ground slope in the drainfield area exceeds 30%, the following additional requirements and restrictions will apply:

1. A certified designer will design the system.
2. Steep slope systems are not permitted for creating lots and parcels.
3. Steep slope systems for existing parcels may only be developed in conformance with the county General Plan, zoning restrictions, recorded restrictions and notes on the subdivision or parcel map, and any other applicable county requirements.
4. For purposes of determining effective soil depth and vertical separation, the depth of limiting layer beneath the bottom of the trench must be measured from the upslope side of the drainfield trench bottom
5. The maximum trench width shall not exceed 24 inches.
6. The certified designer will provide a report verifying slope stability prepared by a geotechnical engineer.
7. The wastewater system must utilize pressurized or subsurface drip dispersal.

B. Non-Residential Systems

1. A certified designer will design the system.
2. High strength waste must be pretreated to domestic waste strength as described in Chapter 1 of this part of the Manual prior to discharge to the treatment and dispersal system.

3. For projected daily sewage flows up to 1,500 gallons, the septic tank will have a liquid capacity equal to at least one and a half days sewage flow, or 1,500 gallons, whichever is greater.

C. Non-Discharging Wastewater Systems

1. Holding Tanks

A holding tank is a watertight container designed to receive and store wastewater for disposal at another location. When a holding tank is proposed, the following requirements will apply:

a. The site cannot be approved for the installation of a standard gravity system or supplemental treatment system.

b. No area-wide public sewer system is legally and physically available.

c. The tank will serve only non-residential and non-commercial, limited use applications, such as a limited agricultural buildings and recreational facilities.

d. The cumulative daily design sewage shall not exceed 150 gallons per day.

e. The tank meets the specifications and is tested for water tightness as specified in Part 2 of this Manual.

f. The owner of the property will record a deed restriction agreeing to be served by a public sewer system when connection is feasible and described in the Onsite Wastewater Ordinance.

g. The owner will provide the LEA with:

(1) A copy of a contract with a LEA certified septic tank pumper that shows the tank must be pumped at regular intervals or as needed to prevent use of greater than seventy-five (75) percent of the tank's capacity. The contents of the tank must be disposed of at an approved septage receiving facility, in an approved manner; and

(2) A record of pumping dates and amounts pumped must be maintained by the property owner and made available to the LEA upon request.

h. A holding tank must be designed and installed under the inspection and approval of a certified designer.

i. Each tank will have a minimum liquid capacity of fifteen hundred (1,500) gallons.

j. Holding tanks will not be used as a method for sewage disposal for creating lots and parcels.

k. An Operating Permit will be required.

l. All installations will meet the following:

(1) Be located and designed to facilitate visual inspection and removal of contents by pumping

(2) Be equipped with both an audible and visual alarm, transmitted to an appropriate off site location for remote notification or placed in another location acceptable to the LEA, to indicate when the tank is seventy-five (75) percent full. Only the audible alarm will be user cancelable

(3) Have no overflow vent at an elevation lower than the overflow level of the lowest fixture served

2. Vault Privies

A vault privy is a structure used for disposal of human waste without the aid of water. It consists of a shelter built above a subsurface vault into which human waste falls. The vault privy has no water connection. When a vault privy is proposed, the following requirements will apply:

a. The vault privy will only serve non-residential and non-commercial, limited use applications, such as primitive type picnic grounds, campsites, camps and recreation areas where septic tank and leach field systems are not practicable as determined by the LEA. Approval to permit vault privies will be considered by the LEA on a case-by-case basis.

b. The vault must be constructed in substantial compliance with the specifications for septic tanks and tested for water tightness as described in Part 2 of this Manual.

c. Vault privies shall not be sited in a floodway, and must be maintained to prevent health hazards and pollution of public waters.

d. An Operating Permit will be required.

e. The privy vault will not be allowed to become filled with excreta to a point within two (2) feet of the ground surface.

f. The excreta in the vault must be pumped out by a certified septage pumper as necessary to fulfill these requirements.

g. The privy must be maintained in a sanitary condition and in good repair.

h. No water-carried sewage may to be placed in vault privies. Contents of vault privies will not be discharged into storm sewers, on the surface of the ground or into public waters.

i. Structures must be free of hazardous surface features, such as exposed nail points, splinters, sharp edges, and rough or broken boards, and will provide privacy and protection from the elements.

j. Building ventilation must be equally divided between the bottom and top halves of the room. All vents must be screened with sixteen (16) mesh screen of durable material.

k. Buildings must be fly and rodent resistant, and will have self-closing doors with an inside latch.

l. Vaults must be vented to the outside atmosphere by a flue or vent stack having a minimum inside diameter of four (4) inches.

m. Interior floors, walls, ceilings, partitions, and doors must be finished with readily cleanable impervious material resistant to wastes, cleansers and chemicals. Floors and risers must be constructed of impervious material and in a manner that will prevent entry of vermin.

n. The seat opening must be covered with attached, open-front toilet seats with lids, both of which can be raised to allow use as a urinal.

o. A toilet tissue holder must be provided for each seat.

p. Holding chambers must be watertight and constructed of reinforced concrete, plastic, fiberglass, metal, or other material of acceptable durability and corrosion resistance, approved by the LEA, and designed to facilitate the removal of the wastes.

q. Vents must be sized to equal in area to a minimum of three (3) square feet.

r. A minimum clear space of twenty-four (24) inches between multiple unit installations and a clear space of twelve (12) inches from the seat opening to the side building wall in single and multiple units.

3. Portable Toilets

A portable toilet is any self-contained chemical toilet facility that is housed within a portable toilet shelter. The portable toilet has no direct water connection.

a. Portable toilets are intended to serve non-residential, limited use applications, such as primitive type picnic grounds, campsites, special events, and temporary construction sites where septic tank and leach field systems are not practicable as determined by

the LEA. Portable toilets will not be used for residential or commercial applications.

b. An Operating Permit will not be required for temporary use of portable toilets.

c. Portable toilets must be maintained to prevent health hazards and pollution of protected waters.

d. No water-carried sewage may to be placed in portable toilets.

e. Contents of portable toilets will not be discharged into storm sewers, on the surface of the ground or into protected waters.

f. The requirements listed for vault privies, H through Q will also apply to portable toilets and are hereby incorporated by reference.

g. Portable toilets will have toilet bowls constructed of stainless steel, plastic, fiberglass, or ceramic or of other material approved by the LEA.

h. Waste passages will have smooth surfaces and be free of obstructions, recesses or cross braces that would restrict or interfere with flow of blackwater.

i. Biocides and oxidants must be added to waste detention chambers at rates and intervals recommended by the manufacturer.

j. Chambers and receptacles will provide a minimum storage capacity of 50 gallons per seat.

k. Portable toilet shelters will:

(1) Display the business name of the licensed sewage disposal service that is responsible for servicing them.

(2) Provide screened ventilation to the outside atmosphere having a minimum area of one square foot per seat.

(3) Provide a minimum floor space outside of the riser of 9 square feet per seat.

