

Local Agency Management Plan
&
Onsite Wastewater Treatment System
Guide



El Dorado County Community Development Services

Environmental Management Department

Updated September 10, 2018

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El Dorado County Environmental Management Department

OWTS Tiers

March 2, 2018

Overview

The California Water Code authorizes the State Water Resources Control Board to regulate all discharges, including those from Onsite Wastewater Treatment Systems (OWTS), which could adversely impact water quality. Policies developed by the State

- Tier 0 – Existing OWTS**
- Tier 1 – Standard OWTS**
- Tier 2 – Special Design OWTS**
- Tier 3 – Impaired Areas**
- Tier 4 – Failed OWTS**

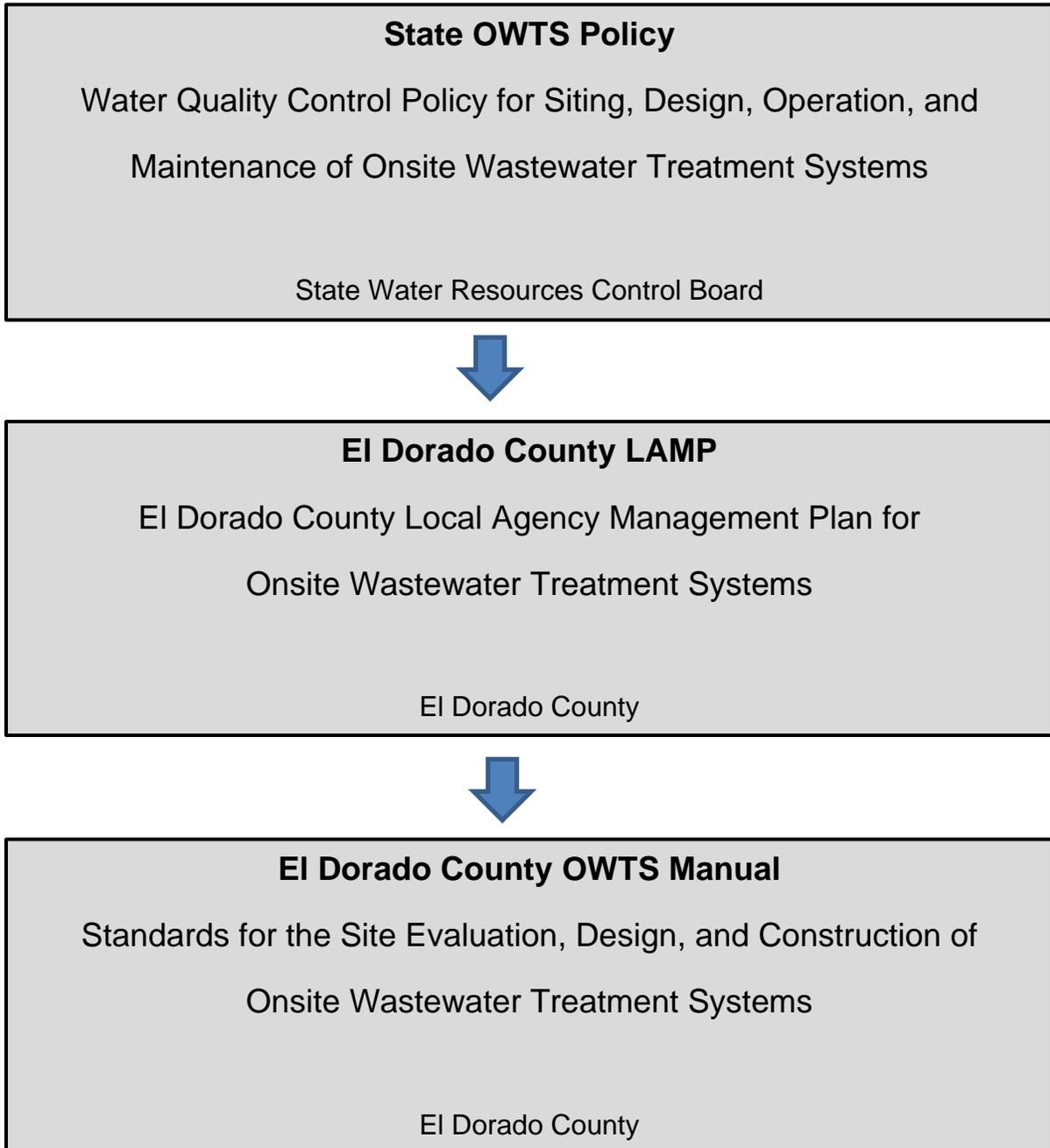
Water Resources Control Board establish a statewide, risk-based, tiered approach for the regulation and management of OWTS installations and replacements, and sets the level of performance and protection expected from OWTS.

