



COUNTY OF HUMBOLDT

AGENDA ITEM NO.

I3

For the meeting of: August 21, 2018

Date: July 15, 2018

To: Board of Supervisors

From: Connie Beck, Director *LW for Connie Beck*
Department of Health and Human Services - Public Health Branch

Subject: Review of and approval to revise the Experimental Disposal System Program Chapter 5, Division 1, Title VI of the Humboldt County Code

RECOMMENDATION(S):

That the Board of Supervisors:

1. Receive this report by staff and
2. Direct the Department of Health and Human Services (DHHS) to continue with the revision of the Humboldt County Code Title VI, Division 1, Chapter 5, and return with a proposed update for adoption by the Board at a future meeting.

SOURCE OF FUNDING:

Public Health Fund

Prepared by Mario Kalson REHS, Supervising EHS

CAO Approval *[Signature]*

REVIEW:

Auditor _____ County Counsel *JN* Human Resources _____ Other _____

TYPE OF ITEM:

☐ Consent
☒ Departmental
☐ Public Hearing
☐ Other _____

PREVIOUS ACTION/REFERRAL:

Board Order No. _____

Meeting of: _____

BOARD OF SUPERVISORS, COUNTY OF HUMBOLDT

Upon motion of Supervisor *Wilson* Seconded by Supervisor *Bass*

Ayes *Bass, Fennell, Sundberg, Bohn, Wilson*
Nays _____
Abstain _____
Absent _____

and carried by those members present, the Board hereby approves the recommended action contained in this Board report.

Dated: *8/21/18*

By: *[Signature]*
Kathy Hayes, Clerk of the Board

DISCUSSION:

The DHHS, Division of Environmental Health Land Use (LU) team has completed an evaluation of the Experimental Disposal System Program (EDSP) and is asking the Board for approval to revise the existing code to remove unnecessary deterrents to permitting composting toilets (CTs) while maintaining public health protections.

In 1984, the Board of Supervisors adopted Ordinance 1647 and created the Experimental Disposal System Program in Humboldt County Code (HCC) Title VI, Division 1, Chapter 5. The program allows owners of single family residential dwellings, with an approved permit, to install innovative disposal systems such as CTs, incinerator toilets and graywater systems to meet their domestic waste needs, in addition to a traditional septic tank leach field system.

In response to renewed public interest in permitting waterless toilet systems and legalizing existing unpermitted structures utilizing CTs, LU has sought to consider the perspectives of the public and has surveyed other counties to compare existing regulatory activities related to CTs. (See Attachments (3) County Comparison Summary and (4) County Comparison Chart)

CT systems present a water efficient solution to human waste management that can reduce environmental impacts from occupied structures. However, like all waste systems, without careful planning, diligent monitoring and regular maintenance, CTs have risks, including spread of disease, contamination of surface water or ground water, and potential for odor and vector nuisances.

CT infrastructure can be inexpensive and simple to build or install but is dependent on active participation of the home owner for effective sanitation. Additionally, California Plumbing Code (CPC) requirements mandate a connection to private or public sewer systems to discharge wastewater from the kitchen sink and from graywater systems that may be contaminated with human waste.

LU is advocating for simplified permitting of composting toilets as accessory systems to single family residential dwellings with approved Onsite Wastewater Treatment Systems (OWTS). The OWTS requirement is necessary in order to comply with CPC requirements and current Humboldt County Code.

While there are public health risks associated with improper management of CTs, maintaining a framework for safe permitting will minimize risk to our community and environment. The required OWTS provides for a safe, compliant system in which to discharge kitchen sink waste and provides for a contingency if a composting toilet system fails to perform or is no longer needed and ensures the protection of public health for the life of the residential dwelling.

LU recommends that your Board direct staff to continue with our revision of the HCC Title VI Division 1 Chapter 5 to streamline the permitting of composting toilets while maintaining public health standards in rural Humboldt County.

FINANCIAL IMPACT:

Preparation of the draft revisions to the ordinance will not have a financial impact.

The revisions to current county code supports the Board's Strategic Framework by creating opportunities for improved safety and health.

OTHER AGENCY INVOLVEMENT:

The Humboldt County Building and Planning Department has authority over structural modifications to the dwellings and indoor plumbing.