(4) Provide separate compartments with doors and partitions or walls of sufficient height to ensure privacy in multiple unit shelters except that separate compartments are not required for urinals.

D. Seepage Pits

A seepage pit is a drilled or dug cobble or gravel filled excavation installed to allow disposal of effluent from a septic tank or other on-site wastewater treatment unit. When a seepage pit is proposed, the following requirements will apply:

1. Seepage pits will not be used:

a. to create lots and parcels; or

b. when connection to a public sewer is feasible as described in the Onsite Wastewater Ordinance; or

c. when the site meets the requirements for other system types described in this Manual.

2. Seepage pits must be a minimum of thirty-six (36) inches in diameter.

3. The seepage pit must be filled up to the concrete collar with cobbles that are a minimum of three (3) inches in diameter in any dimension or with other drain rock approved by the LEA. The cobbles or drain rock must to be washed clean so as to be free of debris and dirt.

4. A system with multiple pits must be designed so each pit within the system receives equal quantities of sewage flow via distribution boxes.

5. Seepage pit header pipe inlets, risers, and collars must be watertight.

6. A minimum distance equal to twelve (12) feet of undisturbed soil will separate two or more seepage pits from each other.

7. Requirements When Seepage Pit is Utilized for New Construction

a. At least one test boring to groundwater or ten (10) feet below the proposed design depth of the pits must be made in the lowest area of the proposed disposal area to evaluate soils. Additional test pits may be required at the discretion of the LEA to determine the suitability of the site for on-site sewage disposal.

b. Seasonal groundwater monitoring must be required to assure a vertical separation of 10 feet on a year-round basis.

c. Supplemental treatment will be required prior to discharge into seepage pit.

d. Seepage pits may be used only to service a single-family residence.

e. The depth of the seepage pit must be at a minimum of fifteen (15) feet and a maximum of thirty-five (35) feet below the ground surface.

f. Effective soil type for discharge from the pit must be limited to sand or loamy sand, with or without gravel.

g. An acceptable test boring will have a cumulative minimum 3-foot column of effective soil

h. There must be a minimum excavation of one pit per bedroom.

i. The seepage pit system must be designed by a certified designer.

8. Requirements When Seepage Pit is Utilized for System Repair

a. The LEA may allow exceptions to the requirement for supplemental treatment of wastewater prior to discharge into seepage pits when one of the following two circumstances apply:

(1) When all the following safety factors that minimize potential public health and water quality impacts of discharging wastewater into seepage pits apply to the system repair:

(i) The parcel with the failing system is serviced by a public water system;

(ii) A setback of 200 feet is maintained between the seepage pit and any surrounding well; and

(iii) Vertical separation to anticipated groundwater is increased by 50%.

(2) When the owner of the system being repaired declares a financial hardship and records a declaration on the property deed stating that the onsite wastewater system has been repaired in a manner that is nonconforming to the requirements of this Manual and acknowledging that supplemental treatment will be required at the time of property transfer.

Chapter 18. Graywater Reuse

A. Adoption by Reference.

The provisions for graywater systems specified in the California Plumbing Code are hereby adopted by reference and incorporated herein as minimum standards for graywater systems, unless otherwise noted in the Section.

B. No graywater system shall be approved, designed, constructed, or maintained unless a person or entity has been identified to operate and maintain the system in accordance with the requirements specified in the California Plumbing Code.

C. No person shall construct or maintain a graywater system unless the structure is served by a non-failing on-site wastewater system sufficiently sized to accommodate the full daily wastewater load generated by those using the structure.

D. LEA Notification Review and Permitting Requirements

1. Graywater systems identified as Clothes Washer Systems in the California Plumbing Code (systems designed to reuse only laundry waste) require only notification of the LEA.

2. Graywater systems identified as Simple Systems in the California Plumbing Code (systems designed to reuse 240 gallons per day or less of graywater) will require plan review by the LEA in addition to notification and

may require a plumbing permit from the Butte County Building Department.

3. Graywater systems identified as Complex Systems in the California Plumbing Code (systems designed to reuse over 240 gallons per day of graywater) will require a Construction Permit issued by the LEA and will require a plumbing permit from the Butte County Building Department.
4. Unless otherwise authorized by the LEA, review of graywater systems requiring a Construction Permit will include:
   a. Soil evaluation or percolation testing in the manner specified by the LEA as appropriate for the intended use;
   b. Review of the design submitted by a qualified professional;
   c. Review of the system's operational manual as specified in Part Four of this Manual;
   d. Inspection of construction by the LEA.
5. Except for removal of solids from a septic tank by a certified pumper, no person shall service or replace an approved graywater system's components without first notifying the LEA so that parcel files can be updated, trends in equipment reliability can be tracked, and so that the person can be advised of any technical up-dates relevant to service that will be provided.

Chapter 19. Requirements for the Repair/Replacement of Failing Systems

When on-site wastewater system repairs are made, the system must be brought into compliance with the provisions specified in the new On-Site Wastewater Systems Ordinance and On-Site Wastewater Manual "…to the maximum extent feasible."

The following guidance outlines how this requirement is to be interpreted; however the EH Director may consider exceptions based on unique circumstances.

A. Whenever a failing onsite wastewater system results in sewage flowing or ponding onto the surface of the ground, immediate action such as pumping the septic tank must take place within 24 hours if feasible and in no case longer than 48 hours. In addition, the homeowner needs to be advised to immediately reduce to a minimum their use of water in order to reduce wastewater loading of the system.

B. Any on-site wastewater system that has been permitted by this office will not be required to upgrade to current standards as long as the system does not fail, resulting in backup of sewage into the structure being served or surfacing sewage.

C. Septic Tank

1. Upgrade to current tank capacity standards[12] will be required when either:
   a. The existing tank is significantly undersized, substandard in construction, or located with inadequate setbacks to prevent maintenance; or
   b. The existing tank is found to be leaking.
2. Existing septic tanks will be considered significantly undersized and must be brought up to current standards when the tank volume is less than the minimum volume shown in the following table:

Number of Bedrooms	Minimum Tank Volume(gallons)
1	750
2-4	1,000
5	1,250
6	1,500

3. Mobile Home Park Community Systems: When determining whether a septic tank needs to be upgraded, based on volume considerations, the following design factors need to be considered by staff:
   a. Actual and potential daily wastewater volume:
      - Design flow (250 gpd/mobile home)
      - Number of bedrooms
      - Occupancy
   b. Generally, two mobile home units are the most that can be allowed to be served by a single 1,000 gallon septic tank.
4. Wooden, leaking, or deteriorating tanks will need to be replaced due to concerns about structural integrity, substandard construction, and potential leakage. **Note**: Wooden tanks identified through routine septic pumping will be considered substandard and require replacing with an approved tank as specified in the On-Site Wastewater Manual.
5. The LEA will not authorize installation of a wooden cover on a septic tank due to the inability of the replacement lid to be watertight and have the needed structural integrity to be safe. On a case-by-case basis, the LEA may consider approval of an engineered concrete top replacement for a concrete septic tank, provided the tank is not located in an area with high seasonal groundwater.
6. Leaking clamshell septic tanks may be sealed rather than replaced, provided:

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12 Current standards require a 1,500 gallon septic tank for up to a 4-bedroom residence and an additional 200 gallons for each bedroom thereafter.

a. The work is performed by a Certified Installer;

b. The Certified Installer notifies the LEA as provided in the On-Site Wastewater Ordinance;

c. The Certified Installer completes and submits to the LEA an As-Built on the form provided by the LEA that verifies that the 24-hour leak test was performed and the tank did not leak; and

7. Septic tank leak testing will be required for all septic system repairs, except this requirement may be waived by the LEA for existing septic tanks serving occupied dwellings when the following conditions are met:

a. The tank is pumped and observed to be in good structural condition; and

b. The tank is not located in an area with high watertable.