Tier System Levels

There are five different tiers for Onsite Wastewater Treatment Systems, covering a range of conditions that may be encountered from existing OWTS that are functioning properly to OWTS that have failed. Different standards and conditions apply to each tier. An OWTS will remain in its tier as long as it is able to meet the requirements of its tier designation. An OWTS that is not able to meet the requirements of its tier designation will be moved into a different tier. For example when an existing septic system fails, it will be re-categorized from “Tier 0” to “Tier 4” and will be required to take corrective actions.

Tier Relation to Local Agency Management Plan (LAMP) and OWTS Manual

El Dorado County operates under a State Water Resources Control Board approved LAMP that incorporates policy tiers into local OWTS design standards specified in the OWTS Manual. The LAMP and OWTS Manual will become effective on May 13, 2018.



Policy Overview

Policy Tier 0

- Existing, properly functioning OWTS

Policy Tier 1

- Standard OWTS

Policy Tier 2

- Special Design OWTS
- Shallow trench pressure distribution, mound, at-grade, drip dispersal, and other approved alternative dispersal systems.
- Minimum depth to groundwater and minimum soil depth from the bottom of a Dispersal System range from five (5) to twenty (20) feet based on soil percolation rates.
- Minimum separation from the bottom of a Dispersal System to groundwater of as little as two (2) feet may be allowed for a Supplemental Treatment OWTS
- Wastewater flows up to 10,000 gallons per day
- Varied system designs allowed

Policy Tier 3

- Impaired areas (impaired water bodies)
- Not applicable in El Dorado County
- There are no impaired water bodies identified within El Dorado County

Policy Tier 4

- OWTS that require corrective action
- Failing OWTS
- Proposed repairs and replacements must meet the minimum design requirements of the El Dorado County LAMP and OWTS Manual.



El Dorado County Environmental Management Department

Soil and Groundwater Requirements

March 2, 2018

Overview

The El Dorado County Environmental Management Department has been granted authority by the California State Water Resources Control Board to permit and regulate Onsite Wastewater Treatment Systems. A Local Agency Management Plan (LAMP) and OWTS Manual have been developed by El Dorado County that details the minimum depths to groundwater from OWTS disposal fields required to protect it from contamination. This guide outlines key OWTS Manual requirements for protecting groundwater.

Minimum Soil Depth

The minimum native soil depth required for a dispersal system is based on the percolation rate. Lower percolation rates require greater available soil depths.¹ The following effective soil depths are required below the bottom of the leaching trench for Standard OWTS:

Percolation Rate (MPI)	Minimum Effective Soil Depth (feet)
1 to 5	Twenty (20)
>5 to 30	Eight (8)
>30 to 120	Five (5)

Effective Soil Depth

- Effective soil depth is the depth of soil material from the ground surface that effectively provides filtration of effluent.³
- Effective soil depth excludes:
 - Soil layers that meet criteria for soil with rapid permeability of $< 5 \text{ MPI}^3$
 - Groundwater conditions associated with saturation³
 - Limiting layers of less than 15% porosity³

Depth to Groundwater

Like soil depths, the minimum depth to groundwater required for a dispersal system is based on the percolation rate. Lower percolation rates require greater minimum depths to groundwater.¹ The following minimum depths to groundwater are required below the bottom of the leaching trench for Standard OWTS:

Percolation Rate (MPI)	Minimum Depth to Groundwater (feet)
1 to 5	Twenty (20)
>5 to 30	Eight (8)
>30 to 120	Five (5)

- Supplemental treatment systems may have a separation from groundwater of less than five (5) feet but not less than two (2) feet below the bottom of the dispersal system.²

OWTS With A Curtain Drain

- Curtain drains may be used to alter the depth to groundwater in the OWTS dispersal area.⁴
- After a curtain drain installed, the depth to groundwater is required to conform with all requirements for vertical separation to groundwater for the proposed OWTS.
- CDAEMD has the discretion of requiring demonstration that a proposed curtain drain is effective prior to issuing a construction permit.

Groundwater Monitoring - Observation Wells

- When the highest anticipated depth to groundwater cannot be determined with the use of soil observation pits or soil borings, CDAEMD may require groundwater monitoring wells to be installed to determine the highest anticipated depth to groundwater.
 - Vegetation indicative of a high water table
 - Previously found high groundwater
 - Other conditions or historical data
 - Soil observation pit indicates less than 5 feet of the dispersal material over an impervious stratum
 - Free water from seepage is observed in the soil observation pit.
- Groundwater monitoring wells or soil analysis is required for lots less than one (1) acre in size or community dispersal fields.