ALTERNATIVES TO STAFF RECOMMENDATIONS:

The Board may choose not to revise the existing portions of the Humboldt County Code pertaining to composting toilets in the Experimental Disposal System Program. This alternative is not recommended since doing so will leave erroneous, outdated, and confusing language in the Code.

ATTACHMENTS:

1. Staff report: Experimental Disposal System Program Review and Recommendation
2. Composting Toilets, Review of Existing Code and Discussion of a Program(Power Point Presentation)
3. County Comparison Summary
4. County Comparison Chart

ATTACHMENT 1

Staff Report: Experimental Disposal System Program Review and Recommendation

Staff report:

Experimental Disposal System Program Review and Recommendation

July 2018

In 1984, the Board of Supervisors adopted Ordinance 1647 and created the Experimental Disposal System Program (EDSP) in Humboldt County Code (HCC) Title VI, Division 1, Chapter 5. A product of collaboration between county staff and a group of engaged citizens, the program allows owners of single family residential dwellings, with an approved permit, to install innovative disposal systems, such as composting toilets (CTs), incinerator toilets and graywater systems to meet their domestic waste needs, in addition to a traditional septic tank leach field.

There is renewed public interest in permitting waterless toilet systems and legalizing existing unpermitted structures utilizing CTs. The Division of Environmental Health Land Use (LU) team frequently receives inquiries about CTs, but rarely receives applications to install. In pursuing revisions, our intent is to identify and remove unnecessary deterrents to permitting while maintaining public health protections. Like all waste systems, without careful planning, diligent monitoring and regular maintenance, CTs have risks including spread of disease, contamination of surface water or ground water, and potential for odor and vector nuisances.

Outreach and Assessment of Comparable County Strategies

LU has completed an evaluation of the EDSP and sought to consider the perspectives of the public by holding community meetings and reaching out to advocates of non-traditional waste management strategies.

Below is a list of common themes from the community meetings:

- References to information sources
- Requirements and expenses
- Technical references
- Update requests
- Water conservation
- Supportive of oversight
- Limitations of acceptance
- Operation and maintenance
- Waste product use
- Other

LU reviewed county websites and requested feedback from county officials who participate in the Onsite Wastewater Technical Advisory Committee to compare the regulatory activity of 31 out of 58 California counties (including Humboldt).

Results show that seven counties have codes that allow approval of residential use CTs, similar to Humboldt, and six counties approve CTs for non-residential use and/or with limited circumstances. Twelve counties did not address waterless toilets at all in their regulations. Two counties explicitly prohibit the use of CTs. Four counties neither approved nor prohibited their use and require an approved Onsite Wastewater Treatment System (OWTS).

This survey of just over half of the California counties shows that there are some counties which approve the residential use of CTs in conjunction with an approved onsite graywater system and an OWTS.

However, in each county where CTs can be approved, the technology is accepted as an accessory to traditional methods of onsite waste management. CTs are not commonly considered an equivalent replacement for conventional OWTS. (See agenda item attachments (2) County Comparison Summary and (3) County Comparison Chart)

Summary of Technology

Integral to all successful composting systems is the aerobic metabolism of waste by microbial digestion into benign nutrient rich humus. If sufficiently composted, the exothermic biological digestion process renders pathogens, which may be present, innocuous.

Effective composting requires a balance of several factors including moisture, aeration, heat, bulking materials (carbon) and the addition of new waste(s). Key to the success of the system is mechanical mixing of the wastes for the required aeration and moisture balance. Some proprietary units incorporate engineered mechanisms which mechanically mix and aerate; site built systems often require a more laborious hands-on approach.

The original Humboldt County EDSP ordinance was intended to allow rural property owners to use a CT during a five year trial period to prove reliability with periodic inspections and testing. Systems that demonstrate successful operations during the trial period are approved by the Health Officer as “proto-type” systems which are then relieved of continual testing requirements. Additional requirements include: an operating permit, passing a short test, design and construction standards, an operating manual, end product laboratory testing, LU inspections, and limitations on end product re-use or disposal.

The permitted use of CTs is complicated by state requirements. Because the California Plumbing Code (CPC) does not include wastewater discharged to the kitchen sink as graywater, wastewater flows from a kitchen sink or dishwasher must be discharged to an approved OWTS or public sewer. Additionally, sections 1502 *et seq.* of the CPC requires all graywater (i.e. wastewater from bathroom hand sinks, showers, laundry water, bathtubs) systems maintain a permanent and easily accessible connection to the building (private or public) sewer system to divert flows in the rainy season, to provide maintenance, or to divert flows when discharging human waste.

