C-4: Chapter 8.06: Liquid Waste (Septage) Hauler Registration

Environmental Health

Liquid Waste Management Ordinance No. 4414

Ordinance No. 4414
Liquid Waste (Septage) Management

THE BOARD OF SUPERVISORS OF THE COUNTY OF EL DORADO DOES ORDAIN AS FOLLOWS:

Section 1. Chapter 8.06 of Title 8 of the El Dorado County Ordinance Code is hereby repealed in its entirety and a new Chapter 8.06 is hereby added to read as follows:

Chapter 8.06 - Liquid Waste (Septage) Management

8.06.010 Title. This Chapter shall be known and may be referred to in all proceedings as the liquid waste (Septage) management ordinance.

8.06.020 Purpose. The purpose of this chapter is to permit liquid waste (septage) haulers and establish fees and other financial assurance mechanisms to ensure that the proper treatment and disposal of liquid wastes (septage) is provided for.

8.06.030 Definitions. When used in this chapter, the following terms shall have the meaning designated and set forth hereinafter:

A. "Disposal fee" means a fee charged by the environmental management department for the reception of liquid wastes at the Union Mine Liquid Waste Treatment Facility. The fee includes the cost of receiving, treating, disposing, and otherwise managing the liquid waste at the facility.

B. "Environmental management department" means the El Dorado County environmental management department.

C. "Director" means the administrative head of the environmental management department, or the duly authorized representative of director.

D. "Liquid waste (septage)" means wastewater that is collected from dwelling units, commercial/industrial buildings, and institutions within a community. It may include

concentrated sewage, process wastes, and sludges from dwellings and industry as well as groundwater infiltration and miscellaneous waste liquids, however, it does not include greases and grease trappings from dwellings and industry.

E. "Permit" means a written permit or activity approval or entitlement issued by the environmental management department approving an activity, business, premises, device or apparatus in accordance with the health1 sanitary or safety requirements, rules, laws, ordinances, or regulations pertaining to public health and safety.

F. "Permit fee" means the fee charged by the environmental Management department for the processing and administering of a permit application for a liquid waste (septage) hauler to clean septic tanks, chemical toilets, cesspools, and sewage pits; collect, haul, and dispose liquid waste (septage).

8.06.040 Permit. In accordance with the provisions of Health and Safety Code Section 25000, et seq.1 no person, partnership, or corporation shall carry on or engage in the business of cleaning septic tanks, chemical toilets, cesspools or sewage pits or of hauling and disposing of the cleanings therefrom at a liquid waste disposal facility without having first applied for and obtained a liquid waste hauler permit from the County.

8.06.050 Issuance of Permit. Upon proper application, the environmental management department shall issue a permit for the activity if it finds that the proposed activity is proposed to be, or designed to be, carried on in accordance with the laws, rules, and regulations pertaining to the public health and safety.

8.06.060 Revocation of Permit. Permits issued under this chapter may be revoked by the director if the director finds that the activity has been, or is being carried on or engaged in, contrary to laws, ordinances, rules, and regulations pertaining to the public health and safety, or that the activity is a threat to the public health or safety, or that the activity violates a condition of the permit or the permittee fails to remit fees in a timely manner pursuant to this chapter.

8.06.070 Revocation of or denial of issuance of permit. In the event the director denies or revokes a permit issued under this chapter and the permittee wishes to contest the denial or revocation, the permittee may do so by filing a written notice of appeal to the board of supervisors within ten (10) days of the revocation or denial of a permit.

8.06.080 Appeal hearing before the board of supervisors. Upon receipt of such a written notice of appeal, the board of supervisors shall schedule and set a hearing of said matter to take place within thirty (30) days of receipt of the notice. At the hearing, the board of Supervisors shall fully hear all persons who are parties to the dispute, or aggrieved by

the action, and render a decision thereon, which decision shall be final. The hearing of the board of supervisors may be continued from time to time at the direction of the board of supervisors.

8.06.090 Term of permit. A permit issued in any year, shall be valid for the period of twelve calendar months thereafter. At the end of the twelve month period, the permit shall become void and of no effect, unless the permittee renews the permit according to the provisions of this chapter.

8.06.100 Fees. The environmental management department is authorized to charge and collect permit fees and disposal fees. The amount of fees shall be set from time to time by resolution of the board of supervisors. All permit and disposal fees shall be due and payable within thirty (30) days from the date of the department's date of invoice.

8.06.110 Security guarantee. Prior to the re-issuance of a permit for which a permit has been revoked for failure to remit and/or late remittance of fees authorized pursuant to this chapter, the permittee shall be required to post with the county a guarantee of the permittee's ability to remit timely disposal fee payments to the county. The guarantee may be demonstrated by any of the following:

A. A cash security deposit in an amount approved by the board of supervisors.

B. A cash bond in an amount approved by the board of supervisors.

C. A letter of credit.

8.06.120 Waste discharge requirements. No person shall discharge liquid waste to the Union Mine Liquid Waste Treatment Facility unless, and until, such person has complied with all of the requirements of this subsection and received a valid permit.

A. Proof of a permit;

B. Provision of a list with license numbers of each vehicle which the permittee proposes to use for the discharge of waste to the Union Mine Liquid Waste Treatment Facility;

C. Certification of insurance coverage;

D. Furnishing of a cash deposit or other security acceptable to the environmental management department; and

E. Payment of all such fees, permit and disposal, as may be prescribed by the board of

supervisors.

8.06.130 Permissible discharges. It is the intent of the county that the Union Mine Liquid Waste (Septage) Treatment Facility shall only be used for the treatment and disposal of wastes which are compatible with the treatment process and the continued operation of the facility as a nonhazardous liquid management facility.

8.06.140 Prohibited discharges. It is the intent of this ordinance to prohibit:

A. Any hazardous waste which may be defined by either federal or state statute and regulation, whichever is more stringent; and

B. Any grease or grease trappings.

8.06.150 Manifests. All liquid waste vehicle drivers shall verify the source of all waste contained within the waste load to be discharged by using a manifest.

A. The manifest shall be carried in the vehicle at the time of disposal of liquid waste to an approved disposal facility.

B. At a minimum, the information on the manifest shall include:

- Customer(s) name and contact phone number;
- Customer or pumping site location/address;
- Date and time of service; and
- Waste type.

C. Verification may be demonstrated by either:

- A customer receipt containing the required information; or
- A completed log form containing the required information.

D. Exemption from the requirement to keep manifests in the vehicle at the time of disposal may be granted by the director on a case by case basis pending written requests.

8.06.160 Disposal reports. Monthly disposal reports shall be completed and submitted by all liquid waste haulers to the environmental management department by 5:00 p.m. of the 15th day of the month following the month for which the report is prepared. Late reporting shall be subject to an administrative penalty. The reports shall include a compilation of the information required in the manifests required pursuant to this chapter. All items listed on the report shall be complete, accurate, and legible. All reports shall be certified and signed by the company owner or a duly authorized representative of the company. Incomplete reports shall be returned.

8.06.170 Soul and incident reporting.

A. Any, spills shall be reported immediately by phone to the environmental management department. If direct contact is not made, a message should be left indicating the date and time of occurrence.

B. Formal written notification describing the circumstances of the spill or incident shall be submitted to the environmental management department within five (5) working days of the occurrence.

8.06.180 Record keeping. The permittee shall maintain business records which verify disposal amount and sources of liquid waste discharged to the Union Mine Liquid Waste Treatment Facility. All such records required shall be retained for three years and shall be made available for inspection or copying at the request of the environmental management department.

8.06.190 Site inspections. Permittee having business sites within the county shall be subject to business site inspections and record review by the environmental management department.

8.06.200 Insurance coverage. The permittee shall maintain, at permittee's own expense during the term of the permit, insurance with respect to permittee's business, of the types and in the minimum amounts required by the county.

806.210 General Provisions.

A. All liquid waste shall be discharged to a facility permitted for receiving the liquid waste.

B. Any facility other than the Union Mine Liquid Waste Treatment Facility, which is used for disposing liquid waste, must be. pre-approved by the environmental management department.

C. If liquid waste is discharged outside the boundaries of El Dorado County, the discharge site shall be approved by the local environmental health agency. In addition, the hauler shall meet all the necessary provisions of any county from which waste is hauled to the~ Union Mine Liquid Waste Treatment Facility.

D. The permit granted a permittee shall not relieve the permittee of its obligation to comply with any or all applicable regulations, standards, and requirements under local, State, and federal law that may become effective during the term of the permit.

8.06.220 Equipment.

A. All vehicles shall clearly be marked with three (3) inch minimum lettering stating the name of business, address and/or business telephone number.

B. All equipment must be clean and maintained in good operating condition.

Section 2. This ordinance is adopted as an urgency ordinance to become effective immediately to preserve the public peace, health and safety. The facts supporting the urgency of adopting this measure are that El Dorado and Sacramento Counties entered into a Memorandum of Understanding which prohibits El Dorado County septage into Sacramento County after April 1, 1996. and the citizens of El Dorado County funded the Union Mine Disposal Site Leachate/Septage Facility scheduled to begin receiving El Dorado County generated septage on April 1, 1996.

