

# Environmental Health Operational Guidelines

2015-2018

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This manual is designed to aid Local Public Health Agencies in the routine decision making process associated with various environmental health programs within the Bureau of Environmental Health Services.

Missouri Department of Health and  
Senior Services



The Missouri Department of Health and Senior Services provides health promotion, protection, and prevention services to all the people of Missouri by assessing health status and needs, developing policies and priorities, and assuring that the state is responding appropriately to maximize the health of all individuals.

Bureau of Environmental Health Services

Vision: Healthy Missourians for Life

Mission: To be the Leader in Promoting, Protecting, and Partnering for Health

AN EQUAL OPPORTUNITY/AFFIRMATIVE ACTION EMPLOYER

Services provided on a nondiscriminatory basis

## **Bureau of Environmental Health Services**

The Bureau of Environmental Health Services is a component of the Missouri Department of Health and Senior Services encompassing environmental risk assessment, surveillance, education, and enforcement. We strive to prevent illness, injury, and death related to environmental causes. In carrying out our daily duties, we further strive to uphold several values that we feel are important to our clients as well as to our staff. We believe:

**RESPECT** is an essential aspect of our work in which we show consideration and appreciation to the public, to other agencies, and to workers;

**CONFIDENTIALITY** is a willingness to respect and protect private issues affecting our clients and ourselves. It provides a secure atmosphere where sometimes delicate but vital data and knowledge are carefully and appropriately shared and used. All of this is imperative to successfully reaching our service goals;

**COMMUNICATION** and **LISTENING** are fundamental to the effectiveness and function of Environmental Public Health. They are demonstrated through healthy and positive interaction with, and acknowledgement of our clients and each other, in the effort to ultimately achieve mutual understanding;

**INNOVATION** and **CREATIVITY** are indispensable to promoting continuous growth and improvement of our services. Our willingness to be flexible and to take risks enables us to deliver unique and quality services to our clients;

**PROFESSIONALISM** is manifested by staff committed to creating and maintaining high levels of skill and competency, which allows us to better serve our clients;

**COURTESY** is expressed through following established ground rules of communication which help to prevent misconceptions and allow for a non-threatening work environment;

**DIVERSITY** is promoted by the recognition of individual's beliefs, cultures, and needs. It is further exemplified by equal opportunity and support to communities and co-workers;

**INTEGRITY** and **TRUST** are crucial to establishing ethical and effective relationships. They are practiced through honesty with our clients and each other, and through adhering to this set of values, and the Environmental Public Health vision and mission.

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## **Preface**

This manual was developed as a tool to aid Bureau of Environmental Health Services and Local Public Health Agency staff in the routine decision making processes associated with the various environmental public health programs within the Bureau. This manual addresses both policies and best practices that should be followed when performing programmatic duties under state authority.

Ultimately, compliance with the policies and best practices outlined in this manual will result in uniform interpretation and implementation of environmental health program activities.

Local Public Health Agencies that chose to enter into the Participation Agreement for State Investment in Local Public Health Services receive state resources to support the delivery of public health services essential to the prevention of disease, promotion of healthy families, lifestyles and environments, and for protection from disease and disaster through an integrated and cooperative public health system. The authority of the LPHA to perform public health services derives directly from this agreement entered into between the LPHA and DHSS and the Missouri Revised Statute 192.290.

LPHAs with local ordinances, Participation Agreements and/or other agreements with the state are expected to manage their environmental health programs to be in compliance with both.

## **Using the EHO**

This manual is designed to provide information necessary in the day-to-day operations of an environmental health program and is subdivided into each program or discipline/activity. Information on each of these areas can be found under the appropriate chapter.

This manual is under continued review. The majority of the text will not be updated within the three year Participation Agreement period; however, in an effort to maintain the most current material in this manual, each chapter will contain a subsection that will be updated, as needed, for ongoing support information, technical bulletins, and informational releases.

**Missouri Department of Health and Senior Services  
Bureau of Environmental Health Services**

**Main Telephone Line: (573) 751-6095**

The Bureau of Environmental Health Services (BEHS) is involved in the administration of environmental sanitation programs in accordance with Missouri statutes.

**Duties of the Bureau include:**

**Food Safety Program (Retail and Food Processing)**

- Develop statewide program plans and guidelines and assess the needs of the food program.
- Provide uniform interpretations of the food code to Local Public Health Agencies (LPHA), regional staff, and industry.
- Develop and conduct training opportunities for LPHA, regional staff, and industry.
- Serve as a liaison with LPHA, county and city officials, civic groups, community leaders, other state and federal agencies, and industry representatives.
- Provide technical assistance to LPHA environmental staff of the proper inspection techniques of food establishments.
- Provide consultation and technical assistance to LPHA programs to ensure compliance with state standards, when applicable.
- Take appropriate enforcement actions, as outlined in this manual, against non-compliant food facilities in jurisdictions without local food protection ordinances, review inspection/investigative records, and prepare work orders and closing orders when necessary. *May provide technical assistance, as requested, on enforcement issues in jurisdictions with local food protection ordinances.*
- Coordinate and participate in statewide food protection program surveys, provide copies of the final survey report to LPHA Administrator, and provide technical assistance to LPHA as follow-up to the findings of the survey.
- Maintain statewide inventory of food processing plants and frozen dessert establishments.
- Conduct current Good Manufacturing Practices (GMP) inspections on food processing plants under contractual agreement with the Food and Drug Administration.
- Conduct retail food safety inspections with LPHA staff to standardize inspector's skills and code interpretation.
- Embargo food, drugs, medical devices, and cosmetics when suspected or found to be adulterated and/or misbranded.
- Notify LPHA, Division Director's Office, Center for Local Public Health, and Bureau of Communicable Disease Control and Prevention of the occurrence of recall(s) and the desired actions to be taken.
- Contact product distributors to determine the amount and presence of recalled product within Missouri, assist in developing press releases, respond to consumer inquiries regarding the adverse health effects of consuming the recalled product, and serve on a recall team, if assembled by the Department of Health and Senior Services (DHSS).
- Assess and provide recovery needs in response to an emergency, perform sanitation and safety inspections, and provide technical assistance/education to those facilities/communities impacted.
- Provide certificates of free sale and supervise all activities which involve drugs. These certificates are signed by the BEHS Chief and used by the company to export its product to a foreign country.

- Issue annual frozen dessert licenses and conduct sanitation inspections of frozen dessert manufacturing plants.

### **Onsite Wastewater Treatment Program**

- Develop statewide program plans and guidelines and assess the needs of the onsite wastewater program.
- Promote improved management of onsite decentralized (individual and cluster) wastewater treatment systems.
- Review construction permit applications, permit and inspect new construction and repairs of onsite wastewater treatment systems (OWTS) and cluster systems in compliance with state standards where a local ordinance or a contract for application review is not in place.
- Contract with LPHAs for reviewing and permitting new construction and repairs of OWTS and cluster systems in compliance with state standards.
- Review variance requests related to OWTS and cluster system construction permit applications under DHSS jurisdiction.
- Provide technical assistance and guidance to LPHAs and other local regulatory agencies in the proper review and inspection of permit applications and new construction and repairs of OWTS and cluster systems.
- Provide technical assistance and guidance to LPHAs and other local regulatory agencies in the proper investigation of complaints and reports of malfunctioning OWTS and cluster systems and improper actions of unregistered individuals and registered OWTS professionals.
- Review applications and qualifications for OWTS professionals to determine compliance with rules, and issue registration and licenses. There are currently five categories of OWTS registration and licenses: basic OWTS installers, advanced OWTS installers, onsite soil evaluators, percolation testers, and private OWTS inspectors/evaluators (real estate related).
- Provide training courses for basic OWTS installers, advanced installers, inspectors/evaluators, and LPHA and other local regulatory agency staff.
- Administer examinations for onsite soil evaluators.
- Provide lists of registered and licensed individuals to the public.
- Review OWTS professional training provider applications and curricula to determine compliance with certification requirements and approve OWTS training courses.
- Monitor OWTS training courses and providers to determine compliance with certification requirements.
- Receive and investigate complaints on unregistered or unlicensed individuals conducting OWTS installations, onsite soil evaluations, percolation tests and private inspections/evaluations, and on registered or licensed OWTS professionals improperly conducting OWTS activities. Take appropriate enforcement actions.
- Track complaints and violation notices received regarding OWTS malfunctions.
- Facilitate legal hearings when hearings are requested by the subject of a violation notice issued according to 701.037 under DHSS authority.
- Review new/innovative OWTS technology for compliance with standards and for effectiveness in protecting health and the environment.

- Collaborate with the Department of Natural Resources on wastewater issues including residential developments, questions of jurisdiction, and an inventory of “large capacity septic systems” as Class V underground injection wells for the EPA Underground Injection Control (UIC) Program.

