



## Public Health Department

### Environmental Health

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Form RPP

# ON-SITE WASTEWATER SYSTEM REPAIR POLICY AND PROCEDURE

## I. Purpose

Butte County Code Chapter 19 requires that on-site wastewater system repairs bring the wastewater systems into conformance with the new Ordinance and Manual to the extent allowed by the site. The purpose of this policy and procedure is to provide guidance for repairing on-site wastewater systems consistent with this requirement.

## II. Policy

Recognizing the potential for disease resulting from exposure to raw sewage, it is one of the highest priorities of Division staff to respond to wastewater system failures, especially when sewage is surfacing. It is the policy of this Division to provide consistent and science-based direction and guidance to the homeowners and wastewater professionals engaged in on-site wastewater system repair.

## III. Procedure

The key steps of the repair procedure are identified below and shown in a typical sequence. Although sequence of steps 1-5 will vary depending upon individual circumstances, it is important that the sequence of steps 6-10 be consistently followed:

1. Homeowner Initial Contact: The homeowner contacts the LEA and requests a current List of Certified Installers.
2. Certified Installer Initial Contact: The homeowner contacts Certified Installers to obtain bids; the Certified Installers contact LEA staff
3. Office Review: LEA staff reviews information in our hardcopy files, Trakit, GIS, and other sources and completes the Office Review portion of the Site Assessment form
4. Contractor Bids: The Certified Installers present bids to the homeowner based on information obtained from LEA staff, with qualification that the Field Assessment has not yet been performed and the design may have to be modified based on site-specific conditions
5. Permit Application: The property owner or Certified Installer submits an application for a Construction Permit to repair the system. **Note**: A permit application will be accepted any time prior to this step in the process.

6. Site Inspection: LEA staff meets the selected Certified Installer at the site, evaluates the soil, identifies the most likely cause of system failure, and discusses the design parameters for the system repair.
7. Field Assessment: The LEA completes the Field Assessment portion of the Site Assessment form. Design Submittal and Review: The Certified Installer submits a design based on the site conditions identified in the Field Assessment.
8. Permit Issuance: LEA staff approves the design and issues the Construction Permit
9. Final Inspection and As-Built: The Certified Installer installs the repair system, prepares an As-Built, and contacts the LEA staff for a final inspection. **Note**: The LEA staff may consider, on a case-by-case basis, waiver of a portion of the Final Inspection if there is a documented need, such as anticipated heavy rainfall.

#### IV. Interpretational Guidance

System repairs must bring the systems into conformance, to the extent allowed by the site, with the new Ordinance and Manual. The following guidance outlines how this requirement is generally to be interpreted; however the EH Director may consider exceptions based on unique circumstances.

- A. 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.
- B. Septic Tank
  1. Upgrade to current tank capacity standards<sup>1</sup> will be required when:
    - a. The existing tank is significantly undersized, substandard in construction, or located with inadequate setbacks to prevent adequate 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

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<sup>1</sup> 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.

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 allowed to be served by a single 1,000 gallon septic tank.
4. Wooden, leaking, or deteriorating tanks will need to be replaced as part of the permitted repair due to concerns about structural integrity, substandard construction, and the 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:
  - 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 water table.

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

- a. Equal distribution by appropriate placement of "T"s and distribution boxes will be required within the dispersal field;
- b. 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 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 Onsite 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.