- Observation Well Construction
 - Soil observation pits are converted to observation wells by placing a perforated pipe into the pit prior to backfilling
 - A hole is bored to a desired depth, a perforated pipe is placed into the hole, clean pea gravel is placed around the perforated pipe, and a surface concrete seal is placed.

- Monitor from December 1 to April 30, with at least 80% of historical normal average rainfall received in vicinity of the proposed OWTS.

Groundwater Monitoring - Soil Analysis

- Soil analysis may be used as an alternative to direct observation.
- Analyze soil if
 - “Conditions associated with saturation” exist

- Conditions associated with saturation
 - Reddish brown or brown soil horizons with gray and/or red or yellowish red mottles.
 - Gray soil horizons
 - Gray soil horizons with red, yellowish red, or brown mottles
 - Dark-colored highly organic soil horizons
 - Soil profiles with concentrations of soluble salts at or near the ground surface.

- Soil Analysis cannot be used for
 - Soil with rapid or very rapid permeability
 - Saprolite analysis
 - Fractured bedrock

1. EDC OWTS Manual, Section 2A. General Requirements – Disposal Field Area
2. EDC OWTS Manual, Section 2D. Supplemental Treatment OWTS
3. EDC OWTS Manual, Section 5 – Definitions, Effective Soil Depth
4. EDC OWTS Manual, Section 3E. OWTS With A Curtain Drain

This guide is not comprehensive. Please refer to the appropriate sections of the State Water Resources Control Board OWTS Policy Manual, the El Dorado County LAMP, and the El Dorado County OWTS Manual for more detailed information.



El Dorado County

Environmental Management Department

Parcel Development

May 8, 2018

Overview

The El Dorado County Environmental Management Department has been granted authority by the California State Water Resources Control Board to permit and regulate Onsite Wastewater Treatment Systems (OWTS). A Local Agency Management Plan (LAMP) and OWTS Manual have been developed by El Dorado County that detail requirements for development of existing parcels and for land divisions of parcels that will be served by an OWTS. This guide outlines key OWTS Manual requirements for parcel development.

Existing Parcels

- The intent of EMD is to allow the continued use of existing parcels while bringing the OWTS serving the parcel into compliance with State OWTS Policy.
- Existing undeveloped parcels that were created with percolation rates between 120 and 240 minutes per inch will be required to mitigate the condition with one of the following Special Design OWTS.⁹
 - Subsurface drip dispersal
 - Mound system
 - Shallow pressure distribution trenches
 - Other Special Design OWTS
- Parcels identified on Tentative Maps approved before implementation of the LAMP per the California Code of Regulations Subdivision Map Act.
- Meet horizontal setback requirements to the greatest extent practicable.
- A variance cannot be granted for some setbacks.¹
- With supplemental treatment, a minimum two-foot vertical separation between the bottom of the dispersal trench and groundwater is required.²

Parcel Creation

- Applies to tentative parcel maps, subdivision maps, parcel splits, and similar projects that have not been approved before implementation of the LAMP.
- New parcels must have a percolation rate of 120 minutes per inch or lower.³
- Each proposed parcel must contain one or more dispersal area meeting the minimum disposal area requirements.⁴
- A test pit is required on each proposed lot and a percolation test is required on each proposed dispersal area.⁵
- Land division proposals must meet all requirements of El Dorado County LAMP Section 4 “Land Divisions of Parcels Served by OWTS”.

New Parcel Minimum Disposal Area Required

Percolation Rate ^{4,6}	Minimum Disposal Area (square feet) ^{4,6}
< 10	6,000
11-20	8,000
21-40	10,000
41-60	12,000
61-80	14,000
81-100	16,000
101-120	18,000
120+	Not suitable for development

Parcel Division Limitations

- Proposed new parcels that are not serviced by public sewer with a percolation rate above 120 minutes per inch cannot be approved.³
- No lots shall be created for which a seepage pit is the only feasible method of sewage disposal.⁷
- In subdivisions where no adequate impervious stratum lies beneath the one which may receive effluent and above useable groundwater, no lots shall be approved where usable material beneath any leach line will be less than five (5) feet.⁷
- When potential is noted for inadequate treatment in the underlying or dispersal material prior to effluent reaching usable groundwater or the surface, additional tests to prove that travel time is sufficient shall be done, or the project shall be recommended for disapproval and OWTS permits will not be approved.⁷

Parcels Served by Wells

- A minimum parcel size of 5 acres is required for parcels that will be served by well water.^{10,11}
- Parcels are required to have an adequate water supply before a building permit or OWTS permit can be issued.
- Some existing, undeveloped parcels may not be required to have a minimum size of 5 acres:
 - Parcels created before May 26, 1977 may be less than 4.5 acres.
 - Parcels created between May 26, 1977 and July 19, 2004, when the EI Dorado County General Plan was adopted, may have a minimum parcel size of 4.5 acres.
 - Some parcel and subdivision maps that were based and approved on well water for individual parcels.
 - Specific small parcels that are approved for domestic wells.
- Parcels served by public water may have a minimum size of less than 5 acres as long as all applicable setback and zoning requirements are met.