Composting toilet systems present a non-traditional approach to human waste management which, when used with graywater systems, reduce the demand and consumption of water, and, can reduce both the volume of waste generated and the environmental impacts from accumulated nutrients. However, these systems still need a means to dispose, or re-use solids and liquids on site. The environmental and public health risks are similar to traditional systems but require different strategies to minimize the potential for transmission of disease.

Public Health Perspective

Composting human excrement must be done in a manner consistent with good sanitation to minimize exposure of humans to unprocessed waste and vectors. The design must consider climate factors such as temperature and humidity to ensure adequate disinfection of waste, mitigate for impacts of unpleasant odors and minimize potential for generation of vectors. There must be an acceptable means for end product re-use or disposal to prevent the transmission of disease.

The balancing of component mixtures and labor required to maintain good performance of CTs, as we discussed in the previous section, are essential complexities that may be overlooked when people are challenged with other demands. In our experience with the conventional OWTS, we have learned that diligent maintenance is inversely proportional to labor requirements and complexity. Not all persons may be motivated to compost well for the successful operation of their CTs.

In the United States, we experience low levels of occurrence of infectious diseases associated with poor management of human waste because of our sanitary infrastructure and regulations. Some of the common illnesses associated with poor management of excreta include amebiasis, cholera, cryptosporidiosis, gastroenteritis, hepatitis, parasitosis, salmonellosis, shigelosis, typhoid fever, *E.coli*, and a variety of other diarrheal diseases (Del Porto, et al, 1999). Since we cannot be sure when and where pathogens will be present, control of disease depends on good sanitation practices.

Many parts of the world still suffer dramatic incidence of preventable infectious diseases due to lack of sanitary systems. The Center for Disease Control estimates that 807 million to 1.2 billion people, worldwide, are infected with *Ascaris lumbricoides*, a parasitic worm transmitted via the fecal-oral pathway which can include ingestion of food crops fertilized with "night soil". Inadequate composting of human waste, also, has the potential to harbor the environmentally resistant eggs of parasitic worms. The potential of infection can be reduced by proper planning of the disposal site and elevated temperatures produced in the composting process. Our strategy for control of potential disease is to encourage home owners to be informed of the safety concerns, obtain permits and consider the value and intent of the regulations: safety through design.

We know from experience that, when preventative measures are not followed or systems break down, communicable disease outbreaks occur. In Humboldt County, we have experienced outbreaks of disease related to improper human waste management. During the late 90's, there was an outbreak of shigellosis in a community encampment on the south spit of Humboldt Bay that required a public health outbreak declaration and evacuation order by the County Health Officer to prevent the spread of disease.

In 2013, an outbreak of *E.coli* O157:H7 hospitalized several local residents. This communicable disease is spread via the fecal-oral transmission route which environmental health practices and our regulatory systems are designed to prevent but continues to challenge our strategies of control. This year, a national outbreak of O157:H7 involving fecal contaminated romaine lettuce infected 210 people, five of which did not survive the infection.

At a rural learning center, in southern Humboldt, several unreported cases of gastric illness coincided with ongoing mismanagement of an unpermitted composting toilet and graywater system which inspired the facility managers to replace a composting toilet system with a more conventional septic tank and leach field.

These examples underline the importance of caution and contingency. The technology when carefully planned and diligently operated is effective and has benefits. However, preparing for variable human behavior is prudent.

It is important to remember that dwellings are constructed to last decades. There are homes in Humboldt County that are over 100 years old. Properties often change ownership and the new owner(s) may have no desire, or capacity, to operate a composting toilet. Additionally, a life changing event can dramatically affect the perspective of a home owner on operating a composting toilet.

Conclusion

LU is advocating for easier permitting of composting toilets as an accessory to single family dwellings with approved OWTS. The OWTS requirement is necessary in order to comply with CPC and existing Humboldt County Code. Having a documented suitable replacement area to install a traditional OWTS provides an accessible contingency and ensures that there will be a means of disposal to serve the structure indefinitely, with or without active and continual maintenance by the home-owner.

Through our outreach meetings and discussions with community members, we know that composting toilets are in use in the rural areas of the County. The increasing interest and our obligation to public health requires us to do what we can to modify the requirements to encourage individuals to permit their CTs and graywater systems. While there are public health risks associated with improper management of CTs, maintaining a framework for safe permitting will minimize risk to our community and environment.