C. Test Hole Analysis

Soil test holes will be required for determining dispersal field size and depth except when soil records in the files are sufficiently detailed and complete for determining optimal dispersal field size and depth. In order to meet this requirement, soil log data must be from a location in proximity to the proposed dispersal field and recorded in sufficient detail to determine application rate and depth to a restrictive layer, if present.

D. Guidance for Requiring a Certified Designer

1. Some parcels requiring wastewater system repair have one or more site constraints making design of the replacement system challenging and more complex. Site constraints could be due to parcel size, location of existing structures, landscaping features, and site characteristics requiring setbacks.

2. When the LEA believes site constraints are of such a serious nature as to require the use of a Certified Designer, the property owner will select a Certified Designer to assist with evaluating the site and designing the replacement wastewater system.

3. Unless an exemption is granted by the Environmental Health Director or Land Use Manager, the LEA will **REQUIRE** use of a Certified Designer when **BOTH** of the following site constraints apply:

a. Insufficient useable drainfield area is available for dispersal field sized on the basis of trench bottom area only; and

b. No additional area is available for future repair after placement of current repair.

4. When parcels have only **ONE** of the two site constraints listed above, but also have one or both of the following additional site constraints: (i.) Less than 12

inches of vertical separation (distance between dispersal field bottom and restrictive layer or seasonal water table) for dispersal field; or (ii.) Receiving soil identified as a Class A, E, (or undesignated), the LEA will meet with the property owner and the Certified Installer to:

a. Explain to the homeowner the risk and potential cost of future repairs; and

b. **RECOMMEND** that the homeowner utilize the services of a Certified Designer to design the repair system.

E. Insufficient Useable Drainfield Area

When there is insufficient useable area on a parcel to repair a system using bottom area only for drainfield sizing, the LEA may consider one of the following alternatives:

1. Determining required bottom area using percolation testing;
2. Increasing trench width;
3. Use of a bed instead of trenches;
4. Use of pressurized distribution for a 25% sizing reduction;
5. Use of supplemental treatment and pressurized distribution for a 50% sizing reduction; or
6. Use of sidewall area using the calculations specified in the Manual of Septic Tank Practice.

F. The LEA may require additional design features when there is evidence that a wastewater system sized on the basis of the number of bedrooms alone would be undersized and subject to premature failure. The following table shows the maximum occupancy for a residence when the design flow is based solely on the number of bedrooms:

Number of Bedrooms	Maximum Occupancy	Design Flow (based on 60 gpd/occupant)
2	4	240
3	6	360
4	7	420
5	8	480

G. Use of a Bed in Lieu of Trenches

1. Definition of a "Bed System": A dispersal system is designated a "bed" system or a "seepage bed" when the excavation width exceeds 36 inches. Bed systems may

be a viable option for system design when site constraints do not allow placement of a conventional trench system meeting current sizing requirements.

2. Special distribution considerations: To assure that the entire bottom area of the bed will be utilized for dispersal, that treatment by the receiving soil will be maximized, and that localized groundwater mounding will be minimized, bed systems may be required by the LEA to utilize pressurized distribution.

3. Special sizing considerations for bed systems wider than 4 ft: Dispersal systems are sized based on the anticipated quantity of wastewater (design flow) and the capacity of the receiving soil to disperse the wastewater (application rate). Only the bottom area of the dispersal field is used for its sizing. From time to time, however, the design flow may be exceeded for short periods of time. Under such conditions of peak loading, trench sidewall dispersal provides an additional safety factor for conventional trench systems. Because bed systems have limited sidewall area in relationship to bottom area, bed systems wider than 4 ft need to be increased in size by 50%. If pressurized distribution is utilized the size will only need to be increased by 25% (based on a 50% increase per the UCP, minus the 25% credit for the use of pressurized distribution).

4. Special construction considerations:

   a. Beds should be constructed only when the soil is sufficiently dry so that it will not seal or compact during installation

   b. No excavation equipment, including tracked vehicles, should be used inside of the bed

H. Equal Distribution

1. Equal distribution by appropriate placement of “T”s and distribution boxes will be required within the dispersal field;

2. When site conditions do not allow equal distribution using gravity dispersal, pressurized distribution will be required.

I. Pump and Pressure Distribution

Gravity systems will be required to utilize pumps and pressurized distribution as follows:

1. Utilization of an Effluent Pump: An effluent pump is required when the depth of the plumbing without its use would result in either:

   a. Effluent discharged less than 12 inches above a restrictive layer such as hardpan or a seasonal watertable (as evidenced by mottling or presence of groundwater) and use of the pump would significantly increase the vertical separation, or

b. The bottom of the dispersal field being deeper than 5 ft below finished grade.

2. Utilization of Pressurized Distribution: Whenever a pump is required for a system repair, as specified in Subsection a, above:

a. Staff will explain the benefits of using pressurized distribution;

b. Pressure distribution will only be required when a pump is needed as specified in Subsection 1.a. of this section, and when equal distribution utilizing gravity dispersal is not feasible due to site constraints.

J. Supplemental Treatment

Wastewater systems will be required to utilize supplemental treatment when one of the following conditions has occurred and an alternate remedy is unavailable:

1. The site is located in a designated Area of Environmental Concern and supplemental treatment is specified as a mitigation; or

2. Effluent dispersal is into a soil that is seasonally inundated by groundwater (i.e., 0 vertical separation); or

3. Available area for the dispersal field is significantly undersized based on the daily design flow and application rate of the receiving soil; or

4. The dispersal field will be excavated closer than 50 ft to a down gradient (unlined) surface water or closer than 25 ft to an up-gradient (unlined) surface water; or

5. Wastewater strength is significantly greater than domestic strength.

K. Requirements Pertaining to Minor Repairs Requiring LEA Notification and Plan Review under Section 19-7 D.2. of On-Site Wastewater Ordinance:

1. In general, a minor wastewater system modification or repair that does not require completion of a Site Assessment or soil evaluation, or involves replacement of no more than 10 ft of drainpipe due to crushing or root intrusion does not require a full Construction Permit.