APPENDIX D

COUNTY OF EL DORADO DESIGN STANDARDS FOR THE SITE EVALUATIONS OF OWTS (DRAFT RESOLUTION)

Draft 12/3/2015
RESOLUTION #XXX-XX DESIGN STANDARDS FOR THE SITE EVALUATION AND DESIGN OF ONSITE WASTEWATER TREATMENT SYSTEMS (OWTS)

Contents

Section 1 - General Provisions

A. SITE EVALUATION - PURPOSE

The purpose of the site evaluation is to determine whether or not a parcel can accommodate an onsite wastewater treatment system. The site evaluation includes a percolation test and soil observation pit to determine the soils ability to treat and dispose of wastewater. A site evaluation is required for all parcels that will be utilizing onsite wastewater treatment systems.

B. SITE EVALUATION PROCESS

Only a qualified professional shall conduct the site evaluation. The qualified professional assists the property owner in locating the appropriate wastewater disposal site on the parcel. The qualified professional shall evaluate the soil observation pit(s), and prepare the site evaluation report. The qualified professional shall notify the Department of the time and date of the scheduled soil observation pits. The site evaluation report will be prepared and submitted within 60 days of soil observation pit excavation.

1. Soil Pit Move on Notification

a) The following information shall be on the 'Soil Pit Move on Notification':

Date of test trench
Time 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; i.e., single family residence, parcel split, subdivision, boundary line adjustment, and commercial project.

b) The tentative 'Move on Notification' shall be received by the Department a minimum of 3 days in advance of the proposed date of the evaluation. The Department shall receive a 'Confirming Move on Notification' one day prior to the actual time and date of the inspection.

c) Site evaluations shall be scheduled between 9 AM and 4 PM, Monday through Friday, and shall not be scheduled on County recognized holidays.

d) The Department may require that a parcel be tested during the wet weather test season before a system site is approved, based on the presence of soil mottling or gleyed colors in the soil observation pit and/or the presence of

hydrophilic vegetation. This requirement may also be set based on historical soils information available for an area.

2. Soil Observation Pit(s)

The soil observation pits are to be dug in the proximate area of the proposed wastewater disposal area. If needed, additional soil observation pits may be required to locate a suitable area for the wastewater disposal system, specifically in an area of potential groundwater or shallow soils.

3. Site Evaluation Report

a) The Site Evaluation Report shall have at minimum the following information:
Date of test
Assessor's Parcel Number
Name of owner
Site location
Longitude and Latitude in decimal readings and datum NAD 83
Proposed project
Parcel size
Water source
Depth of pit
Depth to groundwater
Percent slope in area of pit
Geology
Soil profile
A site plan to scale showing the location of the pits and land features that may affect the proposed wastewater disposal area(s) i.e. wells, drainage courses, wet areas, cut banks and slopes greater than 30 percent

The overall site shall be evaluated by the qualified professional for considerations that may affect the parcel's ability to support an onsite wastewater disposal system. Some of these considerations are slopes 30 percent or greater, setbacks from wells, drainage courses, wet areas and cut banks that may impact the proposed wastewater disposal area(s). Any specific limitations or conditions that may affect the proposed onsite wastewater disposal system shall be addressed in the report.

A site evaluation report is transferable and runs with the land. The report is based upon property conditions at the time of the site evaluation. Changes made to the property after the site evaluation may render the designated area unacceptable. Examples of types of changes include: grading, cuts and fills, new buildings, wells, ponds, etc. The property owner must take care not to encumber or alter the designated area in a manner that affects the future system.

Changes in laws governing onsite wastewater treatment systems may necessitate modifications to the site evaluation reporting requirements.

C. PARCEL CREATION

A site evaluation, percolation test and report for each proposed parcel shall be conducted. Site evaluations shall be scheduled to include Environmental Health Staff in the process.

The suitable wastewater disposal areas shall be shown on a tentative parcel or subdivision map. Suitable wastewater disposal areas meeting all the requirements for a conventional onsite wastewater disposal system and located so as not to conflict with any other applicable county requirements, including those contained in the county's General Plan.

The size of available wastewater disposal area shown on each proposed parcel shall correspond to the table below:

TABLE 2: Minimum Disposal Area based on Percolation Rate

PERCOLATION RATE (minutes/inch)	MINIMUM DISPOSAL AREA (square feet)
Less than 10	3,500
11-20	4,800
21-40	6,700
41-60	8,200
61-80	9,500
81-100	10,700
101-120	11,700
121-140	12,500
141-160	13,500
161-180	14,300
181-200	15,100
201-220	15,800
221-240	16,500
Greater than 240	unsuitable for wastewater disposal

Onsite Wastewater Treatment Systems receiving a projected flow over 10,000 gallons per day must be referred to California Regional Quality Control Board, Central Valley for waste discharge requirements.

Environmental Management will consider private community wastewater collection and on-site disposal systems including package wastewater treatment plants as an acceptable alternative to traditional wastewater treatment if managed by a public entity.

D. ONSITE WASTEWATER TREATMENT SYSTEM REPORT AND SITE PLANS

The onsite wastewater treatment system report shall include a site plan, percolation report, design calculations, and four (4) legible copies of the onsite wastewater treatment system design. (A copy of grading plan shall also be included when required by the Department.) The design shall be on a scale not exceeding one (1") inch to fifty (50') feet, and no larger than 8 1/ 2" x 14" or smaller than 8 1/2" x 11". (Use more than one sheet if necessary). (NOTE: Design will not be accepted drawn on the grading plan or topographic contour map.)

The site plan shall have following information:

a) North arrow and scale used.

b) Frontage road and all easements pertaining to the property, which may affect the onsite wastewater disposal system.

c) Distance from disposal fields and tanks to property lines, easements, driveways and structures.

d) Exact length, width, and depth of leach lines (include cross section of trench).

e) Location of 100%/300% replacement area.

f) Existing or proposed structures, retaining walls, and pools, which may affect the onsite wastewater disposal system.

g) Existing or proposed cuts and /or fills on the property, which may affect the onsite wastewater disposal system.

h) Any special considerations required in the installation of the proposed system.

i) Location of all wells on the parcel or on adjacent parcels which may affect the onsite wastewater disposal system.

j) Location of rivers, streams (permanent or ephemeral), lakes, ponds (permanent or ephemeral), water supply, ditches, springs, and wet areas which may affect the onsite wastewater disposal system.

k) Percent of slope of the ground in the wastewater disposal area and the 100%/300% replacement area. (NOTE: All development of a parcel shall reserve areas that are less than 30% for wastewater disposal.).

l) Significant rock outcrops, cuts, fills, slopes 30% or greater which may affect the onsite wastewater disposal system.

m) Location of percolation test holes and test pits.

E. REVISIONS

1. Major revisions require a new site plan, review and approval by this department. Major revisions includes relocating the wastewater field a significant distance from the approved wastewater treatment system area, changes in trench depth and width or type of system and changes in media used in the trenches are some of the major changes.

2. Minor Revisions that do not require a new site plan includes change in tank or distribution box locations; or adjustments to the leach lines for contour or obstructions when those changes are within the approved onsite wastewater treatment system area.

3. The qualified professional shall approve all revisions.

F. INSPECTIONS

1. Inspections shall only be performed for onsite wastewater treatment systems under a valid permit. The permit number shall be provided when an inspection is requested. The system shall be accessible and ready for the type of inspection requested. If extra inspections are needed, additional inspection fees will be charged.

2. Open trench inspections shall be performed by the qualified professional on all systems. The qualified professional shall sign the department stamp on the plot plan indicating that he has conducted the open trench inspection and that it complies with his design specifications. (NOTE: this does not preclude the qualified professional from performing additional inspections, as they deem necessary.) At the time of the open trench inspection, all the following shall be completed:

a) All excavations necessary for the system at designed depth, width, and length.

b) All smeared or compacted surfaces shall be scarified.

(1) Bottom of the trenches shall be level.

(2) Minimum setbacks shall be in accordance with the approved plot plan.

3. Final inspections shall be performed by the Department on all systems within two weeks of the open trench inspection. The as-built design site plan and necessary paperwork shall be available on site at the time of the scheduled inspection. A final inspection will only be conducted after the qualified professional and the installer have signed the approved plot plan. The plot plan shall show all revisions. At the time of final inspection, all the following shall be completed:

a) Trenches filled with rock or medium specified in the design to the specified level with the filter material in place. Gravel-less chambers shall be installed.

b) Approved distribution boxes, with covers, installed level on undisturbed soil and at the proper elevation. Sealing around pipe is also to be completed.

c) All pipe, other than in leach lines, installed on undisturbed soil (1/8 in./ft. minimum), and grouted at tank and distribution boxes.

d) The septic tank set level in place on undisturbed soil. A layer of approved bedding material may be used.

e) All trenches shall be left uncovered to the filter material and visible for inspection - do not backfill unless the filter material cannot be installed in multiple trench designs. When necessary, portions of the trenches maybe backfilled with the soil cover to access other trenches. A minimum 10 feet at the ends of the trenches must be left uncovered. The installer may have to uncover portions of the trench at the direction of the inspector.

f) Observation risers shall be installed at a minimum of one end of all leach lines.