References

Center for Disease Control and Prevention. Parasites-Ascariasis. Retrieved from <https://www.cdc.gov/parasites/ascariasis/>

Del Porto, D. and Steinfield, C. (1999, Month). *The Composting Toilet System Book*. Concord, MA: Center for Ecological Pollution Prevention

Hight, J. (1997, October). Brother, Can You Spare a Home? *North Coast Journal*, Retrieved from newspaper homepage <https://www.northcoastjournal.com/oct97/10-97.upfront.html#anchor370038>

Jenkins, J. (2005). *The Humanure Handbook*, 3rd Edition. Joseph Jenkins, Inc. Grove City, PA.

Sims, H. (2013, November). County Health Department Confirms Outbreak of Weird E.coli Strain; *Lost Coast Outpost*, Retried from <https://lostcoastoutpost.com/2013/nov/6/county-health-department-confirms-outbreak-weird-e/>

US EPA (1999, September). Water Efficiency Technology Fact Sheet, Composting Toilets. EPA 832-F-99-066. Retrieved from <https://www.epa.gov/sites/production/files/2015-06/documents/comp.pdf>

ATTACHMENT 2

Composting Toilets, Review of Existing Code and Discussion of a Program
(Power Point Presentation)

DIVISION OF ENVIRONMENTAL HEALTH

COMPOSTING TOILETS

Discussion of the Experimental
Disposal Systems Program



Why we are here...

- ▣ Composting toilets are in use in our county.
- ▣ HCC Title VI, Div1, Ch 5 allows CTs (1984)
 - DEH has received few applications to install
 - The public has expressed interest in permits
- ▣ DEH recommends revision of HCC
- ▣ There are public health concerns

Our Discussion

A request to revise HCC to facilitate permitting to assist public in the planning, design and installation of CTs

- ▣ Public outreach conducted by DEH
- ▣ Comments received by DEH
- ▣ Technology in Use
- ▣ Comparison of counties in California
- ▣ Public Health Perspectives
- ▣ The balance of pros vs cons
- ▣ Summary of existing code

Public Outreach

- ▣ Community discussions in fall 2016
 - Redway with 12 attendees
 - Trinidad with 22 attendees
- ▣ Discussions with Laura Allen, author of *A Water-Wise Home*
- ▣ Inspection/orientation to local CT system

Public Comment

There were roughly 58 public comments and 26 emailed comments from 20 persons. The comments were reviewed and categorized as follows:

- ▣ References to Information Sources
- ▣ Requirements and Expenses
- ▣ Technical References
- ▣ Update Requests
- ▣ Water Conservation
- ▣ Supportive of Oversight
- ▣ Limitations of Acceptance
- ▣ Operation and Maintenance
- ▣ Waste Product Use
- ▣ Other

Technology

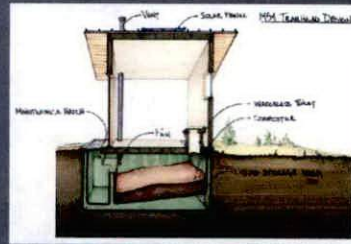
A composting toilet system requires:

- ▣ Human waste and carbon rich media
- ▣ Aerobic metabolism by microbial digestion
- ▣ Time, temperature and desiccation
- ▣ Active participation of user



Technology

A composting toilet system:



- ▣ Above Grade for composting or disposal/reuse
- ▣ Single vessel or transfer to secondary station
 - Labor to empty vessel
 - Labor to transfer material