Parcels Created For Uses Which Will Not Generate Liquid Wastes

- Lots proposed and suitable for agricultural, commercial, industrial, or recreational uses that will not generate liquid wastes and do not require the regular presence of workers or employees are not subject to the dispersal area or testing requirements listed in EDC LAMP Section 4. Land Divisions of Parcels Served by OWTS.⁸
- Each of these parcels shall be identified on the recorded map with this statement: "This parcel is not approved for any use that will generate liquid waste. No permit to dispose of sewage or other liquid waste generated by the uses of this property will be issued until applicable provisions of state and local law and the LAMP and County Ordinance Chapter 110.32, as amended, have been complied with."

1. EDC LAMP, Section 1C. Prohibitions, Subsection 2. Horizontal Setback Requirements
2. OWTS Manual, Section 2D. Supplemental Treatment OWTS
3. OWTS Manual, Section 1C. Parcel Creation
4. EDC LAMP, Section 4. Land Divisions of Parcels Served by OWTS, Subsection 1. Proposed Dispersal Area
5. EDC LAMP, Section 4. Land Divisions of Parcels Served by OWTS, Subsection 4. Percolation Test, Test Pits, and Groundwater Monitoring
6. The El Dorado County LAMP and OWTS Manual supersede requirements listed in the "Design and Improvement Standards Manual" originally published and adopted by the County Board of Supervisors on May 27, 1986 under Resolution Number 136-86. This resolution was subsequently amended on May 18, 1990 (Resolution No. 128-90), on June 18, 1991 (Resolution No. 199-91), October 20, 1992 (Resolution No. 322-92), March 8, 1994 (Resolution No.058-94), March 13, 2007 (Resolution 047-2007), and February 12, 2008(Resolution 31-2008).
7. EDC LAMP, Section 4. Land Divisions of Parcels Served by OWTS, Subsection 6. Limitations
8. EDC LAMP, Section 4. Land Divisions of Parcels Served by OWTS, Subsection 7. Lots created for uses which will not generate liquid wastes
9. EDC LAMP, Section 1D. Existing Parcels
10. EDC General Plan Policy 5.2.3.5
11. EDC LAMP, Section 1M. High Domestic Well Usage Areas

This guide is not comprehensive. Please refer to the appropriate sections of the State Water Resources Control Board OWTS Policy Manual, the El Dorado County LAMP, and the El Dorado County OWTS Manual for more detailed information.



El Dorado County

Environmental Management Department

Site Evaluation

March 1, 2018

Overview

The El Dorado County Environmental Management Department has been granted authority by the California State Water Resources Control Board to permit and regulate Onsite Wastewater Treatment Systems. A Local Agency Management Plan (LAMP) and OWTS Manual have been developed by El Dorado County that detail site evaluation data requirements for onsite wastewater treatment systems.

Soil Test Data

Soil test data is required as part of the site evaluation report.¹ A site evaluation (soil profile, percolation tests, groundwater monitoring results, and/or soil boring logs) is required for all parcels that will be using an Onsite Wastewater Treatment System.^{2, 3} Soil test data is typically required when :

- There is no data available;
- An existing parcel, created prior to soil test requirements for land divisions, is proposed for development;
- Grading or other soil disturbance has occurred in the previously tested/approved area;
- The system is being shifted out of the previously tested/approved areas;
- An OWTS other than the type of system previously approved is being considered;
- An existing OWTS fails or is proposed for expansion and no previous soil test data is available for the specific parcel.

Procedure

1. Schedule a soil observation pit (test trench) using the appointment scheduler on the CDAEMD website.⁴
2. Include the following information in the notification request:
 - Date of soil observation pit;
 - Time soil observation pit ready for inspection;
 - Assessor's parcel number and map;
 - Parcel size;
 - Location map and driving directions;
 - Name of owner/builder/buyer of property;
 - Name of qualified professional and contact phone number;
 - Name of excavator;
 - Project description
3. Conduct soil observation pit, soil boring, and percolation tests at the scheduled time and date. CDAEMD staff must be present to inspect the soil observation pit excavation.