### **Environmental Child Care Program**

- Develop statewide program plans and guidelines and assess the needs to the environmental child care program.
- Conduct initial inspections of proposed child care providers.
- Review blue prints to determine compliance with sanitation guidelines.
- Provide technical assistance to child care providers and LPHA EPHS’ on environmental child care issues.
- Conduct Special Circumstance inspections of regulated child care facilities when there is a change of service, such as: a provider wants to change the capacity of the facility or age range within a room; when a complaint is received; and when additional re-inspections are necessary.
- Provide training to LPHA EPHS’.
- Provide training to regulated child care providers.
- Conduct annual/renewal inspections in counties without a child care sanitation participation agreement.
- Provide environmental response to any emergencies affecting regulated child care facilities.
- Ensure annual child care sanitation inspections are completed in their respective district according to the participation agreement.
- Receive and investigate sanitation complaints and disease investigations on regulated child care facilities.
- Provide lead hazard evaluations for regulated and proposed child care facilities.

### **Commercial Lodging**

- Develop statewide program plans and guidelines and assess the needs of the lodging program.
- Provide uniform interpretations of the lodging rule to LPHAs, regional staff, and industry.
- Develop and conduct training opportunities for LPHAs, regional staff, and industry.
- Serve as a liaison with LPHA, county and city officials, community leaders, other state agencies, and industry representatives.
- Provide technical assistance to LPHA environmental staff in the proper inspection techniques of lodging establishments.
- Provide consultation and technical assistance to LPHA programs to ensure compliance with state standards, when applicable.
- Take appropriate enforcement actions against lodging establishments operating without a valid, state-issued license and maintain inspection/investigative records.
- Coordinate and participate in statewide lodging program surveys, provide copies of the final survey report to LPHA Administrator, and provide technical assistance to LPHA as follow-up to the findings of the survey.
- Review applications and inspection reports to monitor program performance and to determine compliance with lodging rules and issue annual licenses.

- Conduct sanitation and safety inspections of lodging establishment in areas not covered by LPHA personnel.
- Conduct initial/pre-opening inspections of all new lodging establishments.
- Maintain statewide inventory of lodging establishments.

**Emergency Response**

- Develop statewide emergency response plans and guidelines.
- Provide training and technical assistance to LPHAs on disease outbreak investigations, disease investigation control activities, food sanitation, and analysis of data.
- Provide rapid response to public health emergencies and natural disasters, including bioterrorism events.

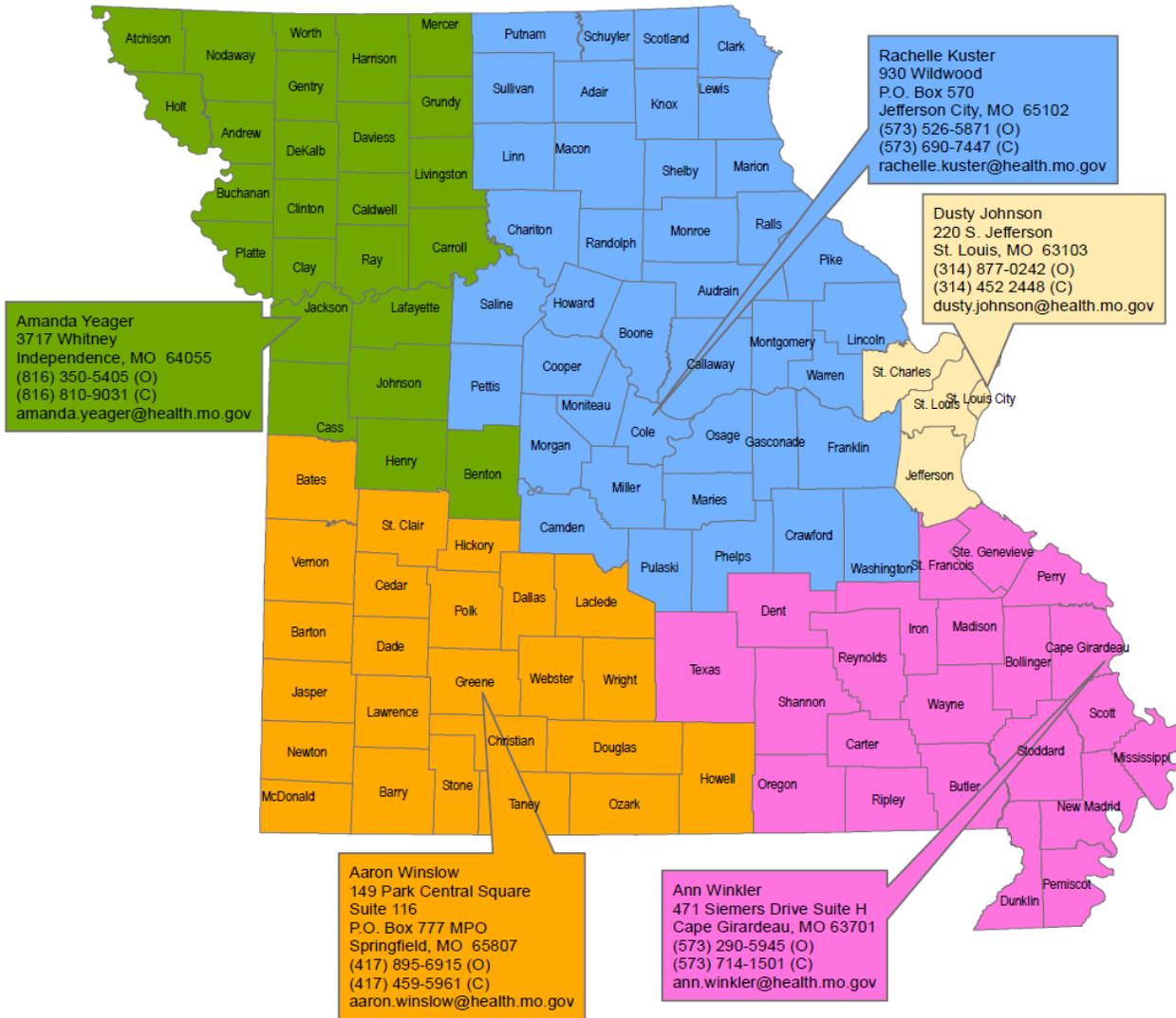
**Additional Contact Information**

BEHS Main Line – Jefferson City	(573) 751-6095
Department Situation Room (DSR)/Missouri Information Analysis Center (MIAC)	
After Hour Emergencies	(800) 392-0272
Central District – Jefferson City	(573) 526-5871
Northeast District – Jefferson City	(573) 751-6095
Northwest District – Independence	(816) 350-5405
Southeast District – Cape Girardeau	(573) 290-5945
Southwest District – Springfield	(417) 895-6915

# Department of Health and Senior Services

## Bureau of Environmental Health Services

### EPHS V Regional Assignments



NOTE: Bureau of Environmental Health Services  
central office phone number is (573) 751-6095

Revised 09/16/2014

## Frequent Contacts

### Department of Health and Senior Services

Bureau of Environmental Health Services (BEHS) is involved in the administration of environmental sanitation programs, including Food Safety, Onsite Wastewater, Environmental Child Care, Commercial Lodging, Emergency Response and Lead Licensing

**Main Telephone Line:** (573) 751-6095  
Main Fax Line: (573) 526-7377

#### Regional EPHS Vs

Central District/Jefferson City	(573) 526-5871
Northeast District/Jefferson City	(573) 751-6095
Northwest District/Independence	(816) 350-5405
Southeast District/Cape Girardeau	(573) 290-5945
Southwest District/Springfield	(417) 895-6915

#### Regional Food Processing EPHS IVs

Northwest District/Independence	(573) 350-5441
Eastern District/St. Louis	(314) 877-0230
Southwest District/Springfield	(417) 895-6929

#### Regional Child Care EPHS IVs

Central District/Jefferson City	(573) 751-6095
Northeast District/Jefferson City	(573) 751-6095
Northwest District/Independence	(816) 350-5449
Northwest District/Independence	(816) 350-5460
Southeast District/Poplar Bluff	(573) 840-9114
Southwest District/Springfield	(417) 895-6531
Southwest District/Springfield	(417) 629-3187
Eastern District/St. Louis	(314) 877-0206
Eastern District/St. Louis	(314) 877-2860
Eastern District/St. Louis	(314) 877-2878

#### Food Recalls

Jefferson City	(573) 522-6058
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Bureau of Environmental Epidemiology (BEE) is involved in the ongoing collection, integration, and analysis of data about environmental hazards, exposure to environmental hazards, and health effects potentially related to exposure to those hazards.

**Main Telephone Line:** (573) 751-3334 or (866) 628-9891

State Public Health Laboratory (SPHL) provides a wide range of diagnostic and analytical services including quality assurance laboratory testing for infectious diseases, genetic disorders and environmental health concerns.

**Main Telephone Line:** (573) 751-6102 or (866) 628-9891

Bureau of Communicable Disease Control and Prevention (BCDCP) protects the public through improved preparedness and the investigation, prevention, and control of reportable communicable diseases and conditions of public health significance in Missouri.

**Main Telephone Line:** (573) 751-6102 or (866) 628-9891

Central District:	(573) 884-3568
Eastern District:	(314) 877-2857
Northwest District:	(816) 632-7276
Southwest District:	(417) 895-6945
Southeast District:	(573) 290-5783

**DHSS Emergency Response Center and the DPS State Emergency Management Agency**

coordinates planning and response activities for public health emergencies. The Department Situation Room (DSR) serves as the coordination point for all DHSS Emergency Support Function responses to public health-related emergencies.