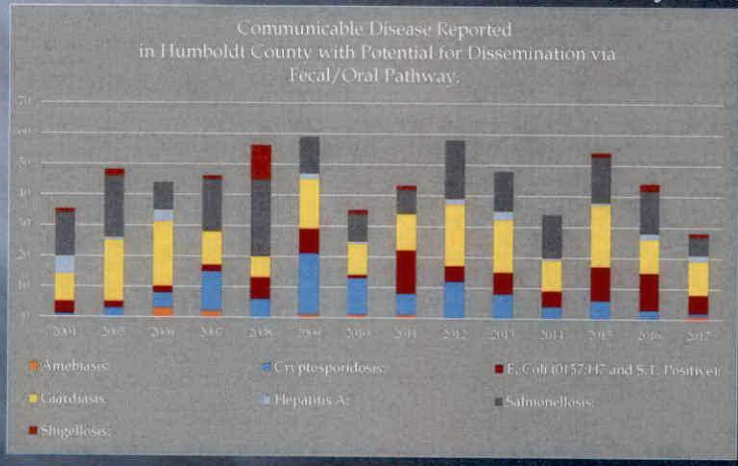


Public Health Concerns

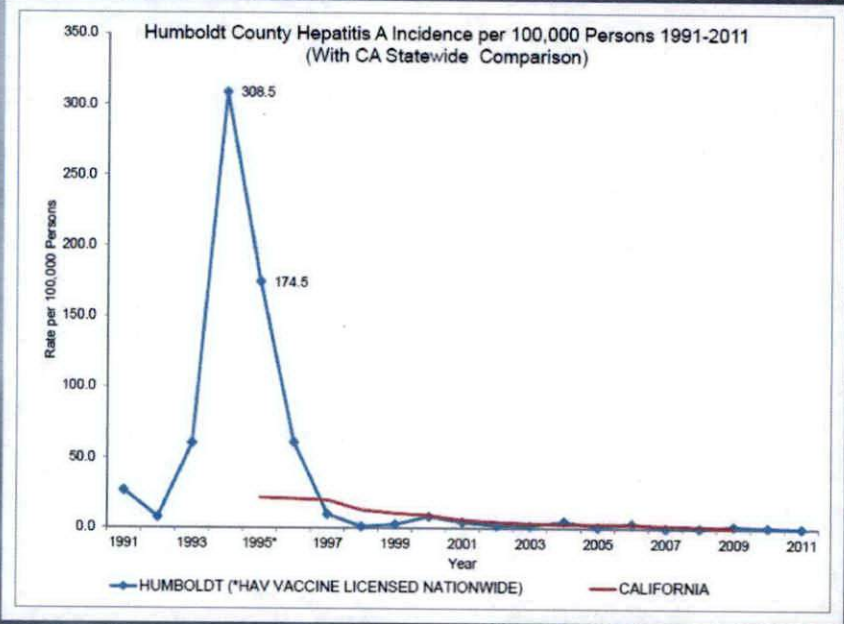
- ▣ Increased exposure = increased risk.
 - Requires direct contact to move/manage material
 - Treatment/storage is above grade
 - ▣ Attract rodents/foraging pets & wildlife/insect vectors
 - ▣ Exposed to wind and rain: run off concern
 - ▣ Potential for nuisance odors

Public Health Concerns

We have enteric disease in our community



Data provided by Ron M. Largusa MSPH, Humboldt County Epidemiologist



Public Health Concerns

▣ Outbreaks of controllable diseases:

▪ Nationally in 2018

- ▣ 197 people from 35 states infected with strain of *E. coli* O157:H7 have been reported.
- ▣ 89 people hospitalized/5 deaths
- ▣ Contaminated Romaine lettuce

▣ <https://www.cdc.gov/ecoli/2018/o157h7-04-18/index.html>

Public Health Concerns

▣ Outbreaks of controllable diseases:

▪ Worldwide incidence of *Ascaris lumbricoides*:

- ▣ CDC estimates 807million to 1.2 billion people
- ▣ Transmitted via fecal-oral pathway which includes ingestion of food crops fertilized with "night soil"...or improper composting of humanure

▣ https://www.cdc.gov/parasites/ascariasis/gen_info/faqs.html

Public Health Concerns

- ▣ Planning and maintenance are required to ensure safe systems
 - Design to minimize exposure to untreated waste
 - Setbacks to food crops, wells and surface water
 - Ensure adequate treatment
 - Design to exclude vectors
 - Premeditate source of carbon and disposal site
 - Adequate aeration of humus
 - Operations and maintenance manual created
 - Graywater and kitchen OWTS in plan

CPC Complications

- ▣ California Plumbing Code
 - Does not include kitchen sink in def. of Graywater
 - Chapter 15 requires a connection to an approved OWTS or municipal sewer

In other Counties?