Soil Boring

Soil boring reports may be used as an adjunct to soil observation pits to better detail soil test data. Some examples where soil boring would be beneficial include:

- Parcels with percolation rates between 1 and 5 MPI, where a demonstrated native soil depth of 20 feet is required for Standard OWTS classification.
- Parcels where the anticipated highest level of groundwater cannot be determined from the soil observation pit.
- To provide substrate for soil analysis to determine the depth at which conditions associated with saturation exist.⁵

Existing Parcels

Most parcels created prior to 1975 were created with inadequate soil tests or without soil test requirements at all. Parcels approved prior to 1975, which have not yet been developed, will require adequate soil testing to verify that these sites meet either the Standard OWTS (Tier 1) or Special Design OWTS requirements with or without supplemental treatment (Tier 2 LAMP).¹

Parcels created since 1975 (and on some earlier dates for a few land divisions) would have been created with eight (8) foot deep soil profiles to verify that at least four (4) feet of suitable soil exists. This soil test data does not expire and can be used in the OWTS permitting process.¹ The minimum required effective soil depth and depth to groundwater below the bottom of the leaching trench will vary based on the percolation rate for the proposed dispersal area.⁶

Parcel Creation & Land Division

Prior to the LAMP, within El Dorado County, a site was required to have at least four (4) feet of soil and a minimum area for wastewater treatment dispersal to qualify for a land division when not served by public sewer. The LAMP allows the division of parcels with less than five (5) feet of soil to occur, but supplemental treatment systems and/or alternate dispersal systems may be required and leach fields will be much shallower than under previous standards to protect water quality.⁷

Dispersal areas for proposed parcels can have a percolation rate between 1 and 120 minutes per inch. Proposed parcels cannot have dispersal areas with a percolation rate over 120 minutes per inch.⁷ Connection to public sewer is required for parcel splits, subdivisions, and similar projects where proposed dispersal areas have a percolation rate greater than 120 minutes per inch. Additional requirements may be found in Section 4 of the LAMP - "Land Divisions of Parcels Served By OWTS".

1. El Dorado County LAMP, Section 2F, Subsection 2. Soil Test Data
2. El Dorado County OWTS Manual, Section 1A. Site Evaluation -Site Evaluation Process
3. El Dorado County OWTS Manual, Section 4C. Design For Single Family Dwellings
4. El Dorado County OWTS Manual, Section 1A. Site Evaluation - Move On Notification Request for Site Evaluation
5. El Dorado County OWTS Manual, Section 1A. Site Evaluation - Soil Analysis Alternative to Direct Observation
6. El Dorado County OWTS Manual, Section 2A. General Requirements - Disposal field area
7. El Dorado County LAMP, Section 4. Land Division of Parcels Served By OWTS

This guide is not comprehensive. Please refer to the appropriate sections of the State Water Resources Control Board OWTS Policy Manual, the El Dorado County LAMP, and the El Dorado County OWTS Manual for more detailed information.



El Dorado County

Environmental Management Department

OWTS Permitting & Inspection

May 7, 2018

Overview

The El Dorado County Environmental Management Department (EMD) has been granted authority by the California State Water Resources Control Board to permit and regulate Onsite Wastewater Treatment Systems. A Local Agency Management Plan (LAMP) and OWTS Manual have been developed by El Dorado County that detail permitting, installation, and inspection requirements for new OWTS, replacement OWTS, and OWTS repairs. This guide outlines permitting and inspection requirements for OWTS Contractors.

Permit Application

Permit applications for OWTS should include a completed application form, an accurate site plan, soils test data results, proposed OWTS design, and appropriate fees.¹ A design from an individual licensed or certified by a State of California agency to design OWTS is required for both new OWTS and OWTS repair permits. Key information to detail in the permit application includes:

- Confirmation that OWTS design setbacks meets LAMP and Design Manual requirements.
- A new repair area is designated for OWTS repairs.²
- Confirmation of adequate soil depth.
 - The LAMP requires varying soil depths for Standard OWTS based on percolation rate that differs from the current sewage disposal ordinance.³
- Confirmation of separation from groundwater.
 - The LAMP requires varying minimum depths to groundwater based on the percolation rate for Standard OWTS.³
 - The Design Manual requires a minimum 5 feet of separation from groundwater for Special Design OWTS without supplemental treatment.⁴

Open Trench Inspections

After obtaining an approved OWTS construction permit to install, repair, replace, or expand an OWTS, an open trench inspection will be conducted by the designer for all OWTS.⁵ Additionally, EMD will inspect a proportion of open trenches for Standard OWTS as warranted.⁵ The contractor will be notified upon permit issuance if an EMD open trench inspection is required to be scheduled. Open trench inspections for Special Design OWTS will also be conducted by the designer.⁵ The following will be evaluated during the open trench inspection:

- All excavations necessary for the OWTS at designed depth, width, and length are completed;
- All smeared or compacted surfaces have been scarified;
- That the bottom of the trenches is level;
- That the installation meets the minimum setbacks in accordance with the approved site plan.