G. ENFORCEMENT

1. Enforcement Actions: When a violation occurs, the Department may exercise enforcement action in any or all of the following manner(s):

a) The Department may issue a notice of inspection, correction notice, stop work order, suspend a permit, and/or record a notice of non-compliance with the County Recorder's Office.

b) The violator(s) may be issued a citation for violations pursuant to El Dorado County Code.

c) The Department may instigate criminal proceedings by referring the matter to the El Dorado County District Attorney.

2. Enforcement Action Procedures

a) Notice of Inspection: The Department may direct the cessation or correction of a violation or a public health hazard. The notice will direct immediate measures required to eliminate a potential or actual public health hazard or a public nuisance. Failure to comply with the requirements of a Notice of Inspection is a violation of this resolution and is subject to any or all of the enforcement actions prescribed in this Section.

b) Correction Notice: The Department may issue a Correction Notice upon a person responsible for working on a system or operating a system where that work or operation is in violation of this resolution or County ordinance code

and/or conditions of a permit. The Correction Notice will state the violation(s). Failure to correct the stated violation(s) is a violation of this resolution and is subject to any or all of the enforcement actions prescribed in this Section.

c) Stop Work Order: The Department may issue a Stop Work Order for work that is in violation of this resolution or County ordinance code, a wastewater disposal system permit, or is occurring in an unsafe and dangerous manner. The Stop Work Order will be issued to the person responsible for the work, and will specify the reason for the Stop Work Order. It may also direct corrective measures necessary to abate the violation. Work may only recommence upon written release by the Department. Failure to comply with the requirements of a Stop Work Order is a violation of this resolution and is subject to any or all of the enforcement actions prescribed in this Section.

d) Permit Suspension: A permit issued by the Department is good for a two (2) year period. The Department may suspend a permit when the construction or operation of a system is in violation of this resolution, County ordinance code, or conditions of a permit; or where a person has misrepresented any material fact in the application for a permit. The Department will provide the owner a written notice of intent to suspend a permit. The owner will be given the opportunity to request a hearing with the Department. Within ten (10) working days of the written notice of suspension, the Department must receive a written request for a hearing. Failure to request the hearing within the ten (10) working days is deemed a waiver of the right to a hearing. The Department will schedule a hearing within ten (10) working days from the receipt of a written request for a hearing. The Director of Environmental Management or designee shall conduct the hearing. The decision resulting from the hearing may be appealed in accordance with El Dorado County Code Chapter 15, Section 15.32.044. No work, use, or operation may continue on a system where the permit has been suspended. Work or operation on a system with a suspended permit may recommence upon reinstatement of the permit in writing by the Department. Before the permit will be reinstated, any hourly fees pending shall be paid in full.

Section 2 – Design Procedures

A. GENERAL REQUIREMENTS - Design Criteria for Onsite Wastewater Treatment Systems

1. Soil and Groundwater Determination

a) Effective soil depth shall be five (5) feet below the bottom of the design depth.

b) Depth to groundwater shall be a minimum of five (5) feet below the bottom of the design depth.

2. Percolation Tests

a) All Parcels shall have a Percolation Test using standard procedures.

b) The location of the percolation test holes should be evenly distributed horizontally and vertically in the proposed leaching area.

c) The minimum number of test holes to be dug is four (4). Deep trench designs shall be tested at varying depths for proper evaluation of soil.

3) Daily Wastewater Flows

(a) Disposal field area shall be sized based on the proposed wastewater flow and percolation rate. A minimum of three hundred (300) square feet absorption area shall be provided for each system exclusive of any hardpan, rock, clay, or other impervious formations.

(b) Individual onsite wastewater treatment systems shall be designed to accommodate a wastewater flow of 350 (house with one bedroom) gallons per day plus 150 gallons for each additional bedroom. Apartments (up to 5 dwelling units), granny flats, and hardship mobile homes shall be calculated as follows:

Single Family Residence / Gallons Per Day
1 Bedroom / 350 (includes a house that has no formal bedroom)
2 Bedrooms / 500
3 Bedrooms / 650
4 Bedrooms / 800
each additional bedroom add 150 gallons/day

(c) Commercial facilities

(1) Projected daily flows for commercial facilities shall be estimated using the Uniform Plumbing Code. The Department may approve, on a case-by-case basis, metered water use data or other supporting data in lieu of the estimated wastewater flows in the Uniform Plumbing Code.

(2) Commercial facilities that prepare foods, (e.g., kitchens, restaurants) shall install a grease trap or interceptor pursuant to the most recently Board adopted edition of the Uniform Plumbing Code and amendments thereto.

(3) Wastewater flows exceeding 10,000 gal/day require a California state water quality discharge permit and will be referred for approval.

(4) Other projected daily flows may be approved by the Director of Environmental Management upon submission of supporting data and calculations.

4) Calculation Factors

(a) Application Rate (Q):

The application rate utilize the percolation factor, five (5) divided by the square root of the average percolation rate as follows:

Application rate (Q) = $5 / \sqrt{T}$

(b) Absorption area (A):

The absorption area is the daily wastewater flow (DWF) (see above) divided by application rate as follows:

Absorption area (A) = DWF /(Q)

(c) Disposal Field Sizing

For systems utilizing sidewall area use the following:

A = 2 (W + L) x (D - 1.5)

L = length of trenches
W = width of trenches, D = depth of trenches

For system utilizing bottom area only use the following:

A = W x L

L = length of trenches
W = width of trenches,

For gravel-less systems:

Size the disposal field according to the manufactures specifications High Capacity equals 5 square feet per lineal foot and in accordance with the Department for the medium to be used in the system.

EZ Flow is calculated the same as a graveled trench side wall plus the bottom area of the trench.

B. PUMP SYSTEMS

A pump system is utilized to enable the installation of a disposal field up slope of the structure to be served. Wastewater flows by gravity to a septic tank followed by a pump tank, where the effluent is distributed to the disposal field by pumping to a higher elevation. Pressure-dosed pump systems shall meet the requirements of this Section as well as the section "Pressurized Distribution Systems".

1. Criteria for approval

a) Drainage from septic tanks located below the level of the disposal field shall discharge into a separate, approved, watertight onsite wastewater treatment system pump tank. The onsite wastewater treatment system pump tank shall receive septic tank effluent only.

b) The drainage and venting systems, in connection with the onsite wastewater treatment system pump tank, shall be installed following the same requirements as for gravity systems.

c) All pump systems shall have a surge box or distribution box.

d) Community Service Districts maintained by a public entity shall follow their approved guidelines.

e) Unless otherwise indicated on the permit, installation requirements shall conform to the provisions of this resolution.

2. Pump tank requirements

a) The onsite wastewater treatment system pump tank shall be located to receive the wastewater by gravity drainage.

b) Onsite wastewater treatment system pump tanks shall be watertight and constructed of approved materials and in accordance with specifications for septic tanks.

c) The pump tank shall have capacity sufficient to deliver the design dose and have a minimum capacity of 500 gallons.

d) Each pump tank shall be provided with a riser extending to the ground surface or above, with a minimum inside horizontal measurement equal to or greater than the tank access manhole. The lids to the tank shall be water and gas tight. Provision shall be made for securely fastening the manhole cover to prevent entrance by unauthorized persons.

e) Pump tanks in high groundwater areas shall be weighted or secured to prevent flotation.

f) The second compartment of the septic tank may be utilized as a dosing tank only in areas serviced by a community services district or other public entity under the following circumstances:

(1) The float level elevations shall be clearly identified on the plan.

(2) A minimum 1500-gallon septic tank shall be used.

(3) In no event shall the liquid portion be drawn down to within 12 inches of the tee fitting or baffle slot in the common compartment wall.

3. Piping Requirements

a) The drainage piping connecting the septic tank and the onsite wastewater treatment system pump tank shall be at least three (3) inches in diameter.
b) The pump discharge piping shall be sized to adequately handle all expected flows.

c) The discharge piping shall be provided with an accessible check valve and ball valve.

d) Class 200 PVC water pipe or equivalent shall be used.

e) Velocities shall be maintained between 2 - 10 feet/second.

4. Mechanical Devices Requirements

a) Check valves, ball valves, pumps, motors, switches, and other mechanical devices required by this Section shall be located where they will be readily and easily accessible for inspection and repair at all timesand shall be enclosed in a watertight pit fitted with an adequately sized removable cover, unless continuously exposed.

b) Check valves, ball valves, pumps, motors, switches, and other mechanical devices shall be designed and manufactured to operate in septic tank effluent or waste water.

c) The pumps shall be made specifically for wastewater.

d) All devices and equipment associated with onsite wastewater treatment system pump tanks shall be protected by a weatherproof structure.

e) All pumps shall be equipped with a high water alarm system.

5. Inspection Requirements

a) Consultants/Designers shall inspect the open trenches and the pump during operation for proper velocities.

b) The Department shall inspect the final system.

c) Pump systems and alarms shall be operational at the time of final inspection.

d) Final sign off shall not occur until the electrical system permit has been approved by the County Building Department.

C. SPECIAL DESIGN ONSITE WASTEWATER TREATMENT SYSTEMS

All special design onsite wastewater treatment systems shall require written certification by the qualified professional that the wastewater disposal system has been installed and completed under his supervision and according to the approved plot plan. The written certification shall be a wet signature on the Environmental Health stamp located on the site plan. (Example below)

SPECIAL DESIGN ONSITE WASTEWATER TREATMENT SYSTEMS

I hereby certify that this special design onsite wastewater treatment system has been installed and completed under my supervision according to the approved plot plan and according to the El Dorado County Onsite Wastewater Treatment System Ordinance.