**Main Telephone Line** (573) 751-6272

DSR	(800) 392-0272
MIAC	(866) 362-6422
SEMA	(573) 751-2748

**Section for Child Care Regulation (SCCR)** licenses and inspects child care centers, group child care homes and in-home child care centers. License-exempt homes are also inspected to ensure that children are receiving the proper care.

**Main Telephone Line** (573) 751-2450

Central District/Jefferson City	(573) 751-2891
Columbia Area Office	(573) 882-9399
Northeast District/Macon	(660) 385-3125
Southwest District/Springfield	(417) 895-6541
Eastern District/St. Louis	(314) 877-0210
Northwest District/Independence	(816) 350-5450
Cape Girardeau Area Office	(573) 290-5809

**Section for Long Term Care (SLTC)** is responsible for conducting state inspections and federal surveys, and for investigating complaints regarding long-term care facilities.

Central Office/Jefferson City	(573) 522-6228
Region 1 – Springfield	(417) 895-6435
Region 2 – Poplar Bluff	(573) 840-9580
Region 3 – Kansas City	(816) 889-2818

Region 4 – Cameron	(816) 632-6541
Region 5 – Macon	(660) 385-5763
Region 6 – Jefferson City	(573) 751-2270
Region 7 – St. Louis	(314) 340-7360

**Department of Natural Resources (DNR)** enforces environmental rules and regulations related to air and water pollution; hazardous and solid waste; land reclamation; soil and water conservation and safe public drinking water.

<b>Main Number</b>	<b>(573) 751-3443 or (800) 361-4827</b>
<a href="#"><u>Division of Geology and Land Survey</u></a> (Rolla, MO)	(573) 368-2100
<a href="#"><u>Air Pollution Control Program</u></a>	(573) 751-4817
<a href="#"><u>Environmental Services Program</u></a>	(573) 526-3315
<a href="#"><u>Hazardous Waste Program</u></a>	(573) 751-3176
<a href="#"><u>Land Reclamation Program</u></a>	(573) 751-4041
<a href="#"><u>Regional and Satellite Offices</u></a>	(573) 751-0763
<a href="#"><u>Solid Waste Management Program</u></a>	(573) 751-5401
<a href="#"><u>Water Protection Program</u></a>	(573) 751-1300

**Missouri Department of Agriculture (MDA)** sets agriculture policy and provides assistance to farmers throughout the state. While the department maintains its regulatory functions, its expanded duties include consumer protection, public health roles, environmental advocacy, agricultural marketing, public information and awareness, and promoting new technology and new uses for Missouri’s agricultural goods.

<b>Main Telephone Line</b>	<b>(573) 751-4211</b>
<a href="#"><u>Meat and Poultry Inspection Program</u></a>	(573) 751-3377
<a href="#"><u>Egg Licensing and Inspection Program</u></a>	(573) 751-5639
<a href="#"><u>State Milk Board</u></a>	(573) 751-6830
<a href="#"><u>Fresh Fruit and Vegetable Inspection Program</u></a>	(573) 751-0005

**Department of Public Safety (DPS)** is committed to ensuring the safety of the citizens of Missouri.

**Main Phone Number:** **(573) 751-4905**

## Missouri Department of Natural Resources

The Missouri Department of Natural Resources (DNR) has a wide range of environmental programs with which they have regulatory oversight. DNR publishes a resource directory entitled “DNR at Your Service Phone Directory of Services” that describes their programs and provides contact information for many of the programs. A copy of this directory can be accessed at <http://www.dnr.mo.gov/pubs/pub99.pdf>. A copy of the DNR regional map can also be accessed at <http://www.dnr.mo.gov/regions/regions.htm>.

The DNR Air Pollution Control Program answers questions regarding air quality standards, open burning, emissions, asbestos removal and other air pollution control issues.

The DNR Hazardous Waste Program administers regulations involving the treatment, storage, disposal and transportation of wastes that are classified as hazardous. The program answers questions regarding the management of hazardous waste, cleanup of contamination, removal and cleanup of petroleum storage tanks in the state, illegal disposal of hazardous waste and other hazardous waste issue.

The DNR Solid Waste Management Program publishes and administers laws and regulations concerning the management of solid wastes, including disposal and alternative to disposal. The program answers questions regarding illegal dumping of trash, waste tire disposal, landfills, recycling and other solid waste issues.

The DNR Water Protection Program includes the public drinking water branch and water pollution control branch.

The Public Drinking Water Branch administers regulations that help ensure public sources of drinking water are safe. The program answers questions regarding public drinking water supplies, classification of drinking water supplies, boil water orders, drinking water standards for community and non-community supplies, well head protection including, construction of private water wells (this includes domestic and multiple family class wells), irrigation wells, monitoring wells and heat pump wells and how to properly plug all types of wells including cisterns, drilled wells, etc and other public drinking water issues.

The Water Pollution Control Branch administers regulations to help ensure water quality throughout the state. The program answers questions regarding animal waste disposal, land application of waste (septic tank haulers), public wastewater disposal system, state operating and construction permits for wastewater systems (NPDES), non-discharging lagoons serving commercial facilities like restaurants, convenience stores, and other commercial facilities, review the proposed method of wastewater treatment in residential housing developments, and other water quality issues.

## Legal Authority

Statutes and rules form the framework that supports and grants the Department of Health and Senior Services (DHSS) and Local Public Health Agencies (LPHA) authority to perform the daily activities necessary to protect and promote environmental public health.

- A **statute** is the formal law of the state; it is written and enacted by the state's legislative authority. Typically statutes command, prohibit or declare. Missouri statutes can be found at <http://www.moga.mo.gov/mostatutes/statutesAna.html>
- An administrative **rule** or **regulation** is a codified guideline; it is written and enacted by a given department. Rules are promulgated through a formalized process outlined in statute that includes a department and public comment period, as well as, legislative review. Typically rules describe how a statute will be administered and enforced. Missouri rules can be found at <http://www.sos.mo.gov/adrules/csr/csr.asp>
- A local **ordinance** is a formal legislative enactment that must be equal to or more stringent than state statutes and rules. Local ordinances shall not be in conflict with state statutes and/or rules. Local ordinances have the full force and effect as a law within the boundaries of the county, city, or town to which it applies. Ordinances can be found at the applicable county courthouse or city hall.
- A **policy** is a document written by the program that delineates the general goals and acceptable procedures of conducting a given activity. Typically policies do not have the legal authority of an ordinance, rule, or statute.

Under 192.300, RSMo, Local Public Health Agencies may make and promulgate orders, ordinances, rules or regulations to enhance public health and to prevent the entrance of infectious, contagious, communicable or dangerous diseases into its county.

Benefits of local ordinances, include but are not limited to, more localized control of programmatic activities and can include more stringent requirements such as the collection of fees and licensing even when DHSS has no authority to do so. However, once an ordinance has been adopted the LPHA becomes the administrative authority which includes the management and enforcement of that program.

## Forms

As an Environmental Public Health Specialist with multiple programs or areas of responsibility, there is a large quantity of paperwork to use and track. This subsection outlines the forms used by the environmental health programs and how to obtain them and other program related educational materials.

Most environmental health programs in Missouri include retail food safety inspections, environmental health emergency response functions, general environmental health complaint response, onsite wastewater treatment system construction permitting and complaint response, private drinking water consultation, and sanitation and safety inspections of lodging establishments and childcare facilities.

A Participation Agreement established between the Missouri Department of Health and Senior Services (DHSS) and Local Public Health Agencies (LPHAs) enables LPHA personnel to conduct inspections under state laws and rules. However, in some cases, a county or municipality has enacted its own ordinance that governs the inspection and regulation of these facilities. If this is the case, the LPHA must develop its own forms for documenting inspections and enforcement actions. A LPHA may not use DHSS forms to enforce its own ordinances. Forms created by a LPHA may be similar to or based upon those used by DHSS, but must clearly identify the LPHA as the administrative authority.

LPHAs that regulate food, child care, onsite wastewater, and lodging under state authority must use the forms provided by DHSS. All of these forms can be ordered from the DHSS warehouse. The warehouse website lists for each available form: the catalog number, name of the document, quantity on hand, associated program, and any ordering restrictions. The forms are listed alphabetically and numerically.

Available forms can be found online at: <http://www.health.mo.gov/warehouse/e-forms.html>

To order forms from the warehouse, a DH-48 must be submitted to the warehouse. This order form can be found online at <http://dhssnet/appsforms/pdf/DH-48.pdf>

**Retail Food Program.** The food program has numerous forms to use. The following list provides the forms necessary to conduct routine food safety inspections, as well as, those needed to respond to product complaints and emergency incidents where food product may be compromised.

