



CATHY A. RAEVSKY, DIRECTOR

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202 MIRA LOMA DRIVE, OROVILLE, CA 95965

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WASTEWATER ADVISORY COMMITTEE

MINUTES

JANUARY 13, 2015

TAHOE ROOM \*\* 202 MIRA LOMA DRIVE, OROVILLE

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I. Preliminary Items

A. Call to Order

Nick called the meeting to order at 3:40 p.m. when a quorum was established

B. Role Call and Determination of Quorum

Nick Weigel, Wes Gilbert, DC Jones, Buddy Nottingham (alternate), and Will Arnold, were present.

Rick McCauley, Bryon Cobb, Lauralyn Lambert, Bill Dinsmore, Jan Hill, Priscilla Rawlings (alternate), and Doug Flesher (alternate) were absent.

A quorum was established at 3:40 pm upon the late arrival of the 5<sup>th</sup> WAC member.

C. Introduction of Guests

David Anderson, Trevor Gillespie, Dick Backelder, Dawn Brewton, Herb Brewton, Bob Cox, Doug Danz, Robert Perkins, Pompilio Ortiz, Dave Flourney, and Marc Sulik attended as guests. Brad Banner, Kristen McKillop, and Charlotte Walters attended the meeting on behalf of the Public Health Department.

D. Review of Minutes

The meeting notes from October 7, 2014 meeting were reviewed. DC made a motion to accept the minutes as written. Will seconded the motion and the motion passed with Wes abstaining..

E. Agenda Review

Note: Due to the delayed establishment of a quorum, the items on the agenda were taken out of sequence. These minutes have accurately recorded all committee actions, but in a different order than they occurred at the meeting.

F. Public Comments and Input

There was no public comment.

## II. Action Items

### A. Election of Officers

The committee deferred the election of officers until the next regularly scheduled meeting so that a larger group of members could be involved.

### B. Consideration of Changes to the Onsite Wastewater Manual

#### 1. Part 1 (Process), Chapter 2, Section E. (See Attachment 2)

After clarification of what is referenced as the septic tank “lid,” Will made a motion to recommend adoption of the proposed changes. DC seconded the motion and the motion passed unanimously.

#### 2. Part 2 (Materials), Chapter 2, Section A. (See Attachment 3)

The committee tabled consideration of this item until the next regularly scheduled meeting. Infiltrator Systems, Inc. proposed modifications will be included for consideration at that time.

#### 3. Part 2 (Materials), Chapter 8, Section D. (See Attachment 4)

The committee tabled consideration of this item until the next regularly scheduled meeting.

#### 4. Part 2 (Materials), Chapter 11, Section A. (See Attachment 5)

The committee tabled consideration of this item until the next regularly scheduled meeting.

#### 5. Part 3 (System Requirements), Chapter 5 (New Chapter) (See Attachment 6)

Wes made a motion to recommend adoptions of the proposed changes. Will seconded the motion and the motion passed unanimously.

#### 6. Part 3 (System Requirements), Chapter 6, Section F. (See Attachment 7)

The committee tabled consideration of this item until the next regularly scheduled meeting. Infiltrator Systems, Inc. proposed modifications will be included for consideration at that time.

#### 7. Part 4 (OM&M Program), Chapter 4, Section A. (See Attachment 8)

Wes made a motion to recommend adoptions of the proposed changes. DC seconded the motion and the motion passed unanimously.

#### 8. Part 4 (OM&M Program), Chapter 4, Section C. (See Attachment 9)

Buddy made a motion to recommend adoption of the proposed changes. Will seconded the motion and the motion passed unanimously.

9. Part 4 (OM&M Program), Chapter 4, Section D. (See Attachment 10)

With a reference added regarding disinfection, Buddy made a motion to recommend adoption of the proposed changes. Wes seconded the motion and the motion passed unanimously.