2. No on-site wastewater system components can be serviced or repaired without notifying the LEA for plan review.

3. Other than replacement of septic tank inlet and outlet T's or replacement of septic tank lids, LEA Notification and Plan Review must take place BEFORE the service is performed.

4. LEA staff will make plan review a high priority activity, typically performed by a simple telephone call to the LEA and conversation with an inspector. Photographs

sent via email may, at the LEA's discretion, be accepted in lieu of an actual site inspection.

5. When a site inspection is not waived by the LEA, an inspection by the LEA will be performed whenever possible while the installer is on site performing the component replacement or modification and no later than one working day from the date of notification and plan review or else the installer is authorized to complete the work and cover the system.

L. Whenever, in the determination of the LEA, insufficient area will remain for system replacement in the event of failure of the current repair being permitted, the APN file will be clearly flagged with this information and Trakit will be flagged so that the information will be readily accessible by future property owners.

Manual - Part 4 - Operation, Monitoring, and Maintenance

Part Four: Operation, Monitoring, and Maintenance (OM&M)

Chapter 1. Applicability

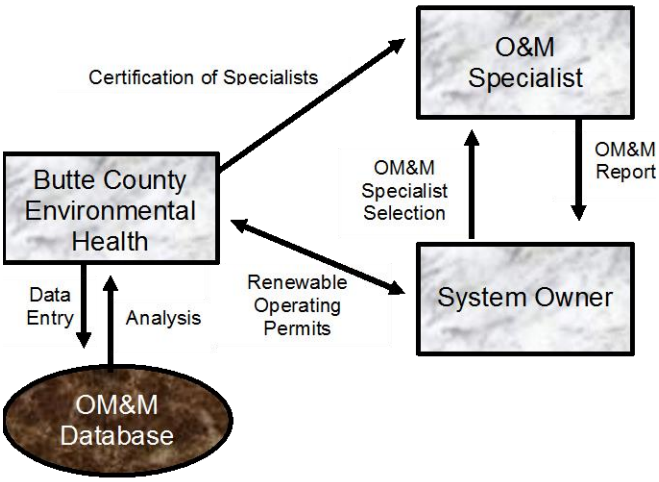
A. The program will apply to new and repair on-site wastewater systems as specified in the On-Site Wastewater Ordinance and this Manual.

B. Owners of existing systems that do not include pressure distribution, subsurface drip irrigation, or supplemental treatment will be encouraged to voluntarily opt into the program.

Chapter 2. Administration

A. Administrative Overview

1. The program will be administered county-wide by the LEA.
2. Any required OM&M inspections will be performed by certified OM&M Specialists.
3. OM&M Specialists are individuals or corporations who are certified by the LEA.
4. The LEA may perform OM&M inspections for quality assurance surveys and investigations.
5. The diagram shows the relationship between the parties involved in the program.



B. Roles and Responsibilities

1. LEA:
   a. Develop and administer the OM&M program in consultation with the Butte County On-Site Wastewater Advisory Committee.
   b. Establish a record keeping and reporting system to ensure that up-to-date records are kept of the location, ownership, site evaluation, design, and OM&M reports so that performance of the systems can be monitored.
   c. Assure ongoing program quality control and quality assurance.
   d. Monitor and analyze the performance of on-site systems within the County by reviewing OM&M data in relationship to written performance standards.

e. Inspect supplemental treatment systems located within the Cleveland Hills Alquist-Priolo Earthquake Fault Zone in the event of an earthquake centered on the Cleveland Hills Fault resulting in appreciable surface fault displacement.

f. Inspect supplemental treatment systems in the event of an earthquake centered within 25 miles of Butte County with Richter Magnitude of 5.0 and above.

g. Assure timely follow up and correction, including enforcement action, when problems are encountered with individual wastewater systems or with treatment and dispersal technologies which are being monitored through this OM&M program.

2. System Owner

a. System owner must use the on-site system in conformance with its design parameters

b. Participates in the OM&M program as outlined in this document

c. Assures continued operation and maintenance of their on-site wastewater system consistent with the On-Site Wastewater Ordinance and this Manual

d. Must report any system malfunctions resulting in surfacing sewage to the LEA within 24 hours of discovery

e. Must contact an OM&M Specialist within 24 hours of discovering the following conditions that could indicate system malfunction requiring major system repair:

(1) Persistent and excessive odor of sewage

(2) Activation of the system audible and/or visual alarm

(3) Wastewater backing up into the plumbing fixtures, toilets not flushing properly, or sink drains not functioning

f. Must obtain permits, procure services, and pay fees as may be necessary to correct deficiencies in on-site system identified by the LEA or the OM&M Specialist

3. Certified Pumper

a. Pump septic tank and inspect the tank for integrity, including baffles and “T”s.

b. Report findings on a standardized form provided by the LEA and submit completed forms to the LEA on no less than a monthly basis.

c. Any malfunctions resulting in surfacing sewage must be reported to the LEA within 24 hours of discovery.

4. Certified Designer
   a. For each system designed, develop and provide a system owner's OM&M Manual, as described in Chapter 3 of this Part of the Manual. An electronic version of the OM&M Manual must be provided to the LEA for review and for archival purposes.
5. Proprietary System Authorized Agent
   a. Assure that instructions regarding OM&M of the system or device is provided to the LEA, designer, and owner of the residence or facility
   b. Provide instructions in sufficient detail for maintenance to be achieved through certified OM&M specialists
6. Certified OM&M Specialist
   a. Meet and maintain the requirements for certification outlined in this program
   b. Provide all required maintenance and monitoring reports to the LEA within 30 days of service
   c. Report to the LEA within 24 hours of discovery any system malfunctions resulting in surfacing sewage or in the judgement of the OM&M Specialist, will require major system repair
   d. Notify the LEA of system maintenance activities as specified in the On-Site Wastewater Ordinance.
7. Wastewater Advisory Committee

   Assist the LEA in the development, adoption, oversight, evaluation, and improvement of this OM&M program

Chapter 3. Program Elements

A. Homeowner Education

The LEA will establish methods for increasing public understanding about the proper use and care of on-site systems. The program goal is to provide system owners with the information they need to properly operate and maintain their systems.

B. OM&M Data Management

The LEA will track the maintenance and performance of all systems in the OM&M database.