Date: _____ Signature: _____
Registration Number: _____
Installer: _____

1. The following are special design systems requiring Department approval:

a) Onsite wastewater treatment system in fill

b) Capping Fill Systems

c) Large System

d) Mound Systems

e) Pressurized Distribution Systems

f) Systems with Curtain Drain

g) Steep slopes

h) Supplemental treatment or Experimental systems

2. Unless otherwise indicated in specific special design sections or by the Department, site evaluation criteria, design (including sizing), installation, and construction shall be in accordance with this resolution.

3. All Special Design Onsite Wastewater Treatment Systems shall be installed by a person who possesses an active license in accordance with the provisions of the California Business and Professions Code and the California Code of Regulations.

a. Onsite Wastewater Treatment Systems in Fill

An onsite wastewater treatment system in fill is a system where the disposal trench is in compacted fill. Compaction shall be completed in six (6) inch lifts, supervised by a Registered Civil Engineer or another appropriately registered individual. Compaction test data shall be provided to ensure proper compaction to nearly the same degree as natural soil.

Area to receive fill shall have the vegetation removed and shall be plowed, ripped, scarified, or disked on contour.

The imported material shall have consistent characteristics as the native soil with a percolation rate equal to or slower than the percolation rate of the native soil.

Area to receive fill shall be less than 20% slope unless the qualified professional makes a site specific justification and approved by the Department.

b. Capping-fill Systems

A capping fill system is a special onsite wastewater treatment system where the disposal trench effective sidewall is installed a minimum of twelve (12) inches into natural soil below a soil cap of specified depth and texture. The shallow construction of the system allows for installation where depth to a limiting layer or groundwater is closer to ground surface. This section describes the requirements for gravity-fed capping fill system. Pressure-dosed capping fill systems shall meet the requirements of this Section as well as the section "Pressurized Distribution Systems".

a) In order to be approved for a capping fill system, each site must meet all of the following conditions:

The slope shall not exceed twenty (20) percent in the disposal area and replacement area.
Unless otherwise approved by the Department, the effective soil depth shall be a minimum of five (5) feet below the bottom of the disposal trench and depth to groundwater shall be five (5) feet minimum.

b) Unless otherwise specified, the system shall conform to the provisions of this resolution and the following:

Disposal trench Depth: 12 inches minimum.

Disposal trench Width: 18 inches minimum / 36 inches maximum.

Cap depth: 12 inches minimum (after settling).

The cap soil texture shall be of the same textural class as the natural topsoil, or of one textural class finer.

The disposal area shall have the vegetation removed and shall be scarified, parallel to contours, and no deeper than six (6) inches.

Soil cap shall extend a minimum of five (5) feet beyond the exterior trench sidewall and have a three (3) foot horizontal to one (1) foot vertical ratio to meet existing current requirements.

The site shall be landscaped for erosion control in accordance with El Dorado County Department of Transportation/Resource Conservation District erosion control requirements.

Capping fill finish grade elevation shall be determined using an established benchmark to ascertain there is twelve (12) inches minimum fill.

c. Large systems

A large system is a system with a projected daily wastewater flow greater than two thousand five hundred (2,500) gallons, or has waste characteristics other than typical residential, from either residential or commercial facility. Projected daily wastewater flows greater than ten thousand (10,000) gallons must be reviewed by the State of California, Regional Water Quality Control Board, Central Valley Region.

The County may allow community wastewater systems and other alternative solutions as an acceptable option to traditional wastewater treatment for mobile home parks, commercial and industrial centers, and multifamily residential. The applicant must prove and the County must find that the proposed system will be adequately and safely operated and can accommodate the highest possible demand of the project.

Community wastewater collection and onsite wastewater treatment systems in remote areas may be considered where the geology may not be conducive to constructing individual sewage disposal systems.

Unless otherwise authorized by the Department, designs for large systems shall meet, at a minimum, all of the following:

The disposal and replacement areas shall be divided into a minimum of two (2) disposal fields.

Effluent distribution shall alternate between the disposal fields.

If the system is pumped, it shall have at least two (2) alternating pumps.

Unless otherwise specified, septic tank design, materials, and construction shall conform to the provisions of this resolution.

In addition to a construction permit, an operating permit is required for all large systems new and at time of repair. The operating permit provisions outlined in the operating permit section shall apply, as determined by the Director of Environmental Management.

d. Mound Systems

A mound system is an aboveground absorption field useful in mitigating some of the limitations associated with inadequate effective soil depth. The mound system consists of a distribution network that, under pressure, evenly delivers effluent from a septic tank to a "mounded" bed of filter material over sand media.

The mound design and system shall meet the provisions of the State Water Resources Control Board, shall only be considered for use for a single-family dwelling and shall not be installed on slopes greater than 5 percent.

e. Pressurized Distribution Systems

Pressurized distribution refers to a method of distributing effluent evenly over the entire soil absorption area through a network of small diameter pipes under low pressure.

Nothing in these rules shall be construed to set aside applicable building, electrical, or other codes. An electrical permit and inspection by the County Building Department is required.

For systems where trench depth is less than 24 inches, percolation tests shall be performed in the layer of most restrictive permeability that occurs within five (5) feet of the trench bottom. The deeper percolation test data shall be considered in the site evaluation.

a) Pressurized Distribution - Construction

(1) The ends of lateral piping shall have blow-off risers that accommodate threaded plugs or caps.

(2) A ball valve shall be placed on the pressure transport pipe, near the dosing tank, when required.

(3) All check valves and ball valves must be in an accessible and protected location for maintenance and repair.

b) Pressurized Distribution – Inspection

(1) Inspection of the dosing system components (e.g., the location of the pump, screen, switches, alarms, and valves).

(2) Inspection of the pressure distribution system and verification of hydraulic head over the pressure distribution laterals.

f. Systems with a Curtain Drain

a) Unless otherwise approved, a curtain drain shall meet the minimum requirements as follows:

(1) All curtain drains shall be designed by a qualified professional and generally conform to the requirements of special design systems.

(2) Curtain drains shall be ten (10) feet uphill from the disposal area and the outflow shall be placed so as to not to effect the onsite wastewater treatment system.

(3) All other requirements for system approval, except depth to groundwater, shall be met at the time of installation. After the drain is installed, the depth to groundwater shall conform to the requirements for vertical separation to groundwater for the proposed system.

(4) The Department has the discretion of requiring demonstration that a proposed curtain drain is effective prior to issuing a permit.

b) Curtain Drains - Design, Construction, and Materials

(1) The trench shall be installed upslope of the disposal area to be protected.

(2) The trench shall be situated so that captured water drains by gravity flow out of outlet pipes.

(3) Trench bottoms shall maintain a minimum of one (1) percent slope throughout the drainage trench. In areas where the outlet pipe will be subject to damage, the pipe shall be adequately protected.

(4) The trench shall be a minimum of twelve (12) inches wide. It shall extend from ground surface at least 6 inches into a limiting layer. For a vertical drain, the trench shall penetrate through the limiting layer into a permeable soil.

(5) The bottom and the downhill side of the trench may be lined with a waterproof barrier. Material shall be equivalent to two layers of six-mil plastic. The waterproof barrier shall be placed along the downhill side of the trench wall and at the bottom of the trench.
A four (4) inch minimum diameter pipe approved for use in onsite wastewater treatment systems shall be laid the entire length of the trench with two (2) inches of gravel underneath the pipe.

(6) The drain trench shall be filled with drain rock. Prior to backfilling the trench, the drain rock shall be covered with filter fabric. A minimum of six (6) inches of soil cover shall be placed over the trench.

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

g. Steep slope systems

1) A steep slope system is a system installed on sites with slopes greater than thirty (30) percent.

a. Slopes greater than 30 percent must have a slope stability report approved by a registered professional.

2) General Plan Policy 7.1.2.1 states that ***"septic systems may only be located on slopes under 30 percent."*** Where public or private sewer service is

unavailable, such systems are integral to the development of a primary structure on residential property. Thus, the placement of the effluent disposal field on slopes of 30% or greater can be considered as part of the reasonable use determination required by El Dorado Planning Division for the development of parcels with slopes greater than 30 percent gradient.

3) Listed below are examples of potential physical conditions on a proposed development site that could preclude the placement of a septic system in areas of the lowest slope gradient.

Shallow groundwater: The required minimum 5-foot separation from the bottom of the disposal field to the water table may be impossible to achieve.

Setback Areas: Areas of lower slope gradient on a site may be located in the required setback zone adjacent to water bodies or water supply wells.

Low percolation rate: The areas of lowest slope may have inadequate percolation rates for a septic effluent disposal field.

Soil Depth: The areas of lowest slope may have inadequate soil depth above bedrock for the installation of a septic effluent disposal field.