County Comparison - Waterless Toilet Requirements

County	Addressed?	CWTS Required?	Site Suitability?	Third Party Approved?	Site Built Design?	EH Permit?	Operational Permit?	Graywater Options	End Product Disposal/Reuse?	EH Inspection?	Notes
Alameda	Limited approved non-residential use or repair of failed CWTS on severs cities	Installed	Yes	Yes	No	Permit	Special permit renewed annually	California Plumbing Code	Disposition according to submitted approved plan (CPI & W manual), site evaluation in disposal area	No	Non-discharging systems including in On-site Wastewater Treatment Systems Manual (Revised Draft CD-30-2017) submitted to State
Alpine	Not addressed	Installed	Unk	NA	NA	NA	NA	California Plumbing Code	NA	NA	
Amador	Allowed, not permitted, not prohibited	Installed	Yes	NA	NA	NA	NA	California Plumbing Code	NA	NA	Sewage Disposal Regulations October 2016 non-discharging systems page 78 states composting or incinerating toilets not permitted for on-site disposal use
Butte	Limited approved non-residential use	Installed	Yes	Unk	Unk	No	Yes	California Plumbing Code	Unk	No	County Code Chapter 18 §12108 page 11 states non-discharging systems including composting toilets only for non-residential, non-commercial limited use and must meet operation and maintenance specs in On-site Wastewater Manual
Calaveras	Limited approved on individual basis as experimental system for failing existing	Installed	Yes	Unk	Unk	Permit	Unk	California Plumbing Code	Unk	No	Calaveras County Rules and Regulations for On-site Wastewater Treatment Systems 6/14/12 page 23, 36, 66.
Colusa	Prohibited	Installed	Yes	NA	NA	NA	NA	California Plumbing Code 2016	NA	NA	*****
Del Norte	Not addressed	Installed	Yes	NA	NA	NA	NA	California Plumbing Code	NA	NA	Del Norte County Code Title 14, Chapter 12, Section 120.1, "On-site sewage disposal system" definition includes experimental or non-water carried sewage disposal system. No further criteria of these systems in design criteria.
El Dorado	Limited approved non-residential use, seasonal cabins on public property	Installed	Yes	Yes	NA	NA	NA	California Plumbing Code	NA	NA	El Dorado County Code Sec. 110.32.020 Private sewage disposal states approved system, except an off-sewer approved, must septic tank and sub-surface disposal field
Glen	Not addressed	Installed	Yes	NA	NA	NA	NA	California Plumbing Code 2016	NA	NA	Glen County Code and Administrative Code (Sewage Disposal Regulations) do not use the terms or recognize composting and incinerating toilets

County	Addressed?	CWTS Required?	Site Suitability?	Third Party Approved?	Site Built Design?	EH Permit?	Operational Permit?	Graywater Options	End Product Disposal/Reuse?	EH Inspection?	Notes
Humboldt	Approved residential use, single family owner occupied dwelling	Installed, or approved suitable primary and reserve area for a standard leachfield	Yes	No	Yes	Permit	Permit, five year trial period	California Plumbing Code 2016	Filtering, direct burial, BWTF	Yes, Bi-annual inspections first two years of operation	Any wastewater generated must be directed to an approved CWTS, and approved CPC for graywater and toilet wastewater system
Inyo	Approved	Installed	Yes	Yes	No	Permit	No	California Plumbing Code	Unk	No	Inyo County Code requires approved CWTS or graywater system and may allow composting and incinerating toilets conforming to ANSI/NFPA 41 and NSF P137
Kern	Not addressed	Installed	Yes	NA	NA	NA	NA	Uniform Plumbing Code 1994	NA	NA	Kern County On-site Waste Systems Manual requires disposal into conventional septic tank subsurface disposal system or approved alternative system
King	Not addressed	Installed	Yes	NA	NA	NA	NA	California Plumbing Code 2016	NA	NA	King County Code designates the Building Official as enforcer of on-site wastewater treatment requirements
Lassen	Not addressed	Installed		NA	NA	NA	NA	California Plumbing Code 2016, Los Angeles County Ordinance	NA	NA	
Los Angeles	Not addressed, open to limited use for publicly owned properties	Installed	Yes	NA	NA	NA	NA	California Plumbing Code 2016, Los Angeles County Ordinance	NA	NA	
Madison	Limited approved circumstances where site conditions not met	Installed	Yes	Unk	Unk	Yes	No	California Plumbing Code	Unk	Unk	Madison LAMP for CWTS January 2017 states composting or incinerating toilets only considered where site conditions preclude the use of conventional or supplemental wastewater treatment systems
Mariposa	Approved residential in conjunction with approved CWTS	Installed	Yes	Unk	Unk	Permit	No	California Plumbing Code	Unk	No	Mariposa County Sewage Disposal Rules Appendix E states alternative non-discharge sewage disposal methods include composting and incinerating toilets and may be used in owner occupied residences served by CWTS or public sewer
Medocino	Allowed, may be added to existing structure with full sized CWTS or sewer connection	Installed	Yes	NA	NA	NA	NA	Uniform Plumbing Code	NA	NA	Per email 5/30/18 Land Use Program Manager: a CT may be added with CWTS or sewer connection, no EH permit, no review, inspection or approval of any part, full sized septic tank and leachfield required.
Modoc	Not addressed	Installed	Yes	NA	NA	NA	NA	California Plumbing Code 2013 Edition	NA	NA	*****