C. OM&M Inspection Checklist

1. The group reviewed the draft OM&M checklist. Buddy suggested that there should be individualized checklist for each system or for each type of system rather than a single checklist that is only completed for the relevant system components.
2. Nick said that there are inspection form that have been developed by the National Association of Waste Transporters.
3. The consensus was for a subcommittee to be formed to look at the NAWT inspection forms and consider modifications to the draft form being reviewed. No action was taken on this item.

**III. Informational Non-Action Items**

None.

**IV. Agenda Preparation for Next Meeting**

The next meeting will be scheduled for February 17, 2015 at the Chico Association of Realtors. The agenda will include further consideration of the tabled items plus a report from the OM&M inspection report subcommittee.

**V. Adjourn**

The meeting adjourned at 5:05 p.m.

### Attachment 1. Sign-In Sheet



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## Wastewater Advisory Committee Sign-In Sheet

Date: January 13, 2015 Location: Tahoe Rm, 202 Mira Loma Dr., Oroville

Name	Initials	Email ( <u>only</u> for guests not on the WAC email address list)
David Anderson	Das	andersond12@scglobal.net
Trevor Gillespie	TG	tgillespie@infiltratorsystems.net
Dick Bachelder	DB	dbachelder@infiltratorsystems.net
D.C. JONES	DCJ	—
Wes Gilbert	WEG	on file
Kristen McKillop	KM	
Drew Brewster	DB	kristen@softic-brewster@net.com
Herb Brewster	HB	" "
Bob Cox	R.C.	
Doug Danz	DD	
Nick WEIGEL	DW	
Robert Parkins	RP	
Pamela V. Ortiz	PO	

William BRUNS WB  
 Dave Flournoy DF  
 Marc Jilke MJ  
 marc54725@att.net

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## Attachment 2. Changes to Onsite Wastewater Manual, Part 1, Chapter 2, Section E.



### On-Site Wastewater Manual – Part 1 – Process

Adopted March 16, 2010

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- (2) The homeowner has recorded the ongoing need for an Operating Permit on the property deed.
- (3) An Operating Permit has been issued as described in Chapter 3 of this Part.

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

##### 1. When Construction Permit Required

- a. Construction Permits are required to repair or significantly modify existing on-site wastewater systems or to destroy a septic tank. However, these permits are not required for servicing or replacing installed mechanical or electrical parts of the systems, including:

- (1) Float switches
- (2) Pumps
- (3) Electrical boxes
- (4) Sanitary tees in the septic tanks
- (5) Minor structural corrections to the tank
- (6) Repair/replacement of the distribution box, or repair/replacement of the sewer line from the tank to the distribution box.

- b. Other than replacement of septic tank inlet and outlet T's or replacement of septic tank access lids, LEA Notification and Plan Review must take place BEFORE the service is performed.

##### 2. When Elements of Site Evaluation Required

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

##### 3. Special Considerations for System Repairs

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

## Attachment 3. Changes to Onsite Wastewater Manual Part 2, Chapter 2, Section A.



On-Site Wastewater Manual – Part 2 – Materials  
Adopted March 16, 2010 - Updated August 24, 2010  
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### Part Two: Materials

#### Chapter 1. Building Sewer

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

#### Chapter 2. Septic Tank

A. General criteria: Septic tanks must:

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

## Attachment 4. Onsite Wastewater Manual, Part 2, Chapter 8, Section D.



**On-Site Wastewater Manual – Part 2 – Materials**  
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- The electrical box for the pump and alarm system must not be located in an environment that may damage the components.
- F. Wiring must be of proper construction and gauge and permanently fixed to a supporting structure under permit from the local Administrative Authority.
  - G. The pump and alarm must be connected to separate circuits.
  - H. There must be a non-resettable digital pump cycle counter in the electrical box.
  - I. There must be a manual override switch in the electrical box to facilitate dosing control during inspections.