C. OM&M Manual

1. For standard gravity systems, the LEA will provide an informational packet to new owners at the time of installation and at change of ownership.
2. For supplemental treatment systems, the certified designer will provide the homeowner's with an OM&M Manual and provide an electronic version to the LEA for archival purposes.
   a. The OM&M Manual will be supplemented and/or updated by the certified designer when a system is repaired.
   b. The manual will include the following elements, as applicable and available:
      (1) Diagrams of the system components
      (2) Accurate, fully dimensioned as-built of the system
      (3) Explanation of general system function, operational expectations, owner responsibility, etc.
      (4) Routine maintenance schedule
      (5) Names and telephone numbers of the certified designer, certified installer, and certified OM&M Specialist
      (6) List of proprietary system components, including manufacturer name and model number
      (7) Information on "troubleshooting" common operational problems that might occur with that specific system

D. Operating Permit

1. Requirements for Approval
   a. System installation has received Final Approval by the LEA as described in Part 1 of this Manual.
   b. The OM&M Manual has been provided by the system designer for supplemental treatment systems.
   c. System has an approved, fully dimensioned As-Built document and designer certification as described in Part 1 of this Manual.
   d. For pressure distribution and supplemental treatment systems, appropriate notice of Operating Permit requirements and a Licensing Agreement have been recorded on the property deed as described in Subsection E of this Part of the Manual.
2. Operating Permit Renewal Frequency

   Operating permits, unless suspended or revoked by the LEA for non-compliance with the On-Site Wastewater Ordinance or Manual, shall be valid for a duration based on system type, as follows:
   a. Pressure Distribution: From issuance until the time of property transfer.

b. Mound or Single-Pass Sand Filter: From issuance for a period of one year.

c. Aerobic Treatment Unit or Packed Bed Filter: From issuance for a period of one year

3. Renewal Procedures

a. The LEA will notify the system owner of the need to renew their system's operating permit. The notice will list certified OM&M Specialists that may be used by the homeowner for inspecting and maintaining the system.

b. The LEA will renew the operating permit upon receipt of the appropriate fee and verification of compliance with OM&M requirements.

4. Special Inspections

a. Operating permits will include a condition to allow inspect supplemental treatment systems located within the Cleveland Hills Alquist-Priolo Earthquake Fault Zone in the event of an earthquake centered on the Cleveland Hills Fault resulting in appreciable surface fault displacement.

b. Operating permits will include a condition to allow inspect supplemental treatment systems in the event of an earthquake centered within 25 miles of Butte County with Richter Magnitude of 5.0 and above.

E. Notice on Property Deed

Owners of systems utilizing pressurized distribution and/or supplemental treatment will record, with the property deed for the benefit of future owners and successors:

1. Notice of the requirement for an Operating Permit.
2. A Licensing Agreement granting the LEA access to inspect the system after providing the property owner with prior notification.
3. Referral to Environmental Health for additional information regarding the system's operation, monitoring, and maintenance requirements and estimated cost of maintenance and replacement.

Chapter 4. Inspection Frequency and Maintenance Checks

A. Inspection Frequency

Inspection Interval (Following Initiation of System Use)	Standard Gravity System	Pressure Dist. or Siphon	Mound or Single-Pass Sand Filter	ATU or Packed-Bed Filter (1)	Disinfection Units
First 6 weeks					PL or OM
Monthly					PL or OM (if no telemetry)
6 months after initiation of use			OM	OM	
Annually			OM		
As required by the manufacturer or NSF, but not less than once per year				PL or OM	PL or OM (with telemetry)
Every 2 years		OM (Recommended Only)			
Every 5 years	PU or IN or OM (Recommended Only)				

(1) Supplemental treatment systems, other than single-pass sand filters, used for treatment prior to disinfection must be monitored monthly for the first year of operation and longer if necessary to assure treatment requirements are reliably met

PL= Proprietary Device Licensee (also must be locally certified as OM&M Specialist)

PU= Certified Pumper

INS= Certified Installer

HO= Homeowner

OM= Certified Operation, Monitoring, and Maintenance Specialist

B. System-Specific Requirements

Complexity and frequency of inspection will be related to the complexity and maintenance requirements of the system components, and based upon consideration of:

1. Recommendations of the Wastewater Advisory Committee
2. Recommendations of the manufacturer
3. Industry standards of practice

C. Minimum Inspection Requirements

1. Septic Tank
   a. Scum and sludge measurements (pumped as needed)
   b. Indication of water intrusion
   c. Integrity of tank, including observation for:
      (1) Cracks or indications of structural deterioration
      (2) Condition of inlet and outlet "T"
      (3) Condition of lids
      (4) Indication of leaks in risers
   d. Condition of effluent filter, if present
2. Pump and Dosing Chamber
   a. Scum and sludge measurements, pumping as needed
   b. Indication of water intrusion
   c. Integrity of tank, including observation for:
      (1) Cracks or indications of structural deterioration
      (2) Condition of inlet and outlet "T"
      (3) Condition of lids
      (4) Indication of leaks in risers
   d. Condition of and correct operation of all floats
   e. Orderly wrap of float cords
   f. Condition of pump intake screen
   g. Verification of pump cycle
   h. Siphon sitter functioning, if applicable
3. Control panel in good working order based on checking the following components:
   a. Timer and digital counter readings recorded by OM&M Specialist during the inspection for future reference. For control panels that record pump activity electrnically, it isnot necessary to record activity durng field inspection.
   b. Pump cycle counter operation verified by the OM&M Specialist in the field by manual operation of the pump. For control panels that record pump activity electronically, counter operation can be verified remotely.
   c. Audible and visual alarms functioning
   d. Run time appropriate, if demand dose
   e. Electrical box free from moisture and secure connections

4. Gravity Drainfield (Conventional or Gravelless), if applicable
    a. Depth of effluent ponding within trench
    b. Indication of effluent breakout or discharge to surface of the ground
    c. Upkeep and accessibility of observation ports
    d. Area verified as free from roads, structures, vehicular traffic, surface water drainage with down spouts properly diverted
    e. Results of hydraulic loading test, if test is needed
5. Pressure Distribution Drainfield
    a. Depth of effluent ponding within trench
    b. Indication of effluent breakout or discharge to surface of the ground
    c. Area verified as free from roads, structures, vehicular traffic, surface water drainage with down spouts properly diverted
    d. Upkeep and accessibility of observation ports
    e. Check for equal distribution by measuring distal end orifice residual pressure head
    f. Condition of orifices and verification of hydroflush if necessary
6. Mound
    a. Excessive ponding of effluent
    b. Effluent breakout or discharge to surface of the ground
    c. Maintenance of area free from roads, structures, livestock, vehicular traffic, surface water drainage with down spouts properly diverted
    d. Upkeep and accessibility of observation ports
    e. Check for equal distribution by measuring distal end orifice residual pressure head
    f. Condition of orifices and verification of hydroflush if necessary
7. Single-Pass Sand Filter
    a. Ponding of effluent over sand
    b. Effluent breakout or discharge to surface of the ground
    c. Area verified as free from roads, structures, vehicular traffic, surface water drainage with down spouts properly diverted
    d. Upkeep and accessibility of observation ports
    e. Check for equal distribution by measuring distal end orifice residual pressure head
    f. Condition of orifices and verification of hydroflush if necessary

g. Within pump well, check for same items as listed under "Pump and Dosing Chamber"

8. Aerobic Treatment Units, Including Packed-Bed Filters

   Follow requirements outlined by manufacturer and/or NSF.

9. Add-On Disinfection Component

   Follow requirements outlined by manufacturer and/or NSF.