4) Based on the above considerations, the following guideline will apply to proposed developments on slopes exceeding 30 percent:

The septic effluent disposal field shall be placed on the portions of the property having the lowest slope gradient unless physical conditions on the site, as documented by the applicant, render such placement infeasible or in conflict with other regulations as determined by the Environmental Management Department. The location of the septic system components shall not be limited to the area approved for development pursuant to these guidelines.

e) A steep slope system shall meet the following requirements:

Steep slope systems are always special design systems.

The qualified professional shall address distance from trench sidewall to soil surface (sidewall break out distance) and it shall be a minimum of twenty-four (24) inches to flow line as measured on the downhill side.

Steep slope systems will not be approved on unstable landforms.

Steep slope systems will utilize current erosion control methods to prevent erosion.

D. SUPPLEMENTAL TREATMENT SYSTEMS

Supplemental treatment systems are special design systems that may be used to serve individual single-family residences, multi-family residential structures, commercial establishments, and institutional or industrial facilities.

All supplemental treatment systems shall be installed by a person who possesses an active license in accordance with the provisions of the California Business and Professions Code and the California Code of Regulations and is familiar with the supplemental treatment system being installed. .

Notwithstanding any other provisions, final approval of supplemental treatment system proposals shall be at the discretion of the Director of Environmental Management.

1. Design standards

Engineering plans and site data for supplemental treatment systems shall be submitted in accordance with standard wastewater disposal application procedures.

Site evaluations, including soil profile and percolation testing, shall be conducted in accordance with standard procedures.

Soil separation between the bottom of the dispersal field and high seasonal groundwater, impervious layer of soil or bedrock, or fractured/weathered bedrock may be reduced to 3 feet.

Onsite Wastewater Treatment Systems with supplemental treatment components shall be equipped with visual or audible alarm as well as a telemetric alarm that alerts the owner and service provider in the event of system malfunction. Onsite Wastewater Treatment Systems using supplemental treatment shall, at a minimum, provide for 24-hour wastewater storage based on design flow as a means to minimize pollution from overflow discharge after a system malfunction or power outage.

2. Inspections

Designs for supplemental treatment systems shall be signed by a consultant/designer. The qualified professional shall also be responsible for inspection of system installation to assure conformance with approved plans, and shall provide an "As-Built" drawing of the installation to the County and property owner. The construction inspection by the qualified professional shall be in addition to standard County inspection.

The system qualified professional shall provide a construction inspection schedule with the plan, which identifies critical points during construction, at which time he will make inspections.

Owner/applicant shall grant access to the Department for periodic inspection of system operation.

3. Operation, maintenance and monitoring instructions

The qualified professional shall provide operation, maintenance and monitoring instructions in the design which are brief and simple guidelines regarding the operation of the system, owners responsibilities, and system monitoring requirements.

E. OPERATING PERMITS

In addition to a construction permit, an operating permit is required for all supplemental treatment systems, large commercial systems all existing systems requiring repair or additions that are multi family developments with sewage flows exceeding 2500 gallons per day, and all commercial and industrial developments not operating under waste discharge requirements set by Regional Water Quality Control Board, Central Valley District. The operating permit provisions outlined in this section shall also apply to any special design systems requiring operating permits, as determined by the Director of Environmental Management.

Operating permits shall be issued at the time of final approval of the system; and they are required to be renewed every year at a minimum. Operating permits shall also be renewed at the time of sale or, in the case of commercial properties, upon change of occupants.

The operating permit shall include a contract with a certified Onsite Wastewater System Inspector to inspect the system every six months and file a report with the Department within 30 days after the inspection. Further, if the system has a grease trap or interceptor, it shall be inspected and cleaned, if needed, every 3 months.
Operating permits are intended to serve as the basis for verifying the adequacy of supplemental treatment system performance and maintenance and large system continued proper operation. Permit conditions shall include monitoring and inspection requirements, permit duration, and other provisions as specified by the designer.

Renewal of an operating permit requires the submission of an application, fee, and the results of required system monitoring and inspection.

Failure to submit a renewal application, the required fee, or specified monitoring and inspection data; or failure to undertake any required corrective work specified by the Department may be cause for non-renewal or revocation of the operating permit, referral to County Council for collection and or prosecution.

Monitoring requirements will be recorded with County Recorder's Office.

F. PERFORMANCE MONITORING AND REPORTING

1. Transfer of Ownership

At the time a property is sold a certified Onsite Wastewater System Inspector recognized by this department shall inspect all onsite wastewater treatment systems (septic tank and leach fields). The inspection report shall be filed with this office 30 days after the inspection.

2. Supplemental Treatment Systems

Monitoring of supplemental treatment systems shall be conducted by or under the supervision of the consultant/designer. The County shall conduct spot-check inspections of supplemental treatment systems and may also be present to observe the performance of monitoring activities by others.

Monitoring results shall be submitted to the Department annually, by July 1st, for the preceding 12-month period ending on May 31st. The monitoring report shall be signed by the qualified professional responsible for the monitoring. Notwithstanding the annual report, the County shall be notified immediately of any significant system problems observed during routine inspection and monitoring or at any other time.

a) Monitoring requirements will vary depending upon the specific type of supplemental treatment system but, in general, they will include the following:

(1) Recording of wastewater flow based on water meter readings, pump event counters, elapsed time meters, or other approved methods.

(2) Inspection and recording of water levels in any monitoring points in the disposal field.

(3) Inspection and observation of pump operation or other mechanical equipment; and general inspection of treatment and disposal area for evidence of seepage, effluent surfacing, erosion, or other indicators of system malfunction.

(4) The frequency and monitoring shall be in accordance with the supplemental treatment performance requirements of the State Water Quality Control Board.

(5) Monitoring frequency may be increased if system problems are experienced. Monitoring frequency for each system or type of system will be established by the Department.

Section 3 - Materials and Construction

A. SEPTIC TANK

Water carried wastewater from bathrooms, kitchens, laundry fixtures, and other household plumbing shall pass through a septic, or other approved sedimentation tank prior to its discharge into a disposal field.

1. Installation – general provisions

a) The septic tank shall be set level in place on undisturbed soil. A layer of approved bedding material may be used.
b) Septic tanks installed in areas subject to vehicular traffic shall be designed to support an H-20 AASHTO traffic loading.

c) Septic tanks shall not be installed in areas of high water table unless specifically designed to account for this situation.

d) Septic tanks shall have a minimum soil cover of twelve (12) inches with risers installed to bring access of the tank lids to at or near finish grade not to exceed twelve (12) inches below grade.

e) Effluent filters designed to prevent solids in excess of one-eighth (1/8) inch in diameter from passing to the disposal field are required in the sanitary tee on the outlet side of the septic tank.

2. Fiberglass and Polyethylene Tank Requirements:

a) Shall be bedded on at least six (6) inches of sand or soil not containing large or sharp rocks.

b) Septic tanks shall have a minimum soil cover of twelve (12) inches with risers installed to bring access of the tank lids to at or near finish grade not to exceed twelve (12) inches below grade.

c) Shall be bedded to the spring line with select material, hand tamped in not over twelve (12) inch lifts, or pond and jetted.

d) Shall be covered from the spring line up with material that will not puncture the tank. Care shall be taken during placement to minimize settling.

3. Design Requirements

a) The liquid capacity of all septic tanks shall conform to Table 2 as determined by the number of bedrooms or apartment units in dwelling occupancies and the estimated waste/wastewater design flow rate or by the number of plumbing fixture units as determined from the Uniform Plumbing Code, whichever is greater.

b) Plans for all septic tanks shall be submitted to the Department for approval. Such plans shall show all dimensions, reinforcing structural calculations, and such other pertinent data as may be required.

c) Septic tank designs shall be such as to produce a clarified effluent consistent with accepted standards and shall provide adequate space for sludge and scum accumulations.

d) Each such tank shall be structurally designed to withstand all anticipated earth or other loads. All septic tank covers shall be brought to grade, using the

appropriate water tight gaskets and capable of supporting an earth load of not less than three hundred (300) pounds per square foot when the maximum coverage does not exceed three (3) feet.

e) Septic tanks installed under concrete or black top paving shall have the required manholes accessible by extending the manhole openings to grade meeting Department of Transportation standards.

f) All tanks shall be fitted with an approved filter on the effluent side of the tank.

4. Septic Tank Construction

a) Septic tanks shall be constructed of solid durable materials, not subject to excessive corrosion or decay and shall be watertight.

b) Septic tanks shall have a minimum of two (2) compartments. The inlet compartment of any septic tank shall be not less than two-thirds (2/3) of the total capacity of the tank and shall be at least three (3) feet in width and five (5) feet in length. Liquid depth shall not be less than two (2) feet, six (6) inches, or more than six (6) feet. The secondary compartment of any septic tank shall have a maximum capacity of one-third (1/3) of the total capacity of such tank. In septic tanks having over fifteen hundred (1500) gallons capacity, the secondary compartment may be not less than (5) feet in length.

c) Access to each septic tank shall be provided by at least two (2) manholes twenty (20) inches in minimum dimension or by an equivalent removable slab cover. One access manhole shall be located over the inlet and one access manhole shall be located over the outlet with risers installed to bring access of the tank lids to the surface. Wherever a first compartment exceeds twelve (12) feet in length, an additional manhole shall be provided over the baffle wall.

d) The sidewalls shall extend at least (9) inches above the liquid depth. The cover of the septic tank shall be at least two (2) inches above the back vent openings.

e) Partitions or baffles between compartments shall be of solid durable material and shall extend at least four (4) inches above the liquid level. An inverted fitting equivalent in size to the tank inlet, but in no case less than four (4) inches in size, shall be installed in the inlet compartment side of the baffle with the bottom of the fitting placed midway in the depth of the liquid. Wooden baffles are prohibited.