Open Trench Designer Signature

For Standard and Special Design OWTS, the designer is required to sign the EMD stamp on the site plan indicating that he/she has conducted the open trench inspection, and that it complies with design specifications.⁵ When scheduled, EMD will complete open trench inspections for Standard OWTS after the designer has signed off on the installation of the open trench.

Revisions

The designer is required to approve all revisions to approved site plans. These include both major and minor revisions. Major revisions require a new site plan review and approval by EMD.⁶ Minor revisions do not always require a new site plan.⁶ Any changes must meet all other requirements, including setbacks.

Major Revision Examples Include:

- Relocating the disposal area a significant distance from the approved OWTS area;
- Changes in trench depth and width;
- Type of OWTS;
- Changes in media used in trenches.

Minor Revision Examples Include:

- Change in septic tank or distribution box locations;
- Adjustments to the leach lines for contour or obstructions when those changes are within the approved OWTS area.

Final Inspections

Final inspections will be conducted by EMD after the designer and contractor have signed the approved site plan.⁷ The approved site plan is required to show all revisions.⁷ All of the following are required to be completed at the time of EMD final inspection:

- Trenches filled with rock or medium specified in the design to the specified level with filter material in place or gravel-less chambers installed;
- Approved distribution boxes, with covers, installed level on undisturbed soil and at the proper elevation;
- Sealing around pipes is completed;
- All pipe, other than in leach lines, is installed on undisturbed soil (1/8 in/ft. minimum drop), and grouted at tank and distribution boxes;
- The septic tank is set level in place on undisturbed soil;
- All trenches are left uncovered to the filter material and visible for inspection. Do not backfill unless the filter material cannot be installed in multiple trench designs;
- Observation risers are installed in every leach line;
- Effluent filter is installed in the septic tank.

Non-Design Repair Permits

The EDC LAMP categorizes OWTS repairs into two categories – major and minor. Repair permits that do not require a new design from a designer are categorized as follows:

- Major Repair Permit
 - Repairs required to the tank for a compartment baffle failure or tank structural integrity failure such that either wastewater is exiting the tank or groundwater is infiltrating the tank.¹⁰

Minor Repair Reporting Requirements

- Log minor repairs onto a spreadsheet and submit it to EMD monthly.
- Minor repairs may be completed by contractors licensed to work on OWTS by the California State Contractor's Licensing Board.

1. EDC LAMP, Section 2G – Permit Application Review and Permit
2. OWTS Manual, Section 2A. General Requirements – Replacement Area.
3. EDC LAMP, Section 5A. Minimum Depths to Groundwater and Minimum Soil Depth from the Bottom of the Dispersal System.
4. EDC OWTS Manual, Section 2A. General Requirements – Disposal Field Area
5. EDC OWTS Manual, Section 1G. Inspections – Open Trench Inspections; OWTS Manual, Section 2C. Special Design OWTS; EDC LAMP, Section 2H. Final Inspection.
6. EDC OWTS Manual, Section 1E. Revisions.
7. EDC OWTS Manual, Section 1G. Inspections – Final Inspections.
8. EDC LAMP, Section 3. Failing OWTS and Corrective Action
9. EDC LAMP, Section 3B. Corrective Action Requirements, Section 4.
10. EDC LAMP, Section 3B. Corrective Action Requirements, Section 5.

This guide is not comprehensive. Please refer to the appropriate sections of the State Water Resources Control Board OWTS Policy Manual, the El Dorado County LAMP, and the El Dorado County OWTS Manual for more detailed information.



El Dorado County

Environmental Management Department

OWTS Repair Requirements

May 7, 2018

Overview

The El Dorado County Environmental Management Department has been granted authority by the California State Water Resources Control Board to permit and regulate Onsite Wastewater Treatment Systems. A Local Agency Management Plan (LAMP) and OWTS Manual have been developed by El Dorado County that details corrective actions required in the event that an OWTS fails. This guide outlines key OWTS Manual requirements for repairing failing OWTS.

Repair Types

- Minor Repair¹
 - Failure of a component other than a septic tank, treatment system, or dispersal system.
 - Damaged distribution box.
 - Broken piping connection.