County	Addressed?	OWTS Required?	Site Suitability?	Third Party Approved?	Site Built Design?	EH Permit?	Operational Permit?	Greewater Options	End Product Deposit/Reuse?	EH Inspections?	Notes
Alameda	Not addressed	Installed	Yes	NA	NA	NA	NA	California Plumbing Code 2016	NA	NA	
Nevada	Approved, structure must also contain rough plumbing for conventional toilet, except in owner built rural dwellings	Installed	Yes	Yes	No	Permit	Yes	California Plumbing Code, Nevada County Code	Tilling, direct burial, and WWTP. Completely incinerated with maybe spread on ground surface	No	*****
Placer	Not Addressed	Installed	Yes	NA	NA	NA	NA	California Plumbing Code	NA	NA	
San Benito	Prohibited	Installed		NA	NA	NA	NA	California Plumbing Code 2010	NA	NA	TAC email response 11/14/17 states San Benito does not allow use of composting, incinerating, or waterless toilets
San Diego	Limited circumstances, isolated areas for non-residential use	Installed	Yes	Yes	No	NA	NA	California Plumbing Code 2013	NA	NA	*****
Santa Clara	Allowed, may be added by building and planning department	Installed	Yes	NA	NA	NA	NA				TAC email response 11/14/17 states: San Clara County does not approve them (composting, incineration toilets); if allowed by planning and building department they (EH) does nothing differently for the septic system.
Santa Cruz	Allowed, may be added to existing functioning OWTS	Installed	Yes	Unk	Unk	None	No		Unk	No	TAC email response 11/14/17 composting toilets not allowed in lieu of a sewage disposal system. If added to functioning system, not regulated or monitored by the county.
Shasta	Approved in conjunction with OWTS	Installed	Yes			Permit					
Sonoma	Not addressed	Installed	Yes	Unk	Unk	Permit	Unk	California Plumbing Code 2013	Unk	Unk	TAC email response 11/14/17 a few holding tanks and incinerating toilets permitted on case by case basis, but does not reduce the toilet system. Have a composting pilot program with Occidental Arts and Ecology Center
Tulare	Not addressed	Installed	Yes	NA	NA	NA	NA	California Plumbing Code	NA	NA	Per email with EH director 2/13/18, may allow waterless toilet with an approved septic system.
Tuolumne	Approved in conjunction with OWTS	Installed	Yes	Yes	No	Permit	Yes, for site of composting toilet	California Plumbing Code 2016	Burial on-site 6 inches or WWTP	May inspect	
Yuba	Approved in conjunction with OWTS	Installed	Yes	Yes	No	Permit	Yes		Burial on-site 6 inches compacted soil, or WWTP	May inspect	

In other Counties?

COUNTY COMPARISON SUMMARY 4/24/2018

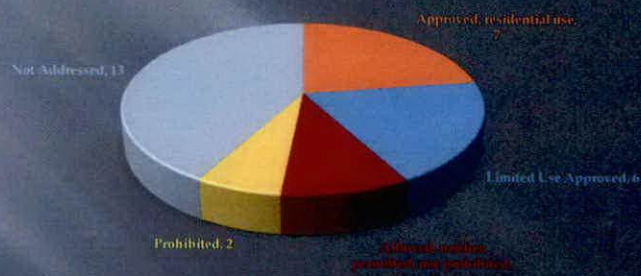


Figure 3. The various approaches to managing composting toilets employed by the 31 counties in California that responded to the DEH inquiry to OWTAC.

In other Counties?