5. Alternate Materials

a) Alternate materials shall be approved by the Director of Environmental Management.

b) Wooden septic tanks are prohibited.

6. Prefabricated Septic Tanks

a) Manufactured or prefabricated septic tanks shall comply with all approved, applicable standards and be approved by the Department.

b) Independent laboratory tests and engineering calculations certifying the tank capacity and structural stability shall be provided as required by the Director of Environmental Management.

c) Cast-in-place septic tanks may be considered on a case-by-case basis. These septic tank designs shall be reviewed by the Department, and at the discretion of the Department may require a permit from the County Building Department for structural component only.

TABLE 2: Septic Tank Sizing

SINGLE FAMILY DWELLING- NUMBER OF BEDROOMS	MULTIPLE DWELLING UNITS OR APARTMENTS- ONE BEDROOM EACH	OTHER USES- MAXIMUM FIXTURE UNITS SERVED PER Uniform Plumbing Code	MINIMUM SEPTIC TANK CAPACITY IN GALLONES
1-3		20	1000
4	2 units	25	1200
5 or 6[1]	3	33	1500
	4	45	2000
	5	55	2250

[1] Septic tank sizes in the table include sludge capacity and the connection of domestic food waste disposal units without further volume increase.
Extra bedroom, 150 gallons each.
Extra dwelling units over 6, 250 gallons each.
Extra fixture units over 60, 25 gallons per fixture unit.

RECOMMENDED DESIGN CRITERIA- Sewage disposal system sized using the estimated waste/sewage flow rates should be calculated as follows:
1) Waste/sewage flow, up to 1500 gal day
Flow x 1.5 = septic tank size
2) Waste/sewage flow, over 1500 gal day
Flow x 0.75 + 1125 = septic tank size

7. Fittings

a) The inlet and outlet pipe openings shall not be less in size than the connecting sewer pipe. The vertical leg of a round inlet and outlet fitting shall not be less in size than the connecting sewer pipe. A baffle type fitting shall have the equivalent cross-sectional area of the connecting pipe and not less than four (4) inch horizontal dimension when measured at the inlet and outlet pipe inverts.

b) The inlet and outlet pipe or baffle (sanitary tee) shall extend four (4) inches above and at least twelve (12) inches below the water surface. The base of the inlet pipe shall be at a level not less than two (2) inches above the base of the outlet pipe.

c) Inlet and outlet pipe fittings or baffles, and compartment partitions shall have a free vent area equal to the required cross-sectional area of the house sewer or

private sewer discharging therein to provide free ventilation above the water surface from the disposal field or seepage pit through the septic tank, house sewer, and stack to the outer air.

B. DIVERSION VALVE MATERIALS

1. Diversion valves shall be constructed of durable material and be corrosion-resistant, watertight, and designed to accommodate the inlet and outlet pipes.

2. The Department shall approve all diversion valves.

C. EFFLUENT PUMP, CONTROL, AND ALARM MATERIALS

1. Unless otherwise specified, effluent pump, control box, and alarm materials and construction shall be in conformance with this section.

2. Electrical components used in systems shall comply with the Uniform Electrical Code, and the following provisions:

a) Motors shall be continuous duty with overload protection.

b) Pumps shall have durable impellers of bronze, cast iron, or other materials approved by the Department.

c) Submersible pumps shall be provided with an easy, readily accessible means of electrical and plumbing disconnect, and a non-corrosive lifting device as a means of removal for servicing.

d) For pressure distribution systems, a corrosion resistant screen shall protect the pump. The screen shall have at least twelve (12) square feet of surface area, with one-eighth (1/8) inch openings. The use of a screen is not required if the pump does not discharge into a pressurized distribution system, and the pump has a non-clog impeller capable of passing a 3/4 inch diameter solid sphere.

e) Pumps shall be automatically controlled by sealed mercury float switches with a minimum mercury tube rating of twelve (12) amps at one hundred fifteen (115) volts AC or by a Department-approved equivalent.

f) Pumps shall 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. The audible alarm shall be installed /constructed so that it can only be canceled by the user.

g) Wiring must be of proper construction and gauge and permanently fixed to a supporting structure under permit from the County Building Department.

h) There shall be a manual override switch in the electrical box to facilitate dosing control during inspections.

D. PIPING MATERIALS

1. Effluent Sewer Pipe and Pressurized Pipe

a) Unless otherwise specified, piping shall consist of materials and be constructed in conformance with the standards of this section.

b) All piping shall be free of defects or damage.

c) All connection of pipes of different diameters shall be glued with the proper fittings.

d) Effluent sewer, header pipe, (tight-lines) and fittings shall be a minimum four (4) inch diameter, watertight, and be one of the following:

(1)Schedule 40 PVC that meets the most current ASTM D-2672 for minimum four (4) inch pipe;

(2) Schedule 40 Acrylonitrile-Butadiene-Styrene (ABS) that meets the most current ASTM Specification D-2468;

(3) ASTM SDR 35 with solvent-welded or rubber-gasket joints;

(4) Other material approved by the Department.

e) Pressure transport pipe, pressure distribution manifolds, and pressure distribution laterals (piping and fittings) shall meet the most current requirements for schedule 40 PVC pressure pipe as identified in ASTM Specifications D-1785, or other material approved by the Department.

f) Pressure transport pipe, pressure distribution manifolds, and pressure distribution laterals shall be adequately sized for the design flow.

g) Tight-line under driveways shall be Schedule 40, SDR 35, or other approved pipe with at least twelve (12) inches of natural soil cover.

h) Suspended tight line crossing streams or drainage courses shall be piped and installed within a protective sleeve of approved material that extends ten (10) feet on each side of the seasonal or high water mark for the seasonal drainage course or twenty five (25) feet for a year-round stream. Crossings above streams or drainage courses shall be designed to support the weight of the sleeve, the tight line flowing full, and other loading conditions as set forth in the Uniform Building Code. Crossings above the stream or drainage course shall be installed a minimum one (1) foot above the 100 year recurrence interval high water level.

2. Perforated Pipe

a) Perforated distribution piping for gravity flow systems shall be a minimum four (4) inches diameter 3000 HDPE or equivalent that meets the most current ASTM Specifications F-810, or other material approved by the Department.

b) Perforated distribution piping for gravity flow systems shall have two (2) rows of holes spaced one hundred-twenty (120) degrees apart and sixty (60) degrees on either side of a centerline facing down.

3. Distribution Box

a) Distribution boxes shall be constructed of concrete, high density polyethylene or other materials acceptable to the Department.

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

E. DISPOSAL FIELD INSTALLATION AND MONITORING

1. Disposal fields shall be constructed as follows:

a) Depth of natural earth over the entire disposal field as measured from the lowest point of natural grade is 12 inches.

b) Maximum "drop" in leach line drain pipe and/or the bottom of trench is 3 inches maximum in a 100 foot line.

c) Minimum spacing of lines is 10 foot center-to-center.

d) Minimum filter material over drain pipe is 2 inches.

e) Minimum trench width is 18 inches.

f) Tight line shall have minimum slope of 1/8 in./ft.

h) Drain line pipe ends must be capped.

i) A minimum of one observation riser shall be installed at the, end of each trench.

j) Chambers or other media systems shall be installed in accordance to manufacturer's specifications and approval by this Department.

k) All distribution boxes shall be bedded level on undisturbed soil or on a concrete base.

l) All smeared or compacted surfaces shall have sidewalls scarified.

m) Clean drain rock or medium conforming to specifications stated in this section shall be placed in the trench to the depth and grade required by the design.

n) The drain lines shall be covered with a minimum 2" of drain rock, then covered with an approved soil barrier cover of filter fabric, untreated paper, or straw to prevent closure of voids with earth backfill.

o) No earth backfill shall be placed over the soil barrier cover until after inspection and approval.

2. Distribution

a) Serial distribution shall be used for gravity fed systems where multiple trenches are utilized unless otherwise approved by the Department.

b) Distribution boxes, when used, shall be installed level, with leach field piping to allow serial distribution to multiple leach lines.

c) Grouting material, when used, must not crack or crumble out of connection.

(1) Multiple disposal field laterals, wherever practical, shall be of uniform length.

(2) Distribution boxes shall be installed on native soil with a five (5) foot separation from leach lines by an undisturbed soil platform.

(3) Serial distribution is to be utilized on sloping ground as determined by the consultant/designer. Each horizontal leaching trench shall be utilized to the maximum capacity before the effluent shall pass to the next lower leach line. The lines between each horizontal leaching section shall be made with watertight joints.

(4) Connections between a septic tank and a distribution box, or between a distribution box and a leach line, shall be laid in natural ground. Effluent sewer pipe, header pipe, and fittings (all tight line): Header pipe shall extend a minimum of five (5) feet out of the distribution box.