E6.37	FOOD ESTABLISHMENT INSPECTION REPORT
E6.37A	FOOD ESTABLISHMENT INSPECTION REPORT COMMENT SHEET
E1.24	WORK ORDER
E6.37C	<a href="#">FOOD PRODUCT COMPLAINT RECORD</a>
E1.17	<a href="#">EMERGENCY RESPONSE INFORMATION</a>
E19.0	ORDER OF EMBARGO
E6.07	SANITATION OBSERVATION
E6.11	<a href="#">FINAL DISPOSITION OF GOODS</a>
E6.11	GOODS RELEASED/GOODS CONDEMNED AS UNFIT FOR HUMAN CONSUMPTION

**Commercial Lodging Program.** The lodging program has three forms that are necessary to perform sanitation and safety inspections. Program approval is required to order these forms.

- E9.02 LODGING ESTABLISHMENT INSPECTION REPORT
- E9.02A LODGING ESTABLISHMENT INSPECTION REPORT (COMMENT PAGE)
- E6.07 SANITATION OBSERVATION

**Environmental Childcare Program.** The environmental childcare program also has several forms that are necessary to perform sanitation and safety inspections.

- BCC-34-1 SANITATION INSPECTION REPORT, FAMILY CHILD CARE HOME
- BCC-34-2 SANITATION INSPECTION REPORT, FAMILY CHILD CARE HOME
- BCC-35-1 SANITATION INSPECTION REPORT (PG.1)
- BCC-35-2 SANITATION INSPECTION REPORT (PG.2)
- BCC-35-3 SANITATION INSPECTION REPORT (PG.3)

**Onsite Wastewater Treatment Program.** The onsite wastewater treatment program has forms available on the program's website and on the DHSS intranet, as well as, directly from the program. Forms are available in either a PDF or Word format.

- E3.01 ONSITE SYSTEM CONSTRUCTION PERMIT APPLICATION FEE FORM
- E3.05 ONSITE WASTEWATER TREATMENT SYSTEM CONSTRUCTION PERMIT APPLICATION
- E3.05B CONSTRUCTION PERMIT APPLICATION, INSTRUCTIONS AND CHECK OFF LIST
- E3.05A ONSITE WASTEWATER TREATMENT SYSTEM CONSTRUCTION PERMIT/FINAL INSPECTION
- E3.10 NOTICE OF VIOLATION
- E3.04 NOTICE (OWTS CONSTRUCTION STOP ORDER)
- E6.07 SANITATION OBSERVATION COMPLAINT FORM

**Laboratory Sampling Forms.** As part of some inspections it may be necessary to collect laboratory samples of either food or water. Forms can be found online at <http://www.health.mo.gov/lab/specimentestforms.php#testrequestforms>

**Change Order Form, DH-50.** This form is to be used to document changes made to regulated facilities, in an effort to maintain current, up-to-date records. Changes include, but are not limited to, change in ownership, address, number of sleeping rooms, a new business or a closed business.

**Educational Materials and Literature.** In addition to the forms needed to conduct the day-to-day activities of a comprehensive environmental health program, the DHSS has numerous educational materials that can be beneficial, including pamphlets, stickers, posters, and handouts. These materials can be found online at: <http://www.health.mo.gov/warehouse/e-literature.html>. Educational materials for the environmental child care program are available through the Regional Offices.

## Program Record Filing and Retention

Records management is the practice of maintaining the records of an organization from the time they are created up to their eventual disposal. This may include creating, maintaining, classifying, storing, securing, and destruction or in some cases, archival preservation of records. Keeping accurate and up-to-date records is vital to the success of any organization, as it serves as the process for capturing and maintaining evidence of and information about the organization's and/or an individual's activities. A record can be either a tangible object or digital information, for example: an inspection report, notice of violation, e-mail, or photograph.

Document retrieval is also an important function of records management. Therefore, records should be filed and maintained in a manner that facilitates easy retrieval, indexing to allow for uniformity in program administration, and the appropriate level of security for confidential material. Files may be organized programmatically, alphabetically by facility name, or numerically by street address. It is essential to file records by name, address or other permanent facility trait. Onsite wastewater treatment system projects are often filed by the name of the owner and location, such as mailing address, city or zip code. Confusion may result if projects are filed by the name of the installer or engineer.

Local Public Health Agency (LPHA) records have retention requirements even when conducted under Department of Health and Senior Services (DHSS) authority. However, LPHAs are encouraged to adopt record retention policies similar to the Bureau of Environmental Health Services (BEHS). Nearly all programmatic records, such as lodging and retail food inspections, maintained by BEHS are retained for a maximum of three (3) years with the following exceptions:

- Onsite wastewater loan evaluation reports 10 years
- Contractual agreements 10 years
- Onsite wastewater permit applications/plans, engineering reports, variance requests, percolation test or soil evaluation reports, and inspection reports 100 years

In addition to “active” files, managing “closed” files on facilities no longer in business is also essential. These records can be used for preliminary information for prospective owners or to refresh your memory of the facilities operations and deficiencies if or when the facility reopens.

Requests to review facility files and/or records are common. For DHSS staff, the Administrative Manual contains policies such as section 11.6 Code of Conduct Confidentiality Information that must be followed.

The “sunshine law” which all governmental bodies must adhere to is addressed in section 30.14 and can be found on the DHSS Intranet at: <http://dhssnet/policiesprocedures/index.php>

## Documentation Guidelines

The following is guidance for recording environmental public health activities that provides timely, legal, and accurate documentation of activities and services delivered. A public health record is a legal document. Listed below are items to be followed at all times:

- Contents of the public health record must meet all regulatory, accrediting and professional organization laws, rules, and/or guidelines. Common requirements specific to environment public health activities include, but are not limited to, filling out required forms and documentation of consultation and education provided to an individual, agency or associated parties. Such documentation should include evaluation of or responses to services or activities.
- Use permanent ink for all recordings.
- Date, sign, and include title on all documented items; include time if it is of significant importance. Full signature and title must be on file in the agency.
- Entries must be legible with no blank spaces in any area of the documentation. If space is left on a line or in a space on a form, draw a line through the space to the end of the line. For large areas not used on a form or page, use diagonal lines to mark through the area.
- If errors are made, draw a line through the error. Write error, initial, and date the error. Do not attempt to erase, obliterate or “white out” an error.
- All documentation should be factual, complete, accurate, contain observations made by the professional, client quotes when applicable, interventions carried out, and response to the interventions. Do not give opinions, make assumptions, or enter vague, meaningless statements (e.g. the client cares about doing the work correctly.) Be specific.
- Documentation should be thorough enough so that environmental personnel/co-worker could read, understand and continue to carry-out the necessary actions, such as a follow-up inspection, if you were not available.
- Use correct grammar, spelling, and punctuation.
- Write the client’s name and other identifying information on each page of the record.
- Use only abbreviations approved by your agency.
- Never document another person’s work or sign another co-worker’s name in any portion of the record.
- Documentation of service should occur as soon after the service has been given as possible. Note problems as they occur, resolutions used, and any changes in the situation.
- When leaving messages, document date, time, name of person taking the message and the telephone number called. If faxing information or a message, retain a copy of fax in the record.
- Include in the record the status of the situation before and after service has been given.
  
- Document any discussion of controversial situations and the direction given by a superior or expert you have consulted. Include the date and time of the discussion and your actions as a result of the discussion, as well as, the consequences of the directions given.
- Record an omission as a new item in the record. Do not backdate or add to previous written documentation.

- Record only your own observations and actions. If you receive information from another Environmental Public Health Specialist, state the source of the information.
- Record date, time, and content of all telephone client/agency related communications.
- **Remember, if you don't document it, it did not occur.**

## **Environmental Public Health Specialist**

### **What is the Merit System?**

The Missouri Merit System is a personnel system established by law and designed to protect employees from arbitrary actions, personal favoritism, and political coercion. In addition, the Merit System provides a competitive examination process for recruitment and retention of a qualified workforce and governs the appointment, promotion, transfer, layoff, removal, and discipline of state employees. Although local public health agency employees are not regulated by the Merit System, 205.110 RSMo, mandates that “the qualifications of all persons employed in the operation of said health center shall be at least equal to the minimum standard of qualifications as set forward by the department of health or its successors for positions of like importance and responsibilities.” A complete listing of job classifications and descriptions can be found at [http://oa.mo.gov/pers/ClassSpecs/List\\_A-Z.htm](http://oa.mo.gov/pers/ClassSpecs/List_A-Z.htm).

### **What is an Environmental Public Health Specialist?**

An Environmental Public Health Specialist (EPHS) position is multi-leveled and, at a minimum, consists of professional and technical work promoting community environmental health and implementing environmentally influenced public health laws and regulations.