- Major Repair – Dispersal System²
 - Surfacing effluent from the dispersal field
 - Wastewater backup into plumbing fixtures
 - Dispersal system is not able to percolate effluent associated with the structure served

- Major Repair – Septic Tank²
 - Repairs required for a compartment baffle failure
 - Septic tank structural integrity failure
 - Wastewater is exiting septic tank due to structural integrity failure
 - Groundwater is infiltrating septic tank

Minimum Requirements

- Groundwater separation requirements for septic system repairs are the same as for new septic systems.³
- Repair design must meet requirements of the EDC LAMP and OWTS Manual.
- Repair design must designate a new 100% repair area for residential systems.
- A repair does not increase the size capacity of the original OWTS.⁴
- A separate construction permit is required to expand or relocate an OWTS to enable construction of additional structures.⁴

Site Evaluation Data Requirements

- Soils tests by a qualified professional may be required by CDSEMD to properly characterize a site with a failing OWTS.³
- Any existing records for the parcel that are maintained at CDSEMD may be used to calculate the size and design of the repair.
 - Percolation rate
 - Design calculations
 - Original design
- If data are not available for the parcel itself, a site evaluation and percolation test will be required.^{3,5}

Site Evaluation Report & Site Plan

- A site evaluation report is required for major repairs to an OWTS, with the exception of septic tank replacements.^{2,3}
- The site plan included in the evaluation report is required to have:
 - Exact length, width, and depth of leach lines
 - Location of 100% repair area (for residential)
 - Dimensions of all structures on the parcel

Small Parcels and Limited Repair Area

- If all possibilities for a complete disposal field replacement have been exhausted (easement, etc.), an OWTS repair can be approved with the expansion of the dispersal field as long as the expansion conforms to the OWTS Manual and the LAMP to the greatest extent practicable.⁶
- Install a diversion valve when possible for future use of the existing leach field.⁶

- Deep trenches may be considered only after a site inspection by a qualified professional to verify that there is not adequate area for a typical dispersal field.⁶

Permit Requirements

- Repair permits are required for major repairs.^{2,3}

Minor Repair Reporting Requirements

- Log minor repairs onto a spreadsheet and submit it to EMD monthly.
- Minor repairs may be completed by contractors licensed to work on OWTS by the California State Contractor's Licensing Board.

1. EDC LAMP, Appendix C. Definitions For Purposes Of This LAMP, "Minor Repair"
2. EDC LAMP, Appendix C. Definitions For Purposes Of This LAMP, "Major Repair"
3. EDC OWTS Manual, Section 4A. Complaint Investigation Procedures – Notification of Failure
4. EDC OWTS Manual, Section 4B. Repair Criteria
5. EDC LAMP Section 2F, Subsection 2. Soil Test Data; EDC OWTS Manual, Section 1A. Site Evaluation – Site Evaluation Process, Percolation Test Hole Procedures
6. EDC OWTS Manual Section 4D. Small Parcels And Limited Area For Repair
7. EDC LAMP Section 3. Failing OWTS and Corrective Action; OWTS Manual, Section 1B OWTS Site Evaluation Report and Site Plans

This guide is not comprehensive. Please refer to the appropriate sections of the State Water Resources Control Board OWTS Policy Manual, the El Dorado County LAMP, and the El Dorado County OWTS Manual for more detailed information.

Minimum Distances – Setbacks *

	Leach Lines (Feet)	Septic Tank (Feet)
Domestic well ¹	100	100
Spring	200 feet from any spring, or 100 feet if downhill from spring	100
Seasonal wet area	50	50
Ephemeral stream or drainage course ²	50	25
Intermittent, seasonal, or perennial waterway ^{2,5}	100	50
Flowing stream, lake, pond, marsh, or wetland ^{3,5}	100	50
Domestic water service lines, lot lines, road easements, driveways, trees ⁵	5	5
Buildings ⁴	8	5
Public Water Line	25	25
Irrigation Ditch or Canal	100	50
Cuts or fills (down gradient)	Four (4) times the maximum depth below grade, 25 foot maximum	10
Swimming Pools	10	5
Leach Lines	10	5
Septic Tank	5	-

* Dispersal systems are prohibited in some areas including gravel bars, land used for utility or road easements, and other areas.⁵

1. Existing or proposed site for the parcel or any adjoining parcel.
2. As measured from the edge of the channel.
3. As measured from the ten (10) year high water mark.
4. Buildings include porches and steps, whether covered or uncovered, breezeways, roofed porte-cocheres, roofed patios, carports, walks, covered driveways, and similar structures or appurtenances.
5. OWTS Manual, Section 2B. Setbacks; EDC LAMP, Section 2M. Setbacks; State OWTS Policy Manual, Policy 9.4

Minimum Well and Water System Setbacks

	Leach Lines (Feet) ⁵	Septic Tank (Feet) ⁵
Public Water System – Dispersal system within 1200 feet of surface water intake ³	400 feet from high water mark of reservoir, lake, or flowing water body.	400 feet from high water mark of reservoir, lake, or flowing water body.
Public Water System – Dispersal system between 1200 and 2500 feet of surface water intake ³	200 feet from high water mark of reservoir, lake, or flowing water body.	200 feet from high water mark of reservoir, lake, or flowing water body.
Public Water Well – Dispersal system more than 10 feet deep	200	200
Public Water Well – Dispersal system less than 10 feet deep	150	150
Public Water Well – Dispersal system more than 20 feet deep and is within 600 feet of public water well	200 Evaluation required by a Qualified Professional	200 Evaluation required by a Qualified Professional
Lake or pond used for drinking water ³	200 feet, or 100 feet if down slope from water body	200 feet, or 100 feet if down slope from water body