(5) Disposal fields shall be protected from vehicle traffic, confined animal and livestock areas, and shall remain unencumbered by structures, above ground swimming pools, and any other use that may damage or compact the soil above the disposal field.

(6) Variances to the above criteria when proposed by a design qualified professional will be reviewed and approved on a case by case basis.

(7) Drain rock shall be clean, sound, gravel or crushed rock ranging in size from 3/4 to 1 1/2inch diameter, with <5% outside this range. Rock and gravel shall contain no more than one percent (1%) fines, dust, sand, or clay by weight (less than (1%) percent by weight passing the #200 sieve).

(8) Transfer of Ownership

Six months after adoption of this resolution, at the time a property is sold a certified Onsite Wastewater System Inspector recognized by this department shall inspect all onsite wastewater treatment systems (septic tank and leach fields). The inspection report shall be filed with this office 30 days after the inspection.

F. COMMERCIAL OR INDUSTRIAL SPECIAL LIQUID WASTE DISPOSAL

Effluent containing commercial or industrial waste which could effect the satisfactory functioning of an on site waste disposal system shall have pretreatment devices such as an interceptor tank.

Liquid waste containing hazardous substances may not be discharged into a subsurface onsite wastewater disposal system.

A minimum of a 500 gallon in-ground grease trap will be required on all grease producing commercial establishments.

G. HOLDING TANKS AND CESSPOOLS

Holding tanks, cesspools, and other wastewater disposal systems requiring drained or pumped removal from the premises and transportation by vehicle for disposal shall not be allowed and are prohibited unless otherwise permitted by this resolution. NOTE: A pre-existing, approved holding tank will be allowed to continue use. Any change to that approval shall be at the discretion of the Director of Environmental Management.

H. SEASONAL USE CABINS ON FEDERAL LAND

1. New construction shall comply with the resolution. Only existing cabins on Federal land, when severe site constraints limit the ability to comply, have the following options for repair of existing systems:

a) Vault holding tank toilets may be allowed when an individual onsite sewage disposal system cannot be constructed.

b) Vaults shall be watertight.

c) Vaults shall be maintained to prevent health hazards and pollution.

d) Vaults shall be pumped by a licensed septage pumper at the end of each season, at a minimum, and pumper's receipt shall be submitted to the Department within 30 days of pumping.

e) Composting or other alternative toilet. Plans and specifications shall be submitted along with certification from NSF or other outside agency.
f) Graywater shall be disposed of in a watertight holding tank which will be pumped out by a licensed septic tank pumper or other sub-surface method approved by the Department. Graywater shall not be directly discharged onto the ground surface.

Section 4 – Repair or Additions to Existing Systems

A. REPAIR CRITERIA

A repair of an existing septic system occurs when a system is failing and can include either the septic tank or the leach field, or both. A repair permit is required in order for any person to install, replace, abandon or change a system. The repair permit does not include an addition for expansion purposes or relocation of a system to enable construction of additional structures. A repair does not increase the size capacity of the original system.

B. DESIGN FOR SINGLE FAMILY DWELLINGS

1. Existing records on file. When existing records are on file (percolation rate, design calculations, and/or original design), a contractor or qualified professional can use that information to calculate the size and design of the repair.

2. No records on file. When no records exist for a parcel, the contractor, consultant/designer, or property owner can research surrounding parcels for adjacent percolation and design data. If data that is found is acceptable to the Department*, the contractor or qualified professional may be able to calculate the size of an adequate repair. In addition to adjacent percolation data, a test trench may be required to verify soil depth and depth to groundwater.

3. If data is not available for surrounding parcels or is not acceptable* to the Department, a site evaluation and percolation test will be required.

**Dependant on the area, acceptable shall mean adjacent parcels or in surrounding area where soils are uniform within the same subdivision or area acceptable to the Environmental Health Specialist reviewing the proposal.*

C. SMALL PARCELS AND LIMITED AREA FOR REPAIR

1. Owners of existing developed parcels that do not have adequate area available for a complete septic system repair may be required to remove minor structures (sheds or other out-buildings) along with trees and other landscaping in order to provide an adequate area for a complete repair.

2. Owners may be advised to consider obtaining an easement from an adjacent property in order to provide adequate area for a complete repair.

3. If all possibilities for a complete disposal field replacement have been exhausted, a septic system repair can be approved with the addition of as much leach line as possible and a document recorded with the County Recorder's Office stipulating the limitation of the system repair.

4. When possible, a diversion valve shall be installed to allow for future use of the existing failing leach line after a drying out period.

5. Seepage pits shall only be considered for review after a site inspection by the Department is performed and it is verified that there is not adequate area available for a typical leach line system.

D. REPAIRS FOR COMMERCIAL PROPERTIES

Repairs for commercial properties require a site evaluation by a Registered Civil Engineers, Registered Geologists, Certified Professional Soil Scientists, or Registered Environmental Health Specialists who are knowledgeable and experienced in the field of wastewater disposal system design and installation.

E. REPAIRS USING PUMP SYSTEMS

1. The pump system operation shall be inspected at the time of the final inspection. If not operational at the time of the final inspection, an additional inspection and fee is required. The operating pump inspection is a joint inspection by the Department and the qualified professional and/or Contractor.

2. Electrical components and connections of a repair shall be permitted and inspected by the County Building Department. Repair permit will not be finalled until final approval of the electrical permit is verified by the Building Department.

F. ABANDONED SEWERS AND WASTEWATER DISPOSAL FACILITIES

1. Every abandoned septic system, or part thereof, shall be plugged or capped in an approved manner.

2. Every cesspool and septic tank which has been abandoned from further use shall have the lids removed and contents pumped out by a licensed septic tank pumper. The empty septic tank shall be completely filled with earth, sand, gravel, concrete, or other approved material.

3. Where disposal facilities are abandoned consequent to connecting any premises with the public sewer, the disposal facilities shall be properly abandoned as required by the Department within thirty days (30) from the time of connecting to the public sewer.

G. SETBACKS

1. TABLE 3: Minimum Setback Distances

FEATURE REQUIRING SETBACK	DISPOSAL FIELD AND REPLACEMENT AREA	SEPTIC TANK
Flowing stream, lake, pond, marsh or wetland[2]	100'	50'
Well, spring (public or domestic)	100'	100'
Seasonal wet area	50'	50'
Ephemeral stream or drainage course[1]	50'	25'
Lake or pond used for drinking water[2]	200'	100'
Lot lines, road easements, driveways, buildings	10'	5'
Domestic water service line	5'	5'
Cuts or fills (down gradient)	4x maximum depth below grade, 25' maximum	10'
Swimming pools	10'	5'
Property line adjoining private property	10'	5'

[1] As measured from the edge
[2] As measured from the 10 year high water mark
[3] Buildings include porches and steps, whether covered or uncovered, breezeways, roofed porte-cocheres, roofed patios, carports, walks, covered driveways, and similar structures or appurtenances

2. Additional Set Backs

The procedures for notifying the owner of a public water system prior to issuing an installation or repair permit for an OWTS will be made through the computer system where all approvals occur for new construction.

(1) 150 feet from a public water well where the depth of the effluent dispersal system does not exceed 10 feet in depth.

(2) 200 feet from a public water well where the depth of the effluent dispersal system exceeds 10 feet in depth.

(3) Where the effluent dispersal system is within 600 feet of a public water well and exceeds 20 feet in depth and the separation from the bottom of the system and ground water is less than five feet 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.

(4) Where the effluent dispersal system is within 1,200 feet from a public water systems' surface water intake point, and 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.

(5) 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 and 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.

(6) For replacement OWTS that do not meet the above horizontal separation requirements, the replacement OWTS shall meet the horizontal separation to the greatest extent practicable. In such case, the replacement OWTS shall utilize supplemental treatment and other mitigation measures, unless the permitting authority finds that there is no indication that the existing previous system is adversely affecting the public water source, and there is limited potential that the replacement system could impact the water source based on topography, soil depth, soil texture, and groundwater separation.

(7) For new OWTS, installed on parcels of record existing at the time of the effective date of this Policy, that cannot meet the above horizontal separation requirements, the OWTS shall meet the horizontal separation to the greatest extent practicable and shall utilize supplemental treatment for pathogens

Supplemental treatment components designed to perform disinfection shall provide sufficient pretreatment of the wastewater so that effluent from the supplemental treatment components does not exceed a 30-day average TSS of 30 mg/L and shall further achieve an effluent fecal coliform bacteria concentration less than or equal to 200 Most Probable Number (MPN) per 100 milliliters.

Section 5 - Definitions

American Society for Testing Materials (ASTM): A technical organization with headquarters located at 1916 Race Street, Philadelphia, Pennsylvania, 19103, which publishes national standards for the testing and quality assurance of construction materials.

Absorption Area: The sidewall area below the distribution area, except for gravel-less chambers.

Applicant: An owner or owner's authorized representative.

Bedrock: The rock, usually solid, that underlies soil or other unconsolidated surface material.

Bedroom: Any room designated as such by the local Building Authority having jurisdiction.

Building Sewer: Drainage piping which conveys sewage from a building to the septic tank, or public sewer.

Building Site: This resolution adopts by reference the definition as it appears in the El Dorado County Land Use and Development Code and amendments thereto.