- ▣ In all of the 31 counties surveyed an approved OWTS is required independent of the use of CTs.

The Balance

PROS

- ▣ 30% Reduce water use
- ▣ Reduce volume of waste to manage
- ▣ Reduce embedded energy demand/use*
- ▣ Keep nutrients cycling higher in ecosystem
- ▣ Reuse as landscaping nutrients

CONS

- ▣ Requires ↑ user/owner responsibility
- ▣ Potential for exposure to untreated waste
- ▣ Increased potential for nuisance odors and vector generation
- ▣ Adds additional system to home (graywater + kitchen OWTS req'd)
- ▣ Cultural challenges /not universally accepted

* Year round use may need supplemental heat source for adequate disinfection

Current HCC Requirements

General Site Conditions:

1. Site has approved OWTS. CT would be accessory.
2. Site has failing OWTS that cannot be corrected due to local conditions, and CT would ~~attempt to~~ reduce negative impact on environment.
3. Site is beyond CSD and has OWTS suitability for primary and reserve.
4. Site is within special CSD designed to provide monitoring and maintenance.

Current HCC Requirements

- | | |
|---|---|
| <ul style="list-style-type: none"> ▣ Owner occupied SFD ▣ Pass exam ▣ 5 year operating permit then prototype ▣ Sanitary operation ▣ Notice of operation with County Recorder ▣ Annual summary of performance and procedure | <ul style="list-style-type: none"> ▣ Monitoring and Maintenance plan ▣ 30% ↓ Volatile solids (2x/year) ≤ 75% moisture ▣ 500 fecal coliforms per gram (2x/year) 200 cpg/1x ▣ Disposal Regime <ul style="list-style-type: none"> ▪ 18" deep burial ▪ Tilling and exclusion ▪ Into approved system |
|---|---|

Thank you... Questions?



Division of Environmental Health
env.health@co.humboldt.ca.us
(707) 445-6215

ATTACHMENT 3

County Comparison Summary

County Comparison Summary

5/31/2018

Approved, residential use (7)

1. Rural owner occupied single family residence, with approved OWTS or greywater system – Humboldt
2. Requires approved OWTS or greywater system – Inyo
3. Residential use in conjunction with approved OWTS or connection to public sewer – Mariposa
4. Rural owner occupied dwellings, with approved greywater and kitchen waste disposal system – Nevada
5. Approved in conjunction with approved OWTS – Siskiyou
6. Approved in conjunction with approved OWTS – Tuolumne
7. Approved in conjunction with approved OWTS - Yolo

Limited Use Approved (6)

1. Non-residential, repairs on severe sites – Alameda
2. Non-residential – Butte
3. On individual basis as experimental or repair for existing failing system – Calaveras
4. Non-residential use, cabins on public property – El Dorado
5. Limited circumstances where site conditions for other approved systems not met – Madera
6. Non-residential, limited to campsite, park, trail where sewer is impractical – San Diego

Allowed, neither permitted, nor prohibited (4)

1. Not permitted for new or expanded use – Amador
2. If allowed by building official, EH does nothing different for the OWTS – Santa Clara
3. May be added to existing function system, not allowed in lieu of approved OWTS – Santa Cruz
4. May be added to structure with connection to OWTS or public sewer – Mendocino

Prohibited (2)

1. Must have approved septic tanks with subsurface disposal or other approved alternative OWTS, prohibits composting toilet – Colusa
2. Composting, incinerating, or waterless toilets not allowed – San Benito

Not Addressed (12)

1. Alpine
2. Del Norte
3. Glenn
4. Kern
5. Kings: must have approved septic tank with subsurface disposal or other approved alternative
6. Lassen
7. Los Angeles: may allow limited use for publicly owned properties
8. Modoc
9. Mono
10. Placer
11. Sonoma: have a composting toilet pilot program with Occidental Arts and Ecology Center
12. Trinity: may allow with approved OWTS

Allowed: county requirements neither approve nor prohibit their use, an approved OWTS is required

Approved: county requirements approve the use of composting, waterless toilets for residential use

Limited Use Approved: approved for non-residential use, limited circumstances, remote wilderness areas

Not Addressed: county requirements do not mention the use of composting, waterless toilets

Prohibited: county requirements prohibit the use of composting, waterless toilets

ATTACHMENT 4

County Comparison Chart

COUNTY COMPARISON CHART

5/16/2018