### **What does an EPHS do?**

- Performs a variety of inspections relating to environmental health programs, including the following:
  - Individual water and onsite wastewater treatment systems;
  - Food sanitation;
  - Food and waterborne disease prevention and outbreak investigation;
  - Child care facility sanitation and safety;
  - Commercial lodging sanitation and safety;
  - Recreational water sanitation and safety;
  - Industrial hygiene;
  - Vector control;
  - Zoonotic disease control;
  - Environmental public health factors related to disaster response and/or transportation accidents; and
  - Environmental epidemiology programs concerning toxic and hazardous chemicals and their risk assessment and building related illnesses;
- Conducts field inspections and evaluations concerning the application of public health practices designed to prevent disease and promote environmental health, life safety, and consumer protection;
- Conducts field investigations and epidemiological studies of food or waterborne disease outbreaks or environmental health hazards;
- Inspects construction and maintenance of individual water well construction and onsite wastewater treatment systems;
- Collects food samples, water, or wastewater for bacteriological or chemical analysis; collects other samples (e.g., asbestos) for analysis as needed;

- Inspects food service establishments, retail food stores, food manufacturers, and distributors to determine compliance with environmental public health laws, rules, and regulations pertaining to their operation;
- Investigates complaints involving possible environmental public health law violations; prepares reports with recommendations for corrective measures and conducts follow-up investigations;
- Inspects public and private facilities, such as child care facilities, with respect to food protection; water supply; wastewater treatment; waste disposal; vector control; life safety; hazards in electrical, venting or plumbing installations; swimming pool operation and other related environmental hazards; and
- Provides technical advice to officials, property owners, and operators of plants and business establishments with regard to environmental public health regulations, requirements, policies, and programs.

### **What Skills and Abilities are needed to be an EPHS?**

- Knowledge of the principles, practices, and terminology of environmental health as related to public health;
- Knowledge of bacteriology, chemistry, physics, and other physical or natural sciences as applied to environmental health;
- Knowledge of relationships of environmental conditions to the general level of public and occupational health;
- Knowledge of environmental health laws, regulations, requirements, and policies;
- Ability to establish and maintain effective working relationships with the public, staff, and governmental agencies; and
- Ability to communicate effectively and deliver presentations in the promotion of environmental health.

### **What Experience and Education is needed as an Entry Level EPHS I?**

A Bachelor's degree from an accredited college or university with a minimum of thirty (30) earned credit hours in one or a combination of the following: Biology, Chemistry, Bacteriology, Food Science, Soil Science, Sanitary Science, Environmental Health, or in closely related physical or natural sciences. Candidates that meet this education requirement are not required to have previous environmental health experience.

## **Fundamentals of an Inspection**

Most Environmental Public Health Specialists (EPHS) have several areas of technical responsibilities including food safety, private water, onsite wastewater, environmental child care, and commercial lodging. Many times these programs overlap. Fortunately, there are many general inspection skills that can be applied whether conducting a motel, convenience store or child care facility inspection. All inspections and communications should be conducted in an atmosphere of respect.

To successfully inspect a facility, an EPHS must be knowledgeable of the statutes and rules regarding the programs enforced. An EPHS does not need to memorize these statutes and rules, but it is essential to have a good, strong working knowledge of what constitutes a violation of public health law and to ensure inspections conducted maintain a minimum level of consistency statewide. An EPHS must be able to quickly identify which documents contain relevant information and where each subsection is located within that document to ensure full information retrieval.

In addition, an EPHS needs to have a clear understanding from where their authority to conduct environmental activities comes; local ordinances, the participation agreement, or other programmatic contracts. Local ordinances may be more stringent than state law, but may not be in conflict with or be more lenient than state law; except for commercial lodging. If local ordinances do not address a topic in the state rule, the EPHS must still be familiar enough with state laws and rules to enforce those public health measures appropriately.

When there is no local ordinance to enforce, the Local Public Health Agency (LPHA) is granted the authority to conduct inspections of regulated facilities under state statutes and rules through a participation agreement between the Department of Health and Senior Services (DHSS) and LPHA.

### **Inspection Policy**

Each LPHA needs a quality comprehensive environmental health program to serve its citizens. This system, which provides guidance for environmental health activities, should incorporate routine inspections of regulated facilities and provide for appropriate follow-up activities. As part of this system, an inventory list of regulated facilities, including food establishments; lodging establishments; and child care facilities should be maintained.

### **Inspection Fundamentals**

The files and records for regulated facilities are a wealth of information and the first place you should go for information about an upcoming inspection. Before any field visit or inspection, review the files.

The EPHS will need to know general facility information: the name of the owner or manager, the facility street address, hours of operation, the menu, or number of children the facility is licensed to care for, etc. Knowing the hours of operation of an establishment is critical, as inspections should be conducted when the facility is open for business, for example: while preparing food, caring for children, or in operation during the tourist season.

Also, during your file review, note the date and time of the last inspection and the establishment's inspection history. Inspections should be conducted according to the frequency required by policy or participation agreement. A copy of the most recent inspection report is essential to determine which violations have been corrected and which are ongoing issues.

Part of field preparation is gathering the appropriate paperwork and equipment. The equipment necessary for inspections vary depending on the type of inspection, but will include in general a clipboard, flashlight, pens and copies of applicable rules for reference. A camera can be a useful tool for all types of inspections. Lab forms and water sample bottles are necessary if the facility is served by a non-community water supply.

As more agencies use computers for inspections, the necessary equipment list may evolve to include extra printer cartridges, blank paper, the computer and printer, as well as power supply cords or car chargers.

### **Food Inspection Equipment**

Specific equipment needed for a food inspection include: alcohol prep pads or sanitizing wipes, dial-stem thermometers, a thermocouple, dish machine testing equipment (heat-strips, dish machine thermometer, or Thermo labels), test strips for sanitizers, and hat or hair restraint. If conducting a Hazard Analysis Critical Control Point (HACCP) inspection, a data-logger is essential.

### **Lodging Inspection Equipment**

Specific equipment needed for a lodging inspection include: a circuit tester to check wiring, a dowel rod or some other rod to test smoke detectors, a tape measure, and water chemistry test kit for swimming pools and spas, if applicable.

### **Onsite Wastewater Treatment System (OWTS) Inspection Equipment**

Specific equipment needed for an OWTS inspection include: boots, raingear, measuring wheel or tape measure, and/or a laser range finder for measuring long distances and a laser level, rod and tripod.

### **Environmental Child Care Inspection Equipment**

Specific equipment needed for an environmental child care inspection include: alcohol prep pads or sanitizing wipes, dial-stem thermometers, dish machine testing equipment (heat-strips, dish machine thermometer, or Thermo labels), test strips for sanitizers, LeadCheck® Swabs and a water chemistry test kit for swimming pools, if applicable.

### **Emergency Response Equipment**

Specific equipment needed for an emergency response kit include many of the items already mentioned as well as personal items, like clothing and toiletries. Since emergency response may happen under disaster conditions, consider keeping protective gear, like steel-toed shoes, a helmet, and reflective vests with the kit as well. The DHSS supports a Ready-in-3 program to assist Missourians in preparing for an emergency. Additional information can be accessed at: <http://health.mo.gov/emergencies/readyin3/>

## **Routine, Follow-up, and Complaint Inspections**

Generally, inspections or investigations that an EPHS conduct can be classified as routine, follow-up/re-inspection, or complaint inspections.

### **Routine Inspections**

A routine inspection is a comprehensive inspection of the facility conducted according to a pre-determined schedule. For the most part, a routine inspection is unannounced. Child care and lodging facilities receive annual inspections. Routine food service inspections are made at a frequency determined by the risk that the facility poses to the public. This determination is based on the facility type, population served, foods prepared, and past history of the establishment.

Unless imminent health hazards are observed, follow-up or re-inspections are scheduled when an inspector notes violations that cannot be corrected while on-site and/or do not comply with a specific regulation. Noted imminent health hazards require immediate corrective actions; the EPHS may need follow-up with appropriate enforcement actions should a facility operator fail to immediately resolve an imminent health hazard. Generally, any violation noted during a lodging or child care inspection requires a follow-up inspection. Follow-up inspections, for food establishments, are determined based on the number of priority items and/or total number of violations noted during a routine inspection.

### **Follow-up Inspections**

Follow-up inspections only check the violations noted from the routine inspection. The date for the follow-up inspection can be determined and discussed with the establishment manager at the time of the routine inspection. Once a date has been established, it is essential to return for the follow-up inspection on that date or as close to that date as possible to convey the significance of correcting the noted violations.

### **Complaint Investigations/Inspections**

Inspections can also be made in response to a complaint. Complaints can come from customers, the public, employees of the inspected facility, other public health professionals, and/or health care providers and involve wastewater treatment, food products, lodging establishments, or water. Some complaints may need to be referred to another agency which has regulatory authority with no further action required by the LPHA.

The type of response is dependent upon the complaint. At a minimum, receipt of a complaint involving a regulated facility should result in a visit to that facility to establish the validity of the complaint. Before investigating a complaint, it is important to do a file review to see when the last inspection was made and what violations were recorded. If the complaint alleges conditions noted in the previous inspection, and they could pose an imminent health hazard, a full inspection may be warranted. Of course, inspectors are not required to respond to complaints about non-regulatory issues at a facility, such as poor customer service.

Complaint inspections should be initiated within the timeframes suggested below:

- Imminent health hazard complaints should be investigated upon receipt, at least within 24 hours;

- Potential health hazard complaints should be investigated with five (5) working days of receipt; and
- Nuisance complaints should be investigated with fifteen (15) working days of receipt.

All complaints received involving regulated facilities or products should be documented, including the nature of the complaint, investigation results, action taken and final outcome. A log or record of complaints received is a convenient method to record this information. The log may be a database that is linked to other establishment records. The documentation should be filed and easily retrievable.