### Chapter 8. Pipe

- A. All pipe throughout the wastewater system must be clearly labeled and installed so that the labeling can be readily identified by LEA inspectors. Labeling, consisting of durable ink, must cover at least 50% of the length of the pipe. Labeling may consist of a solid line, letters, or a combination of the two. Intervals between markings must not exceed 12 inches.
- B. Schedule 40 ABS must be used from the house to the septic tank
- C. Schedule 40 ABS or SDR 35 (ASTM D 3034) must be used as follows:
  - 1. From the septic tank to the distribution box (if applicable)
  - 2. From the distribution box outlet for a minimum of 5 feet
  - 3. From the septic tank to the pump chamber (if applicable)
- D. Gravity Distribution (leachline) Dispersal
  - 1. One of the following grades of 4-inch perforated pipe must be used:
    - a. SDR 35 (ASTM D 3034) 4-inch diameter
    - b. Triple Wall ASTM F810
  - 2. ~~Alternatives to piping, such as G~~gravelless chambers, may be used provided the pipe meets IAPMO/ANSI standard PS-63 when approved by the LEA.
  - 3. The pipe described ~~above~~ in subsection D.1. of this section must have 2 rows of holes spaced 120 degrees apart and 60 degrees on either side of a centerline. The holes of each row must not be more than 5 inches on-center and must have a minimum diameter of one-half inch.
- E. Pressure transport pipe, pressure distribution manifolds, and pressure distribution laterals (piping and fittings), must meet the most current requirements for schedule 40 PVC pressure pipe as identified in ASTM Specifications D-1785, or other material approved by the LEA. All pressure distribution laterals and all pressure transport and manifold piping must be adequately sized for the design flow.
- F. Curtain drain pipe must meet the requirements specified in the Manual for gravity drainfield pipe. Other types of pipe may be approved by the LEA,

**Attachment 5. Onsite Wastewater Manual, Part 2, Chapter 11, Section A.**



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provided it can be demonstrated that the selected pipe has the structural strength for the application proposed.

**Chapter 9. Drainrock**

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

**Chapter 10. Barrier Material**

- A. Untreated building paper or two inches of compacted straw may be used for standard gravity systems.
- B. Filter fabric must be used for non-standard systems and must meet or exceed the specifications described in the following table:

Property	Requirement	Test Method
Grab Strength	80 lbs.	ASTM D4632
Puncture Strength	25 lbs.	ASTM D4833
Trapezoid Tear	25 lbs.	ASTM D4533
Apparent Opening Size	AOS < 0.297 mm, or > #50 US Standard Sieve	ASTM D4751
Permeability	> #50 US Standard Sieve 0.4 cm/sec for Soil Types 1,2 0.004 cm/sec for Soil Types >2	ASTM D4491

<sup>1</sup> Examples of filter fabrics meeting this specification include: Mirafi 140 NSL.

**Chapter 11. Bundled Synthetic Aggregate**

- A. As substitute for pipe, drainrock, and barrier material, Bundled Expanded Polystyrene (~~EPS~~) Synthetic (EPS) -aggregate meeting IAPMO standard IGC 276 may be used for wastewater dispersal. Units are cylindrically shaped; having a seamless external permeable netting that contains EPS synthetic aggregate. A geotextile is pre-inserted between the EPS synthetic aggregate and netting as a barrier material to overlying soil. At least one bundled EPS synthetic aggregate unit in the configuration shall include an internal 4-inch pipe. The internal pipe shall comply with ASTM F405.
- B. Bundled EPS synthetic aggregate shall be H-10 rated. Units may contain a plastic pipe for longitudinal conveyance of water.
- C. EPS synthetic aggregate particles shall be relatively uniform in shape and size. The aggregate particle size may range from 0.5 inches to 2.0 inches along any axis. EPS synthetic aggregate must provide a minimum porosity of 30%.