Commercial Facility: Any structure or building, (excluding single-family residential units), or any portion thereof, intended for commercial or industrial use.

Consultant/Designer: One of the following persons (exclusive of Department personnel) Registered Environmental Health Specialist, Professional Geologist. Licensed professional engineer

Conventional Onsite Wastewater Treatment System: A system that consists of a septic tank and a gravity subsurface dispersal system. A conventional system may include septic tank effluent pumping where the dispersal area is located at a higher elevation than the associated septic tank.

Cut: A land surface resulting from mechanical land shaping.

Department: The El Dorado County Department of Environmental Management, Division of Environmental Health and its designated employees.

Director: The Director of the El Dorado County Department of Environmental Management. This position also functions as Deputy Health Officer.

Dispersal System: A leachfield or other infiltration system for subsurface discharge.

Disposal Area: The entire area used for underground dispersion of the liquid portion of wastewater.

Drain Rock: Clean, sound gravel or crushed rock ranging in size from 3/4 to I 1/2inch diameter, with <5% outside this range. Rock and gravel shall contain no more than one percent (1%) fines, dust, sand, or clay by weight (less than (1%) percent by weight passing the #200 sieve).

Dwelling: Any structure or building or any portion thereof, which is used, intended, or designed to be occupied for human living purposes including, but not limited to, houses, manufactured homes, houseboats, boathouses, mobile homes, travel trailers, hotels, motels, and apartments.

Effective Soil Depth: The depth of soil material from ground surface that effectively provides filtration of effluent. Effective soil excludes soil layers that meet the criteria for "Soil with rapid permeability" (<5 m.p.i.), Groundwater "Conditions associated with saturation" and "Limiting Layers" (<15% porosity).

Effluent: The partially treated, liquid portion of wastewater.

Ephemeral Stream: A natural stream that does not flow continuously throughout the year, but that has a well-defined channel of stream gravel or bedrock control.

Failing Septic System: System which discharges untreated or inadequately treated wastewater or septic tank effluent directly or indirectly onto the ground surface, into public waters.

Gravel-less disposal field: Prefabricated chambers used in leach field disposal fields as filter media instead of gravel (drain rock).

Graywater: Untreated wastewater (wastewater) that has not come into contact with toilet wastes. It includes used water from bathtubs, showers, bathroom washbasins, and from clothes washing machines and laundry tubs. It does not include wastewater from kitchen sinks, dishwashers or laundry water from soiled diapers.

Groundwater: A layer or lens of soil or fractured bedrock in which all open spaces are filled with water. The thickness and extent of groundwater may vary seasonally or periodically in response to changes in the rate or amount of groundwater recharge or discharge.

Medium: Drain rock, chambers, ez flow or other approved material used to fill the void of a leach trench.

Operating Permit. "Operating permit" means a permit issued by the health officer which authorizes operation of the supplemental treatment wastewater disposal system and shall be renewed at least every two years or as otherwise specified on a case-by-case basis. The operating permit is intended to serve as the basis for verifying the adequacy of the supplemental treatment wastewater disposal system performance and maintenance. Operating permits are issued after granting of the certificate of installation.

Owner: Any person who alone, or jointly, or severally with others:

a. Has legal title to any single lot, dwelling, dwelling unit, or commercial facility.

b. Has care, charge, or control of any real property as agent, executor, executive administrator, Administrative trustee, commercial lessee, or guardian of the estate of the holder of legal title; or the owner's authorized representative.

Perennial Stream: A natural stream where water is present nine (9) months or more of the year, including all irrigation ditches and other public water conveyances.

Permit: The written document issued and signed by the Division of Environmental Health, which authorizes one to construct a system or any part thereof.

Person: Includes individuals, corporations, associations, firms, partnerships, joint stock companies, public and municipal corporations, political subdivisions, cities, counties, the State and any agencies thereof, and the Federal government and any agencies thereof

Pipe Fitting Distribution (Crossover Unit): A series of pipefittings connected to the distribution pipe providing serial distribution of effluent in the disposal field.

Privy: A structure for collection of human waste without the aid of water. It consists of a shelter built above an excavated pit into which human waste falls. The pit privy has no direct water connection.

Pollution: The undesirable change in the physical, chemical, or biological characteristics of air, land, and water that may or will harmfully affect human life or that of other desirable species, industrial processes, living conditions, and cultural assets; or that may or will waste or deteriorate raw material resources.

Public Entity: A local agency, that is empowered to plan, design, finance, construct, operate, maintain, and to abandon, if necessary, any sewerage system or the expansion of any s wastewater treatment facilities serving a land development. as defined in the State of California Government Code Section 53090 ET. Esq.

Replacement Area (Repair Area): An area that is one hundred (100) percent in size of the area approved for the initial wastewater system disposal field for a residence, and three hundred (300) percent in size of the area approved for the initial wastewater system disposal field for others.

Repair (System Repair): Installation, replacement and/or connection of the portion(s) of a system necessary to eliminate a public health hazard or pollution of public waters created by a failing system.

Septic Tank: A watertight receptacle which receives sewage from a building or structure that functions to separate solids from liquids, retains and digests organic matter and discharges the resulting effluent to second treatment unit or to a soil disposal area.

Single Family Dwelling: A dwelling designed for and commonly occupied exclusively by one sewerage system and family.

Slope: The rise or fall in feet per one hundred (100) feet of horizontal distance. Slope is expressed as a percent of grade. For example: a land surface at a 45-degree angle has a slope of 100%.

Soil: The unconsolidated mineral or organic matter on the surface of the earth that has been subjected to and influenced be genetic and environmental factors of, parent material, climate, macro-and-micro-organisms, and topography, all acting over a period of time and producing a product-soil- that differs from the material from which it is derived in many physical, chemical, biological, and morphological properties and characteristics.

Swale: A depression that carries water during or immediately after rainfall.

Soil Observation Pit: An excavation of sufficient size and depth to allow thorough examination of the soil to evaluate its suitability for wastewater disposal.

System: A facility, including replacement area, designed for the treatment and disposal, of wastewater, or sewage storage only, on a site.

Tight-line: The solid distribution pipe that conveys the effluent from the septic tank to the disposal field including the distribution laterals.

Wastewater: Blackwater, graywater, and/or any liquid contaminated with materials thereof

Water table: That level of groundwater where the hydraulic pressure is zero.

Wet Weather Testing: Wet weather conditions are defined as when V2of the annual rainfall has occurred for the elevation where the property is being tested.

APPENDIX E

SEWAGE COMPLAINT INVESTIGATIONS PROCEDURAL MANUAL

ENVIRONMENTAL MANAGEMENT DEPARTMENT
SEWAGE SPILL PROCEDURE – PUBLIC SEWER SYSTEMS

1.0 BACKGROUND

When sewage spills occur from public sewer systems, the Environmental Management Department is responsible for notifying the public of potential health risks. The following is the procedure Environmental Management Department staff will follow for responding to reported sewage spills.

2.0 PROCEDURE

1. For spills that occur during regular business hours, the public sewer system operator (City of Placerville, El Dorado Irrigation District [EID] or South Tahoe Public Utility District (STPUD)) will contact the Environmental Management Department at (530) 621-5300 in Placerville, or (530) 573-3450 in South Lake Tahoe. Upon receiving the call, a Department staff person shall complete the top half of the Spill Log (see attached) and record the spill in the appropriate excel spread sheet.

2. For spills that occur after hours, the sewer system operators have been directed to contact County Dispatch (530-621-6600), who will then page the Department's on call staff.

3. After completing the Spill Log, the responder will immediately notify the District REHS if one of the following conditions exist:

    a. the spill has impacted a waterway (storm drain, creek, stream, etc.) or
    b. the spill quantity is greater than 1000 gallons. If the District REHS is not available, the Department staff person shall contact the Supervising REHS.
    c. the spill impacted a regulated facility (such as a restaurant, pool, or water system).

4. If the spill is less than 1000 gallons and has been contained by the sewer system operator, the Department staff person may leave a voicemail message for the District REHS and place the Spill Log in his/her box.

5. Upon receiving the Spill Log, the responding REHS shall review the spill information and determine the extent of threat to public health and safety by considering the following:

- The estimated amount of sewage spilled.
- The area in which the spill occurred.
- The area impacted by the spill.
- The clean-up measures utilized by the sewer system operator.
- Observations at the site (if it is determined that an inspection is necessary).
- Available public access to the affected waterway (if applicable).
- Weather (rainfall, snow, etc).

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5. After reviewing the spill information, the district REHS may determine that an on site inspection is necessary. During the inspection, the REHS shall perform appropriate public notification by posting signs and/or distributing flyers (see attached).

6. The responding REHS is responsible for completing the second half of the Spill Log.

7. All completed spill logs shall be returned to a Dev Tech/Office Assistant, who will record the spill in the appropriate excel spread sheet and file the report. Be sure that any documentation from the public sewer operator (e.g. letters or sample results) and/or the Office of Emergency Services is attached to the completed log. *For spills occurring after hours, the on call staff will first return the completed Spill Log to the District REHS, who will then forward the log to the Department Staff person.*

8. If public notification signs are posted, the REHS (considering such factors as rainfall, time, creek flows, and sampling data ǂif availableǂ) shall remove the signs when the spill impact has diminished.