### **Conducting an Inspection**

Being properly prepared is the key to a successful inspection; review the establishment's past history and take the appropriate forms and equipment. Within reason, respect the needs of the establishment when choosing the time and date of the inspection. Consideration of the needs of establishment's customers and staff, such as, inspecting a buffet or chef's station before or after a lunch rush, still allows the inspector to observe the practices of the establishment while allowing employees to assist customers.

When beginning an inspection, contact the facility manager upon arrival, introduce yourself, and explain the reason for your visit. Invite the owner or manager to accompany you during the inspection. Generally, someone from management will escort you through the facility during a lodging inspection.

Conducting the inspection with the manager is a good way to determine if the manager is aware of environmental health laws and regulations. In addition, having the manager with you also allows corrections of violations/problems to be made during the inspection.

During the inspection, be observant, ask open ended questions, listen, don't rush, and try not to obstruct the flow of work within the regulated facility. Clearly describe the violations observed on the inspection report. Follow a logical path or route through the facility. For instance, by following the flow of product through a food facility from receiving through storage, preparation and service, the inspector can think about environmental health concerns at every step of the way. Devising a standardized system for each type of establishment will help to perform thorough and complete inspections. During the exit interview, openly communicate with the manager or owner the inspection findings, discuss the noted violation(s) and provide reasonable corrective measures.

### **Inspection Reports**

While conducting the inspection, write the violations and/or observations directly onto the final inspection report or take notes which can later be transferred to the report. Be mindful that any notes taken during an inspection become a legal document and should be professional in content and tone as with any other report.

When writing a violation, an appropriate corrective measure should also be given. Noting "Gravy, green beans, and roast port on the steam table at 120 °F degrees" as a violation is correct. However, this describes the violation but provides little information about how to correct the problem. With the addition of "Foods held hot for service shall be held at 135 °F degrees or above, these items need to be reheated to 165 °F degrees" the manager or owner has a clear understanding of the violation and expectations for hot holding. This same technique can be used for child care inspections or lodging

inspections. For example, the violation: “Room 130 sleeping room door doesn’t close” would provide more information if written, “Room 130 sleeping room door doesn’t self-close; all sleeping room doors leading to interior corridors must be fitted with self-closing device.” If possible, imminent health hazards and other less severe violations should be corrected during the inspection. These violations still need to be noted on the inspection, with a “corrected-on-site” beside it.

Opinions are always inappropriate on a legal document. Observations about the facility that do not fall under the jurisdiction of the inspector should not be recorded on the inspection report. For instance, lack of smoke detectors is not a violation of the food code and should not be written on the inspection report for a restaurant.

## **Process for the Issuance of Technical Bulletins/Informational Releases**

The Environmental Health Operational Guidelines manual, or the EHOG, was developed to be informational and aid field staff in the routine decision-making process associated with various environmental health programs within the Bureau of Environmental Health Services (BEHS).

As before, information in this manual is arranged by program in individual chapters. The majority of the text will not be updated within the Participation Agreement for State Investment in Local Public Health Services period. However, in an effort to maintain the most current policies and best practices in this manual each chapter contains a subsection that can be updated, as needed, for ongoing technical bulletins and informational releases.

Technical bulletins differ from informational releases. Although neither imposes additional expectations, information within a technical bulletin is programmatic in nature and once incorporated into the EHOG becomes policy; while an informational release is a document used simply to disseminate newly acquired information. Examples of information that may be incorporated, includes the confidentiality agreement for specialized process materials (technical bulletin) and onsite wastewater treatment system product approval (information release).

When a technical bulletin or informational release is drafted, Local Public Health Agencies (LPHAs) will be notified via the Bureau ListServe. The technical bulletin or informational release will then be posted on the Department of Health and Senior Services internet site alongside the EHOG.

For technical bulletins, LPHAs will have a two (2) week comment period in which to submit written comments to BEHS. At the end of the comment period, BEHS will review submitted comments, modify the technical bulletin as needed, and incorporate into the EHOG. For information releases, once posted on the internet it will be incorporated into the EHOG.

Once incorporated into the EHOG, LPHAs should begin utilizing the information from the technical bulletin and/or informational release, as needed, in their daily environmental health activities.

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## **Introduction to Food Protection Program**

Protecting the safety of our food supply is a huge responsibility. Throughout Missouri, the Department of Health and Senior Services (DHSS) and Local Public Health Agencies (LPHAs) regulate more than 31,000 food establishments and food processing plants. Routine and follow-up inspections are conducted to assure that these facilities are preparing, handling, serving, and/or storing food that is safe for consumption.

In addition, DHSS and LPHAs provide technical assistance and training on food safety issues to the foodservice industry. Personnel from these agencies also provide information to consumers on safe food handling practices, including personal hygiene, food preparation and food storage. It is through education and regulation that DHSS and LPHAs decrease the incidence of foodborne illness.

### **Governmental Agencies**

Food safety activities are conducted by a wide array of governmental entities in the state, as outlined below:

#### Federal:

FDA –United States Food and Drug Administration

- Regulates imported food.
- All food in interstate commerce is under the authority of FDA (moving between states).
- Staff located in the state that inspect food processing plants.
- Provides technical assistance and support to state food safety programs.
- May conduct surveys and evaluations of state food safety programs.
- Provides funding in support of state food safety programs.
- Provides oversight of the Conference for Food Protection who recommends changes to the FDA food code.

USDA- United States Department of Agriculture

- Regulates the sale of meat and poultry products in interstate commerce.
- Regulates meat production facilities.

CDC- Centers for Disease Control and Prevention

- Coordinates and assists with multistate foodborne disease investigations.
- Compiles and analyzes foodborne disease data.
- Makes recommendations to prevent foodborne disease based on data analysis.

#### State:

DHSS, BEHS- Department of Health and Senior Services, Bureau of Environmental Health Services

- Has authority to regulate food produced and sold in the state.
- Assists FDA, USDA and other State agencies with enforcement of interstate food related regulations.
- In conjunction with LPHAs, conducts enforcement activities in jurisdictions with local food ordinances.

- Provides technical assistance and support to LPHAs.
- Assists LPHAs with food safety activities after a major disaster or event.
- Develops food safety policies and standards, including the Missouri Food Code and EHOG.
- Has staff whom routinely inspect food processing plants.
- Provides food safety training to LPHAs, industry, and the public.
- Conducts surveys of LPHAs food safety programs.
- Provides funding in support of LPHA environmental health programs.

#### BCDCP-Bureau of Communicable Disease Control and Prevention

- Assists BEHS/LPHAs with foodborne disease investigations.
- Compiles data about foodborne disease occurrence.

#### SPHL-State Public Health Laboratory

- Conducts analysis of food samples during foodborne illness outbreaks and for NARMS and Manufactured Food Program sampling.
- Provides technical assistance regarding food sampling.

#### MDA-Missouri Department of Agriculture

##### Meat Inspection Program

- Conducts inspections and licenses firms processing meat distributed within Missouri.

##### Milk and Dairy Program

- Conducts inspection and licenses Grade A and manufacturing grade dairy farms and milk plants.

##### Egg Licensure Program

- Licenses egg producers who sell eggs (exception: farm sales).

#### Local:

##### LPHAs- Local Public Health Agencies (cities and counties)

##### EPHS-Environmental Public Health Specialist

- Maintains an inventory and develop a work plan for food establishments establishing inspection frequency and criteria for re-inspections, must meet EHOG minimums.
- Conducts inspections of food establishments according to plan.
- Conducts inspections of temporary food establishments according to agency policies.
- Conducts appropriate follow-up of complaints against food establishments.
- Assures food safety after disasters and other significant events.
- Performs enforcement activities according to local ordinance or EHOG.
- Collects food samples.
- Conducts food safety training for industry and the public.

##### Communicable Disease Staff

- Conducts investigations of foodborne outbreaks.
- Monitors illness trends related to reportable foodborne pathogens.

#### **Authority**

It is important that all staff involved in the regulation of food facilities whether through statutes, regulations, and/or local ordinances be familiar with those items before beginning food related activities.

Chapters 192 and 196, RSMo, assign DHSS the responsibility for assuring food safety. 19 CSR 20-1.040 and 19 CSR 20-1.025, the minimum standards are set for retail food facilities. DHSS works with LPHAs to assure that these standards are met throughout the state.

Food safety programs, in jurisdictions without local ordinances, must incorporate the standards outlined in this EHOg.

Chapter 192, RSMo, authorizes counties to adopt health ordinances including food protection ordinances. Jurisdictions adopting local ordinances are somewhat independent from the state. These ordinances are to be equal to or more stringent than the current state regulations. The local agency should develop and use their own enforcement policies and procedures. Inspection report forms and other food related forms should be developed to help with enforcement. DHSS regional and program staff will be available to provide technical assistance and consultation to agencies with ordinances when requested.

Jurisdictions with food protection ordinances are expected to manage their programs to be in compliance with this EHOg.

### **Program Surveys**

A food protection survey is an evaluation by DHSS of the quality of a food protection program conducted by a LPHA. The surveys may include inspections of retail locations such as restaurants, taverns, grocery stores, markets, and schools. Surveys will be conducted at intervals as determined appropriate by DHSS. DHSS may survey or audit programs throughout the state.