D. Supplemental Treatment Effluent Monitoring

1. Any system that incorporates supplemental treatment shall be monitored annually for performance in the following manner:

   a. Treated effluent and, where applicable, untreated influent will be sampled and tested at least annually for BOD, and TSS. Treated effluent and, where applicable, untreated influent of systems with Operating Permits requiring nitrogen reduction shall, in addition, be tested for Total Nitrogen. Treated effluent of systems utilizing disinfection shall, in addition, be tested for total and fecal coliform.

   b. Where the OM&M Specialist has used field testing for pH, DO, and turbidity in addition to the parameters identified above during six consecutive monitoring events over a three year period, and where a relationship between field testing measurements and BOD/TSS has been established to the satisfaction of the LEA, the LEA may approve field testing in lieu of testing for BOD and TSS for future routine maintenance events.

   c. Three years of effluent monitoring has shown the treatment system consistently meets the standards outlined in this Manual for BOD and TSS, the LEA may approve field testing.

   d. When effluent quality monitoring results indicate that the supplemental treatment and/or add-on disinfection did not meet the minimum treatment levels specified in this Manual, a second sample will be taken within three months. If the follow up sampling results indicate that the supplemental treatment and/or add-on disinfection unit is not performing to the treatment levels specified in this Manual, the OM&M Specialist will inform the LEA and will take the corrective action necessary to achieve the treatment levels specified in this Manual. Correction of treatment problems will be verified by two consecutive compliant sample results within a three month period.

2. Use of supplemental treatment technologies for new and replacement systems may be restricted or prohibited where it has been determined

that a technology is not capable of consistently meeting treatment standards under field conditions.

Chapter 5. Corrective Action

Corrective action for non-compliance with treatment standards may include the following:

A. Notification of Non-Compliance

A Notification of Non-Compliance with the treatment sent to the system's certified designer and system proprietor;

B. Hearing

A hearing with the LEA and/or the Wastewater Advisory Committee;

C. Extended Testing

Extended field testing of the system until compliance can be verified;

D. Restricted or Prohibited Use

Restricted or prohibited use of the system for new and repair applications.

Manual - Part 5 – Monitoring and Reporting

Part Five: Environmental Monitoring and Reporting

Chapter 1. Reporting Requirements

A. Annual Report

1. The LEA will prepare and submit an annual report to the Central Valley Regional Water Quality Control Board no later than February 1 for the preceding year beginning one year after Regional Board approves the LAMP.

2. The annual report will include:

   a. A s tatement that all on-site wastewater systems referenced in the report are classified as Tier 2.

   b. Certified Septage Pumpers: Applications and registrations issued as part of the local cleaning registration pursuant to California Health and Safety Code §117400 et seq.

   c. New and Repaired or Replaced On-site Wastewater Systems: Numbers and locations of permits.

   d. Complaints: Numbers and locations of complaints, related investigations, and means of resolution.

   e. Variances: Number and description of variances to the On-Site Wastewater Manual, the rationale for the variation, and the mitigating measures to assure the variance will be as protective of public health as the requirement in the Manual.

   f. Summary of any changes adopted by the Board of Supervisors to either the Ordinance or the Manual

   g. Map showing nitrate levels from well water quality monitoring as described in the following subsection.

3. Butte County Environmental health will maintain a water quality assessment program that consists of obtaining nitrate concentration from water quality data from the following sources:

   a. Regulated small water systems (SWS)

   b. Wells within Butte County that are monitored as part of the Statewide Groundwater Ambient Monitoring and Assessment (GAMA) program

   c. Water quality measurements that are part of the Chico Nitrate Compliance Area monitoring program

B. Five-Year Report

Every fifth year an evaluation report will be included that:

1. Evaluates of trends in nitrates found in domestic wells
2. Analysis of water quality data from public water systems up to 200 service connections.
3. Includes a reference to nitrate levels being monitored within the Chico Nitrate Compliance Area and analyzed by a consultant

C. Report Format

1. Groundwater monitoring data will be submitted in Electronic Delivery Format (EDF) for Geotracker.
2. All surface water data will be submitted to California Environmental Data Exchange Network (CEDEN).

Chapter 2. Record Retention and Availability

A. All our records are scanned in using Laserfiche and maintained with other Assessor Parcel Number records indefinitely. They will be made available to Central Valley Water Board staff within 10 working days of a written request.

Chapter 3. Water Supplier Notification

A. The LEA will notify public well and water intake owners, and the California Department of Public Health as soon as practicable, but no later than 72 hours upon discovery of a failing OWTS within the setbacks specified in the On-Site Wastewater Manual Part 3 Chapter 2 (#Manual_Setbacks).

B. The LEA will notify public water services of pending on-site wastewater system installations and repairs within prescribed set-backs specified in the On-Site Wastewater Manual Part 3 Chapter 2 (#Manual_Setbacks).

C. The above notifications shall be made in writing and by telephone to persons identified in a call out list maintained by Butte County Environmental Health

Appendices

Appendix One: Septage Pumper Report

SEPTAGE PUMPER REPORT

Only domestic household-type waste from Butte County will be accepted at the NRRWF and SC-OR facilities. All wastes must comply with NRRWF and SC-OR resolutions and policies. SC-OR only accepts waste within its sphere of influence. Neither site accepts grease, and may, at random, sample and analyze truck loads as necessary to assure compliance with County, State, and Federal waste discharge limitations.

Contact and System Information

APN #:

Property Owner Name:_____ Telephone:_____

Parcel Address:_____

Property Owner Mailing Address:_____ Same as Property Address: ☐

Residence Currently Occupied? Yes ☐ No ☐ Number of Occupants (if known):_____

Pump to Gravity Dispersal? Yes ☐ No☐ Pumping Required? Yes☐ No☐ Signal Floats Operational? Yes☐ No☐ N/A☐

Septic Tank Physical Observations

	Concrete	Fiberglass	Poly	Metal	Wood	Good Condition	None Present	Needs Repair or Replacement
Risers:	☐	☐	☐	☐	☐	☐	☐	☐*
Baffle:	☐	☐	☐	☐	☐*	☐	☐*	☐*
Lids:	☐	☐	☐	☐	☐*	☐		☐*
Tank:	☐	☐	☐	☐	☐*	☐		☐*

Septic Tank Lid Depth: _____ inches/feet (circle one) Inlet/Outlet Ts in good condition: Yes☐ No☐* None ☐*

Drainfield Condition: ☐ No problems noted ☐ Backflow into tank* ☐ Surfacing Sewage*

Date Pumped:_____ Amount pumped:_____ gallons Tank Size: _____ gallons

Sketch of Tank Location

Septic Tank Operational Observations

Scum
Inlet:_____ inches Outlet:_____ inches

Sludge
Inlet:_____ inches Outlet:_____ inches

Effluent Level Before Pumping:
☐ Normal
☐ Higher than tank outlet*
☐ Lower than tank outlet*

Sewage Surfacing (incl. graywater):
☐ No
☐ Yes*

* = Follow-Up Needed

Customer or Authorized Representative (Certified Pumper)

I certify under penalty of perjury that I am the above named customer (or authorized representative) and the material being pumped does not contain hazardous substances as defined by the California Penal Code 374.8.