## Attachment 6. Onsite Wastewater Manual, Part 3, Chapter 5



**On-Site Wastewater Manual – Part 3 – System Requirements**  
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### Chapter 5. Septic Tank Destruction

#### A. Application

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

#### B. Issuance

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

#### C. Process

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

## Attachment 7. Onsite Wastewater Manual, Part 3, Chapter 6, Section F.



**On-Site Wastewater Manual – Part 3 – System Requirements**  
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- a. A pump basin with pump may be utilized when any toilet being serviced, in the case of residential application, is not the sole toilet utilized by the residence.
  - b. A solids handling pump, rather than a grinder pump, must be used and must pump directly into the septic tank with a 4 inch penetration 10 ft from the tank inlet.
- F. Gravelless Chamber and Bundled Expanded Polystyrene Synthetic (EPS) Aggregate Systems (Exclusive of Subsurface Drip Irrigation Systems)
1. With 100% of the area required for a gravel-filled drainfield established and dedicated (for initial and replacement fields) reduced-size gravelless chamber bundled EPS aggregate drainfields may be designed and installed.
  2. System design, layout, and installation must be done in a manner easily facilitating the installation of additional gravelless chamber or bundled EPS aggregate drainfield if future conditions necessitate such action.
  3. Except for those serving seasonal dwellings, drainfields using gravelless chamber or bundled EPS aggregate products may be reduced by 30%, provided no additional sizing reductions (such as for use of pressurized distribution or supplemental treatment) are utilized is design of the drainfield system.
  - ~~4.~~ Wastewater from residential sources must receive pre-treatment at least equal to that provided in a conventional two-compartment septic tank, before discharge to a gravelless drainfield.
  - ~~5.~~ Drainfields using gravelless distribution products must be installed according to the manufacturer's instructions, in a manner that is consistent with these standards and with state and local rules.

### ~~Chapter 6.~~ Chapter 7. **Deep Trench Systems**

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

- A. The trench will be filled with an approved medium to coarse sand to within 24 inches of the finished grade so that wastewater from the pipe and gravel dispersal system will discharge over the sand bedding in the deep trench.
- B. The system will be sized based on the texture and/or percolation rate of the receiving soil at the bottom of the trench.
- C. If the trench is deeper than 48 inches beneath the finished grade, pressurized distribution over the sand will be required.
- D. Minimum distance of undisturbed soil between drainfield trenches (inner sidewall-to-inner sidewall) within a deep trench drainfield must be 2 times

**Attachment 8. Onsite Wastewater Manual, Part 4, Chapter 4, Section A.**



**On-Site Wastewater Manual – Part 4 – OM&M Program**  
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3. Referral to Environmental Health for additional information regarding the system's operation, monitoring, and maintenance requirements and estimated cost of maintenance and replacement.

**Chapter 4. Inspection Frequency and Maintenance Checks**

**A. Inspection Frequency**

Inspection Interval (Following Initiation of System Use)	Standard Gravity System	Pressure Dist. or Siphon	Mound or Single-Pass Sand Filter	ATU or Packed-Bed Filter (1)	Disinfection Units
First 6 weeks					PL or OM
Monthly					PL or OM (if no tolemetry)
6 months after initiation of use			OM	OM	
Annually			OM		
As required by the manufacturer or NSF, but not less than once per year				PL or OM	PL or OM (with tolemetry)
Every 2 years		OM (Recommended Only)			
Every 5 years	PU or IN or OM (Recommended Only)				

(1) Supplemental treatment systems, other than single-pass sand filters, used for treatment prior to disinfection must be monitored monthly for the first year of operation and longer if necessary to assure treatment requirements are reliably met

- PL- Proprietary Device Licensee (also must be locally certified as OM&M Specialist)
- PU- Certified Pumper
- INS- Certified Installer
- HO- Homeowner
- OM- Certified Operation, Monitoring, and Maintenance Specialist

**B. System-Specific Requirements**

Complexity and frequency of inspection will be related to the complexity and maintenance requirements of the system components, and based upon consideration of:

1. Recommendations of the Wastewater Advisory Committee
2. Recommendations of the manufacturer
3. Industry standards of practice

**C. Minimum Inspection Requirements**

1. Septic Tank

## Attachment 9. Onsite Wastewater Manual, Part 4, Chapter 4, Section C.



On-Site Wastewater Manual – Part 4 – OM&M Program  
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### C. Minimum Inspection Requirements

#### 1. Septic Tank

- a. Scum and sludge measurements (pumped as needed)
- b. Indication of water intrusion (~~dissolved oxygen measured by OM&M Specialist only~~)
- c. Integrity of tank, including observation for:
  - (1) Cracks or indications of structural deterioration
  - (2) Condition of inlet and outlet "T"
  - (3) Condition of lids
  - (4) Indication of leaks in risers
- d. Condition of effluent filter, if present

#### 2. Pump and Dosing Chamber

- a. Scum and sludge measurements, pumping as needed
- b. Indication of water intrusion (~~dissolved oxygen measured by OM&M Specialist only~~)
- c. Integrity of tank, including observation for:
  - (1) Cracks or indications of structural deterioration
  - (2) Condition of inlet and outlet "T"
  - (3) Condition of lids
  - (4) Indication of leaks in risers
- d. Condition of and correct operation of all floats
- e. Orderly wrap of float cords
- f. Condition of pump intake screen
- g. Verification of pump cycle
- h. Siphon sitter functioning, if applicable

#### 3. Control panel in good working order based on checking the following components:

- a. Timer and digital counter readings recorded by OM&M Specialist during the inspection for future reference. For control panels that record pump activity electronically, it is not necessary to record activity during field inspection.
- b. Pump cycle counter operation verified by the OM&M Specialist in the field by manual operation of the pump. For control panels that record pump activity electronically, counter operation can be verified remotely.
- c. Audible and visual alarms functioning
- d. Run time appropriate, if demand dose

## Attachment 10. Onsite Wastewater Manual, Part 4, Chapter 4, Section D.



**On-Site Wastewater Manual – Part 4 – OM&M Program**  
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- f. Condition of orifices and verification of hydroflush if necessary
  - g. Within pump well, check for same items as listed under "Pump and Dosing Chamber"
  8. Aerobic Treatment Units, Including Packed-Bed Filters  
Follow requirements outlined by manufacturer and/or NSF.
  9. Add-On Disinfection Component  
Follow requirements outlined by manufacturer and/or NSF.
- D. Supplemental Treatment Effluent Monitoring
1. Any system that incorporates supplemental treatment shall be monitored annually for performance in the following manner:
    - a. Treated effluent and, where applicable, untreated influent will be sampled and tested at least annually for ~~total and fecal coliform~~, BOD, and TSS. Treated effluent and, where applicable, untreated influent and effluent of systems with Operating Permits requiring nitrogen reduction shall, in addition, be tested for Total Nitrogen. Treated effluent of systems utilizing disinfection shall, in addition, be tested for total and fecal coliform.
    - b. Where the OM&M Specialist has used field testing for pH, DO, and turbidity in addition to the parameters identified above during six consecutive monitoring events over a three year period, and where a relationship between field testing measurements and BOD/TSS has been established to the satisfaction of the LEA, the LEA may approve field testing in lieu of testing for BOD and TSS for future routine maintenance events.
    - c. Three years of effluent monitoring has shown the treatment system consistently meets the standards outlined in this Manual for BOD and TSS, the LEA may approve field testing.
    - d. When effluent quality monitoring results indicate that the supplemental treatment and/or add-on disinfection did not meet the minimum treatment levels specified in this Manual, a second sample will be taken within three months. If the follow up sampling results indicate that the supplemental treatment and/or add-on disinfection unit is not performing to the treatment levels specified in this Manual, the OM&M Specialist will inform the LEA and will take the corrective action necessary to achieve the treatment levels specified in this Manual. Correction of treatment problems will be verified