Surveys may be conducted more often when new ordinances are adopted, requested by the LPHA, or observations indicate either major improvements are needed or there is a deterioration of enforcement techniques.

## **Retail Food Protection Guidelines**

Retail food establishments are inspected under [19 CSR 20-1.025 Sanitation of Food Establishments](#) commonly referred to as the Missouri Food Code. This code is derived from the FDA's model food code. State statute allows local jurisdictions to adopt their own food code ordinance and inspect under its authority if it is equal to or more stringent than state requirements.

The definition for a food establishment, in the Missouri Food Code, is lengthy and begins: an operation that stores, prepares, packages, serves, vends, or otherwise provides food for human consumption directly to the consumer. Facilities inspected as food establishments include restaurants, catering operations, mobile food service, meat markets, retail grocery, senior citizens centers, school cafeterias, taverns, summer feeding (preparation and service sites), bakeries, delicatessens, farmer's markets, temporary food vendors, and food pantries. A food establishment does not include food-processing plants, private homes where food is prepared, served, delivered or catered for individual family consumption, an establishment that only offers prepackaged foods that are not potentially hazardous, a produce stand that only offers whole, uncut fresh fruit and vegetables or a bed and breakfast with four rooms or less and breakfast is the only meal served. See Chapter 1 of the Missouri Food Code for additional details of this definition.

Occasionally an individual or organization will meet the definition of both a retail food establishment and food processing plant. For further clarification, please go to the [Manufactured Food Program](#) section of this manual.

It should be understood that the person in charge of the food establishment is a customer receiving a product (the inspection report) and he/she should be able to find that product usable, practical, and understandable. An atmosphere of cooperation and partnership is encouraged to promote and protect public health.

### **The Work Plan**

All LPHAs must have a work plan to guide their food program. Work plans must include a protocol for determining inspection frequencies, follow-up inspection procedures, and procedures for responding to complaints. Each LPHA must maintain an accurate and up-to-date inventory of all food establishments, including temporary events, within their jurisdiction. At a minimum, the name of each establishment, its location, current risk rating and most recent inspection date should be kept. This inventory should be made available to the Department of Health and Senior Services (DHSS) upon request for monitoring or survey purposes.

Frequency of inspection should be determined by public health priority, which is determined by using the Food Establishment Public Health Priority Assessment [Worksheet](#) (see subsection: Training and Resources or by any other scientifically sound process that determines risk. Studies have shown that the types of food served, the food preparation processes used, the volume of food and the population served all have a bearing on the occurrence of foodborne illness risk factors in retail food establishments. The three risk categories used focus inspection resources on food operations with the greatest food safety risk. The categories and assignment of frequency are based on the type of food served, food preparation

processes conducted, and history of non-compliance. Food establishments in the high-risk category have more complex operations, serve more people, and/or have a history of non-compliance and should be inspected on a more frequent basis than medium-risk facilities. Medium-risk facilities prepare and serve foods that require less preparation and handling of foods than a high-risk facility, and serve fewer people. In turn, medium risk establishments should be inspected on a more frequent basis than low-risk facilities. Low-risk facilities provide pre-packaged potentially hazardous foods or minimally handle open non-potentially hazard foods. Low risk establishments handle food with no cooling or reheating steps during preparation and they have fewer customers. The suggested minimum inspection frequency is once every four months for high risk food facilities; once every six months for medium risk facilities; and once every twelve months for low risk facilities. A similar risk prioritization should be used to determine frequency of inspection of temporary events. For example, if the events are associated with large number of attendees and serves potentially hazardous foods this event would be of higher risk than a bake sale sitting on a street corner. The Priority Assessment Worksheet will help delineate these risk categories more clearly. Each jurisdiction is encouraged to develop risk categories tailored to their specific program needs and resources and to reassess the risk categories on an annual basis.

### **Application Process for New Food Establishments**

In September of 2013, DHSS adopted an update to the food code that requires that new food establishments inspected by an LPHA that uses this code to submit an application prior to opening. Section 8-301.11, in the food code provides the prerequisites for operation. This section requires that new food establishments or extensively remodeled establishments obtain written approval to open from the regulatory agency that conducts the inspection. A request for this written approval can be made by submitting an application at least thirty (30) calendars before beginning operation as is required by section 8-302.11 of the food code. This requirement does not apply to temporary food establishments or when ownership changes provided the operation remains the same. A copy of this form can be downloaded from the DHSS Food Safety website at:

<http://health.mo.gov/safety/foodsafety/appsforms.php>.

Additional information must be submitted with the application form. The information required includes a description of the contact information for the responsible parties, type of facility to be opened, a floor plan including equipment layout, a proposed menu and a signed statement from the establishment on the accuracy of the information provided.

Once the application has been submitted and reviewed, the EPHS will schedule a pre-operational inspection as required by 8-302.20 of the food code. Section 8-303.10 of the food code states that an issuance of an approval to open needs to include an approved application, evidence that standard operating procedures are in place, all accompanying materials listed on the application have been submitted and a pre-operational inspection stating that facility is in compliance with the code has been completed.

Several standard operating procedures must be in place before and during operations. These include cleaning schedules, employee illness policies, procedures for verifying cooling and cooking temperatures and equipment monitoring procedures. A model for an employee illness policy can be found at the FDA web site:

According to section 8-303.30 of the food code if an establishment is found to be operating without completing the proper application process the facility can be issued a closing order by DHSS. The EPHS should follow the procedures for obtaining a closing order stated in the enforcement guidelines given later in this chapter. Where local ordinances govern inspections the EPHS must follow the application and enforcement requirements of the applicable ordinances.

### **Conducting Inspections**

Inspections performed under the Missouri Food Code shall be documented on the DHSS form E6.37 and E6.37A, Food Establishment Inspection Report. All inspections are to be conducted using the principles of Hazard Analysis Critical Control Points (HACCP) as a basis for recommendations and enforcement actions. Additional information regarding inspecting under HACCP principles is available through the [FDA](#). See subsection: Fundamentals of an Inspection in Chapter 1.0 of this document for additional general information on performing inspections. A successful inspection program will utilize HACCP principles to identify risk factors and obtain immediate and long term corrective action for recurring risk factors.

During an inspection an emphasis should be placed on priority items, formally designated critical items, which relate to those factors that are known to lead directly to food borne illness. These factors include food product temperature controls, cross contamination, sanitation, employee health and personal cleanliness and management's knowledge of those issues with respect to their specific operations. The food borne illness risk factors and interventions are presented on the Food Establishment Inspection Report form E6.37. The importance of documenting the occurrence of other priority item violations such as the presence of plumbing cross-connections, or the lack of a hand washing sink, should not be minimized. Core item violations, formally designated non-critical, include the items listed in the good retail practices section on form E6.37. Examples of core items include missing lights shields, missing floor tiles, and dirty non-food contact surfaces; they are also to be documented on the inspection report form. The appropriate designation for each compliance item in the risk factors and interventions section shall be noted by marking the appropriate answer such as "in", "out", "not observed" or "not applicable". The good retail practices section does not apply, a single line should be drawn through the item.

All temperatures taken during the inspection are to be noted on form E6.37A which is considered page two of the Food Establishment Inspection Report. The details of each observed priority or core violation must be properly documented on page two. This is done by placing the corresponding code reference number for the violation in the code reference block in either the priority items section or the core items section of page two. The code reference block must list the chapter and specific subsection of the chapter that is in violation. Next, a description of the violation must be written in the appropriate section of page two. In order to assure that the proper corrective measure is implemented, the description of the violation must include what the code requires or how the violation can be abated. The next step is to assign an acceptable correct-by-date in the 'correct by' column on page two. If an item is corrected during the inspection it can be denoted by putting a check mark or 'x' in the 'COS' column.

Example: When violations are observed for the same piece of equipment, surface, room, etc.

PRIORITY ITEM

3-501.16(A) Observed: Chicken, beef, and pork on steam table at 120° F.  
Required: Potentially hazardous foods held hot must be maintained at 135° F or above.

CORE ITEM

6-501.11 Observed: Multiple floor tiles are broken throughout the kitchen floor.  
Required: The physical facilities shall be maintained in good repair.

Example: When violations are observed for multiple pieces of equipment, rooms, processes, etc.

PRIORITY ITEM

3-501.16(A) Observed: Chicken, beef, and pork on steam table at 120° F.  
Required: Potentially hazardous foods held hot must be maintained at 135° F or above.

3-501.16(A) Observed: Chicken on the stove at 120° F.  
Required: Potentially hazardous foods held hot must be maintained at 135° F or above.

3-501.16(B) Observed: Chicken in refrigerator at 60° F.  
Required: Potentially hazardous foods held cold must be maintained at 41° F or below.

CORE ITEM

6-501.11 Observed: Multiple floor tiles are broken throughout the kitchen floor.  
Required: The physical facilities shall be maintained in good repair.

6-501.11 Observed: Multiple floor tiles are missing in the walk-in cooler.  
Required: The physical facilities shall be maintained in good repair.

4-601.11(c) Observed: Dust buildup on lights in food preparation area.  
Required: Nonfood contact surfaces of equipment must be kept clean.