_____ _____ _____
Signature Print Name Date

☐ Pumper Sign-Off on Behalf of Property Owner or Authorized Representative

Septage Pumper Certification

If hauling to SC-OR, septage pumped from: ☐ Yellow Svc Area ☐ Blue Sphere of Influence

Company Name:_____ Truck License:_____ Capacity:_____ gal

I certify under penalty of perjury the information in this report is correct to the best of my knowledge and that the truck does not contain hazardous substances as defined by the California Health and Safety Code 25141(b) or other materials which are deleterious to the ponds or waste treatment plants. No claim is made by this company, either expressed or implied, concerning success or failure of the septic system.

_____ _____ _____
Signature Print Name Date

Additional Information for Escrow Evaluations Only

Escrow Company Name: _____ Telephone:_____

Escrow Officer: _____ Escrow #:_____

Inspection Requested by:_____ Telephone:_____

Water Service: Community ☐ Private Well ☐ Hydraulic Load Test Performed: Yes ☐ No ☐ Water Introduced: _____ Gallons (Note: 150 gal. minimum recommended)

Effluent Pump & Controls Functional Yes ☐ No ☐
Alarms Functional Yes ☐ No ☐
Effluent Line Diverter Valve Present Yes ☐ No ☐ Level Stabilized Below Outlet: Yes ☐ No ☐

Vegetation Growth Over Field(s) _____ inches Distance from Surface Water/Seasonal Drainage (circle one):_____ Feet

Evaluation Summary: ☐ Pass ☐ Fail* Comments:_____

* = Follow-Up Needed

White – Neal Road Landfill or SC-OR's copy Yellow – Pumper's copy Pink – Homeowner's copy Updated: May 15, 2012

Appendix Two: Webpage Information

ButteCounty
CALIFORNIA

County Home | Departments | How Do I?

HOME | ANIMALS | PROGRAMS | ENVIRONMENTAL HEALTH | CLINICS & LAB | BIRTH & DEATH

PUBLIC HEALTH

The mission of the Butte County Public Health Department (BCPHD) is to protect the public through promoting individual, community, and environmental health. This is achieved by providing a wide range of services in more than 50 programs including: women and children's health, communicable and infectious diseases, planning for and responding to disasters, healthy and safe animals, and protecting natural resources while improving the environment.

Public Health Land Use & Wastewater

The Land Use section of Environmental Health looks at wastewater design and installation, well siting and permits, land divisions, use permits, and other related projects that involve septic systems and wells.

Access the ETrakit website.

FORMS | ETRAKIT | FOOD INSP REPORTS

Contact Environmental

Butte County Environmental Health
Phone: 530.538.7281
Fax: 530.538.5339

View full list of Public Health program contacts.
View leadership team.

Locations & Hours

Media Center

Connect with Us

Land Development

Environmental Health works very closely with the other Land Development Departments of the County (Public Works, Planning, Building, Fire) during the review and permitting processes associated with major land divisions such as subdivisions, parcel maps, lot line adjustments, etc. to ensure that the project meets minimum requirements. Additionally, Environmental Health provides reviews and clearances for all applicable building permits.

Gray Water Re-Use

Adoption of the 2013 plumbing code addresses Alternate Water Sources for Nonpotable Applications. A gray water system is designed to collect gray water and transport it out of the structure for distribution in an irrigation or Disposal Field. A gray water system may include tanks, valves, filters, pumps or other appurtenances along with piping and receiving landscape. Simple laundry to landscape systems do not require a permit, but anything more complex will require Building and Environmental Health review and approval.

Wastewater Program

California Water Code was amended in 2012 to establish a statewide, approach for the regulation and management of On-Site Wastewater Treatment System (OWTS), commonly known as septic systems. Environmental Health is the local permitting authority that ensures compliance with all applicable state and local regulatory requirements for the installation and repair of OWTS.

Septic System Maintenance & Care

Medical Marijuana Cultivation Regulations

Butte County began enforcement of Ordinance 4075 (Measure A), which amended the County's Restriction on Cultivation of Medical Marijuana Ordinance (Chapter 34A) on January 8, 2015. The oversight of this Ordinance is the responsibility of the Butte County Department of Development Services, Code Enforcement Division.

Appendix Three: Resolution Establishing Management Entity

BOARD OF SUPERVISORS
COUNTY OF BUTTE, STATE OF CALIFORNIA

Resolution No. 13-080

RESOLUTION OF THE BOARD OF SUPERVISORS OF THE COUNTY OF BUTTE ADOPTING A POLICY FOR ESTABLISHING COUNTY SERVICE AREAS TO MANAGE AND OPERATE COMMUNITY WASTEWATER SYSTEMS

WHEREAS, the Butte County Board of Supervisors adopted General Plan 2030 (GP 2030) policy PUB-P12.3 which states: New community sewerage systems shall be managed by a public County sanitation district or other County-approved methods. Proponents shall demonstrate the financial viability of constructing, operating and maintaining the proposed community sewerage system; and

WHEREAS, the Butte County Board of Supervisors wants to have a written policy to comply with GP 2030 policy PUB-P12.3 that will guide the orderly development and management of community wastewater systems.

NOW, THEREFORE, BE IT RESOLVED by the Board of Supervisors

1. The Butte County Board of Supervisors hereby selects the County Service Area (CSA) as the County approved public entity to manage community wastewater systems.

2. Any proposed project that is not located within a LAFCO approved special district with the power to provide sanitary sewer service or a LAFCo approved sphere of influence of any incorporated city or town or special district with the power to provide sanitary sewer service shall establish a CSA as the County approved management entity to oversee, operate and maintain the project's community wastewater system. The developer shall pay the full cost to establish the CSA, including staff time and LAFCo fees.

3. CSA annual service charges shall be established to ensure financial viability of the CSA for the construction, operation and maintenance of the community wastewater system, including but not limited to the following:

   - OPERATIONS
     - Annual costs for the regulatory agency requirements to monitor and inspect the facility.
     - Annual costs for a licensed operator to operate the facility in accordance with the approved Waste Discharge Requirements (WDRs).
     - Annual operating costs such as utilities, supplies and services.

   - MAINTENANCE
     - Annual costs for the facility's maintenance and repair and other contingencies.

   - CAPITAL REPAIR & REPLACEMENT
     - Establishment of a capital replacement fund to accumulate the full replacement value of the facility within the timeframe of 75% of the estimated lifespan of the facility.