Domestic Wells

	Setback (Feet)
Sewer line and septic tight line	50
Animal or fowl enclosure	100
Flooded areas and drainages	Avoid or divert from well
Septic tank and leach lines	100
Public drinking water main line	50 (EID)

1. Existing or proposed site for the parcel or any adjoining parcel.
2. As measured from the edge of the channel.
3. As measured from the ten (10) year high water mark.
4. Buildings include porches and steps, whether covered or uncovered, breezeways, roofed porte-cocheres, roofed patios, carports, walks, covered driveways, and similar structures or appurtenances.
5. OWTS Manual, Section 2B. Setbacks; EDC LAMP, Section 2M. Setbacks; State OWTS Policy Manual, Policy 9.4

Appendix B

System Type	Standard Design OWTS	Special Design OWTS	Annual Operating Permit Required	Alternate Dispersal System**	Supplemental Treatment Required *	Reference
Meets Tier 1 Specifications	X					SWRCB OWTS Policy Manual
Does Not Meet Tier 1 Specifications		X				SWRCB OWTS Policy Manual
Infill OWTS		X				EDC OWTS Manual P.21
Capping Fill		X				EDC OWTS Manual P.21
Pressurized Distribution		X	X			EDC OWTS Manual P.23
Pump Systems		X				EDC OWTS Manual P.26
Steep Slope		X	X			EDC OWTS Manual P.27
Mound Systems		X	X			EDC OWTS Manual P.27
Large Systems		X	X			EDC OWTS Manual P.28
Shallow Trench Pressure Distribution		X	X	X	X	EDC LAMP Appendix C, P.1
Mound Systems		X	X	X	X	EDC LAMP Appendix C, P.1
At-Grade Systems		X	X	X	X	EDC LAMP Appendix C, P.1
Subsurface Drip Dispersal		X	X	X	X	EDC LAMP Appendix C, P.1
Other Alternate Dispersal Systems		X	X	X	X	EDC LAMP Appendix C, P.1
Supplemental Treatment Type						
Intermittent Sand Filters		X	X	X		EDC LAMP P.19
Recirculating Sand Filters		X	X	X		EDC LAMP P.19
Proprietary Treatment Units		X	X	X		EDC LAMP P.19
* Supplemental Treatment is required for Onsite Wastewater Treatment Systems that cannot meet setbacks and where Groundwater is less than five (5) feet but not less than two (2) feet below the depth of the Disposal Area.						
** Some Alternate Dispersal Systems can be used without the need for a Supplemental Treatment system.						
Blue = Standard Design System						
Green = Special Design System						
Yellow = Alternate Dispersal System						
Red = Supplemental Treatment						

Standard and Special Design System Guide

Percolation Rate	Depth to Groundwater (Feet) below bottom of leaching trench	System Type
1 to 5 MPI	2 to 5 feet	Special Design + Supplemental Treatment
1 to 5 MPI	5 to 20 feet	Special Design
1 to 5 MPI	20 + feet	Standard Design
5+ to 30 MPI	2 to 5 feet	Special Design + Supplemental Treatment
5+ to 30 MPI	5 to 8 feet	Special Design
5+ to 30 MPI	8 + feet	Standard Design
30+ to 120	2 to 5 feet	Special Design + Supplemental Treatment
30+ to 120	5+ feet	Standard Design
120+ to 240 (Existing Parcels Only)	2 to 5 feet	Special Design + Supplemental Treatment
120+ to 240 (Existing Parcels Only)	5+ feet	Special Design
Percolation Rate	Effective Soil Depth (Feet) below bottom of leaching trench	System Type
1 to 5 MPI	5 to 20 feet	Special Design
1 to 5 MPI	20 + feet	Standard Design
5+ to 30 MPI	5 to 8 feet	Special Design
5+ to 30 MPI	8 + feet	Standard Design
30+ to 120	5+ feet	Standard Design
120+ to 240	Existing Parcels Only	Special Design

1. Supplemental treatment is required for any leach field that cannot meet Tier 1 OWTS setbacks for water quality.
2. The Designer is required to complete open trench inspections for both standard and special design systems.
3. Contractors installing supplemental treatment systems are required to have completed training for the system being installed.

References : El Dorado County Environmental Management Department LAMP & OWTS Manual