PASSED AND ADOPTED by the Butte County Board of Supervisors this 21st day of May, 2013 by the following vote:

AYES: Supervisors Wahl, Kirk, Lambert, Teeter & Chair Connelly
NOES: None
ABSENT: None
NOT VOTING: None

Bill Connelly
BILL CONNELLY, Chair
Butte County Board of Supervisors

ATTEST:

By: _____
Paul Hahn, Chief Administrative Officer and
Clerk of the Board of Supervisors

Appendix Four: Water Quality Monitoring

Public Health Department

Cathy A. Raevsky, Director
Mark A. Lundberg, M.D., M.P.H., Health Officer

Environmental Health
202 Mira Loma Drive
Oroville, California 95965

T: 530.538.7281
F: 530.538.5339

buttecounty.net/publichealth

MEMORANDUM

Date: August 26, 2015

To: Users Group

From: Brad Banner

Re: Proposed Changes in Well Permitting and Building Permit Clearance Requirements

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This is written to inform you of proposed changes in our requirements for Water Well Construction Permits and for issuance of Building Permits, to give you an opportunity to provide feedback prior to implementation of the changes.

Why Make Changes?

Current Environmental Health procedures need updating to address the requirements of the Uniform Plumbing code that: *"...each plumbing fixture shall be provided with an adequate supply of potable running water piped thereto in an approved manner..."* (UPC 601.1)

In addition, the Butte County General Plan 2030 Water Element Action Item W-A1.2 identifies Environmental Health as the department to: *"...revise domestic well standards and programs to require water quality testing for the initial drilling of new domestic wells."*

We must therefore modify our requirements and procedures to meet the two mandates referenced above, and we want to do so in a way that has the least negative impact on property owners and contractors moving through the Water Well Construction and Building Permit review processes and does not require modification to the Butte County Water Well Ordinance.

Stakeholder Input

Over the past few months we have met with well drillers and pump contractors both individually and as a group in Well Drillers Advisory Group meetings. We have also met with the Building Department's Stakeholder Group. The proposal has been updated in response to this input.

Proposed Changes to Water Well Permit Approval Process

Approval of Water Well Construction Permits is a two-step process, each with a signature block at the bottom of the Application as shown in the following diagram.

- We will begin requiring the applicant to sign a Disclosure Document at the time of application for Water Well Construction Permit. The disclosure document will advise the applicant that water quality testing for total and fecal coliform and for nitrates[1] is recommended prior to use of their new well, and that this testing will be required prior to final sign-off of any residential building permit to allow occupancy.

  Rationale: This leaves the responsibility for water quality testing with the property owner and provides them with advance warning that their water will need to be tested prior to building permit final approval for occupancy.
- For Construction Approval, we will continue to require inspection of the well seal, a copy of the Well Completion Report (aka Well Log), and a disinfection report.
- For Final Approval and Certification of Completion, we will begin January 1, 2016 requiring inspection and approval of the pump and electrical installation in addition to inspection of the concrete slab and well cap. At the property owner's discretion, we will accept

[1] The disclosure document will inform the applicant that the water analysis must show absence of total and fecal coliform, and a nitrate concentration of less than 10 milligrams per liter.

a licensed well driller's or licensed pump contractor's certification in lieu of performing the Final Inspection ourselves.

Rationale: This has been a recommendation from our Well Drillers Advisory Group for many years. The change will address the reported instances where our office has inspected the concrete slab around a well and the well cap, and then signed off on the permit, only to have the homeowners later install the pump and electrical box themselves in a manner that compromises both the well and the aquifer.

Table One. Summary of Proposed Changes to Water Well Permit Approval Process[2]

	Current Requirements	Proposed Requirements
Application Intake		• New: Owner-signed disclosure document[3]
Well Construction Approval	• Seal Inspection • Well Completion Report received, indicating 1+ Gallons per Minute • Disinfection Report	• Seal Inspection • Well Completion Report received, indicating 1+ Gallons per Minute • Disinfection Report
Well Final Approval and Certificate of Completion	• Well Cap Inspection • Slab Inspection	• Well Cap Inspection • Slab Inspection • New: Pump and electrical Installation Checklist[4]

Proposed Changes to Building Permit Review Process

Approval of Building Permits is also a two-step process. Environmental Health must sign off on a Clearance in order for the Building Permit to be issued. Then, after the residence has been built, Environmental Health must sign off on a Release in order for the residence to be approved for occupancy.

- Beginning January 1, 2016, prior to providing **Clearance** for a Building Permit to be issued, Environmental Health will require that our records for newer wells (those constructed during the past 3 years) include a Water Well Permit with the Construction Approval signature block signed by Environmental Health staff.

---

2 Additional requirements apply if the well will be located within, adjacent to, or down gradient of a known Volatile Organic Compound contamination plume

3 Document advises owner to have water tested to indicate the absence of total and fecal coliform and a nitrate concentration of less than 10 mg/l and that this must be verified prior to occupancy for future residential building permits. A water sample showing presence of coliform bacteria will need to be resampled and show absence of coliform bacteria in two consecutive samples.

4 Checklist to be developed with technical input from the Well Drillers Advisory Group. Checklist may be completed by a C-57 Well Driller or a D-21 Pump Contractor or by Environmental Health staff.

Older wells will not have this documentation, but our records should at least include an approved Water Well Permit and a Well Completion Report.

If the well water has not yet been analyzed for water quality at the time of building permit application, the applicant will be given the option of signing the Disclosure Document, previously described.

If the well is older and there are insufficient records to assure that the well was constructed with an annular seal and has a sufficient capacity, water analysis and pump testing may be required prior to building permit issuance.

Rationale: Our office is required by the Uniform Plumbing Code to verify that the water served to new residences is potable. Although we may assume that the water from a well that has not yet been constructed will be potable, this cannot be determined reliably without the well first being constructed and tested for water quality. Total and fecal coliform and nitrate testing are the fastest, simplest, and least expensive water test indicators of water quality.

- Beginning January 1, 2016, prior to providing a **Release** of the Building Permit to allow occupancy, we will require that the "Final Approval and Certification of Completion" signature block on the Water Well Permit be signed by Environmental Health staff and that water quality testing has been performed indicating the absence of total and fecal coliform bacteria and nitrates levels at less than 10 mg/l.

  Rationale: This is an important requirement to assure that water systems are fully constructed and approved so that homeowners are assured a safe, potable source of water.

Table Two. Summary of Proposed Changes to Building Permit Review Process

	Current Requirements	Proposed Requirements
Clearance	• Well Construction Permit Issued, not yet drilled	• New: Well Construction must be completed and have Well Construction Approval[5] signed by staff
Release	• Verification Well has been Drilled	• New: Well permit must have Final Approval and Certification of Completion signed by staff • New: Water must be analyzed to show absence of Total/Fecal and nitrates less than 10 mg/l

Additional Information

The attached item describes these changes in a little more detail. If you have questions, comments, or concerns, please contact me at (530) 538-6772 or bbanner@buttecounty.net.

[5] Records for older Water Well Permits need to include verification of permit approval by Environmental Health and a Well Completion Report (Well Log) to verify the presence of an annular seal and sufficient water quantity. If a Well Completion Report cannot be located, water quantity and quality testing may be required as a condition for Building Permit clearance by Environmental Health.

Butte County Public Health Department
Environmental Health Division
202 Mira Loma Drive
Oroville, CA 95965