4-601.11(c) Observed: Exterior of walk-in cooler door has grease buildup.  
Required: Nonfood contact surfaces of equipment must be kept clean.

Since a file review should have been completed before the inspection was started, the inspector should mark a check mark or an 'x' in the 'R' column for any repeat priority violations. If a facility has had repeat priority violations or repeat non-compliant risk factors on two routine inspections within a 12 month timeframe, the inspector should work with the facility to develop a [risk control plan](#) to address the ongoing violation. Risk control plans are discussed later in this section.

**Exit Interview/Corrective Action**

An exit interview should be conducted with the person in charge before leaving. As part of this review the inspector should show the person in charge the priority violations and have them begin on-site corrective actions. Immediate abatement of the violation(s) is important. The on-site corrective actions would include: destruction of foods that have experienced temperature abuse, embargo or destruction of foods from unapproved sources, accelerated cooling of foods when cooling time limits can still be met, continued cooking or reheating of foods when proper cooking/reheating temperatures have not been met, initiate use of gloves, tongs or utensils to prevent hand contact with ready-to-eat foods or require hand washing when potential contamination is observed. Immediate correction is preferred and when not

possible, the inspector and the person in charge should discuss correction timeframes and establish the follow-up inspection date. The inspector needs to be sure to write a correct-by-date on the inspection form and have the person in charge or their designee initial the inspection form. An actual date is best since it provides the person in charge with a better understanding of when the inspector will expect to see the work completed. Noting either “two weeks” or “next regular inspection” is not clear and may result in the violation(s) going uncorrected. Be sure to record all comments or requested corrective actions on the inspection report form.

After discussing the inspection report ensure it is complete and obtain the signature of the person in charge. If the person in charge or their designee objects to signing the form, explain that by signing the report, the individual is only acknowledging receipt of the inspection report. If they refuse to sign, this should be noted in the block for their signature. Give one copy of the report to the person in charge.

Some agencies require inspection reports to be posted for public viewing. This is one way of informing the public of the food safety measures that the facility uses, so an inspector may suggest the report be posted in the establishment.

### **Follow-Up Inspections**

Follow-up inspections must be conducted according to the agency’s enforcement policy, written plan or ordinance. The follow-up inspection may be conducted when the inspection findings meet specific criteria in the agency’s enforcement policy or written plan. The inspecting agency should specify when follow-up inspections will occur and what level of non-compliance will be required to proceed to a work order or closing order. All follow-up inspections must be documented on a new Food Establishment Inspection Report form, E6.37. The default time for correction is “within 72 hours” for priority items or as specified on the inspection report form. Core violations should also have a “correct by date” assigned. Noting “next regular inspection” or “NRI” frequently results in the facility not dealing with the violations, so always record a correct by date. The severity of the violations, the inspection history of the establishment, and the needs of the person in charge will ultimately determine the timeframe for conducting a follow-up inspection.

Violation(s) of a priority item that will not lead directly to an immediate food borne illness and cannot be corrected during the inspection must receive a follow-up inspection. The follow-up inspection timeframe should be agreed upon in writing by the inspector and the person in charge. This correction timeframe should not exceed 15 days. Such violations include, but are not limited to: food contact surface(s) in disrepair, potentially hazardous ready-to-eat foods not date marked, unlabeled spray bottle(s), sanitizer solutions mixed too strong and failure to designate a person in charge. Following up on some violations such as date marking and having a person in charge is necessary to assure that the proper procedure continues to be followed. Risk control plans should be developed to address reoccurring violations to help with long term compliance.

It is reasonable that core violations may not warrant a follow-up inspection. The investigator should always put a correct-by-date on these violations, even if follow-up will not occur until the next routine inspection. Repeat violations to a core item that are not corrected during the inspection may be criteria that an agency uses to require a follow-up inspection. A follow-up timeframe for repeated core

violations should be agreed upon by the inspector and the person in charge and should not exceed 30 days.

### **Complaint Investigations**

There is discussion and brief guidance on complaint investigations in [Section 1](#) of this document and additional guidance is included here. When complaints about retail food facilities are received the investigator should use the following guidance to determine their actions. First, determine whether the allegations warrant an immediate response or whether they can wait for a few days. Examples where an immediate response (within 24-hours) would be needed are: a foodborne illness, sewage backing up or lack of hot water. Examples of issues that can wait a longer period before the investigation begins include an employee not wearing hair restraints, dirty restrooms, or ants around the soda fountain. Regardless of the severity of the complaint every complaint should be investigated, but some warrant more immediate attention than others to prevent the spread of disease. Specifics on foodborne illness investigations are discussed in [Section 2.9](#).

When speaking with the complainant the LPHA/DHSS staff person must be sure to gather enough information to adequately investigate the complaint. Important information to collect includes the complainant's name and contact information, where they had a problem, when the problem occurred and a description of the problem. Complaint investigations are generally unannounced just like regular inspections. If the complainant's allegations are found to be accurate then a follow-up visit must be scheduled to verify that the conditions have been addressed. If BEHS receives a complaint about a food establishment then a complaint investigation report form will be completed and forwarded to the appropriate LPHA staff person and administrator for investigation.

When investigating the complaint the inspector, must inform the facility that they are there to investigate a complaint. The investigation information may be documented on a sanitation observation form, a complaint investigation form, or the inspection report form. All complaints received involving regulated facilities or products should be documented, including the nature of the complaint, investigation results, action taken and final outcome. A log or record of complaints received is a convenient method to record this information. The log may be a database that is linked to other establishment records. The documentation should be filed and easily retrievable. If significant issues are noted during the investigation that are not immediately related to the complaint, but require immediate action the investigator should conduct an inspection and note on the inspection form the complaint allegations and findings.

When a complaint is received about a food product, the LPHA will need to complete the Food Product Complaint form. The forms section of this document contains the Food Product Complaint form or E6.37C. It can be used to collect the necessary information to begin a complaint investigation. Completing as much of the information listed on this form as possible will improve the investigator's ability to investigate the complaint effectively. Identifying information on the label such as UPC codes and the manufacturer/distributor address is very important to any investigation, because it allows the product to be tracked to its manufacturer. If BEHS receives a complaint this form will be completed and forwarded to the appropriate agency for follow-up. BEHS should receive a copy of all food product complaint forms completed by LPHA's for tracking purposes. Complaints will be forwarded to the

appropriate federal agency such as FDA or USDA on foods not produced within Missouri. Complaints that are under the jurisdiction of Missouri Department of Agriculture (MDA) will be forwarded to the correct division of that agency. Staff with BEHS will work with MDA on investigating complaints where there is dual jurisdiction. The regional EPHS V will provide technical assistance as necessary to the LPHA on investigating food product related complaints. All complaints related to a foodborne illness should also be shared with communicable disease staff to allow for a complete investigation of the reported incident.

### **Working with Other Partners**

Liquor Control. The Department of Public Safety, Division of Liquor Control (DLC) licenses establishments serving alcoholic beverages for on-premise consumption. Currently, DLC notifies the establishment for the need to be inspected and in compliance with appropriate Missouri statutes and regulations related to food sanitation; however this is no longer a requirement for obtaining a liquor license.

Missouri Department of Agriculture (MDA). Meat plants and slaughtering processes are under full regulatory control of the MDA. In these establishments, the meat is under full inspection and will have a MDA stamp of inspection on the final product package, similar to a USDA mark of inspection.

Custom exempt meat plants are those plants that provide a service to owners that bring in livestock to be slaughtered and processed. These facilities receive an annual inspection by MDA. Custom product is for the owner's use and the product cannot be sold. Venison and wild game processed by these custom exempt operations, however, can be made available through the share the harvest program or used at fundraising events or provided to food pantries.

Some custom exempt meat plants also have retail meat counters where inspected meat and meat products are sold. These meat markets meet the definition of a retail food establishment. If they meet this definition the operation will be inspected by the LPHA and must be in compliance with the Missouri Food Code or applicable local ordinance. This would include operations where meat is being packaged or processed in a manner that requires a special process or reduced oxygen packaging process review.

Since eggs offered for sale are regulated by MDA, when locally raised eggs are found or used in a food establishment they must come from a source(s) with a current, valid egg license. MDA should be consulted on the licenses required for egg sales.

## Risk Control Plans

Risk control plans (RCP) are written agreements developed jointly by the operator and the regulator that are a long-term intervention strategy. The plans describe a management system for the control of specific risk factors. In many retail food settings the plans are synonymous with “active managerial control”. It is through active managerial control that recurrent violations are addressed. The RCP general focuses on the food code risk factors; however, almost any priority violation can be brought into compliance with the criteria noted below. The food code risk factors are: *food from unsafe sources, inadequate cooking, improper holding, contaminated equipment* and *poor personal hygiene*. What the RCP achieves is control over a specific “out of control” or non-compliant risk factor. Ultimately the control is achieved through behavior changes. When developing the RCP, the inspector explains the out of control risk factor and how best to control the risk factor. The operator decides what is best for their establishment from the options provided by the inspector. All options for control of the risk factor are discussed with the focus on simple control measures that the facility can implement.

There is a [template](#) or form that can be used when developing an RCP at the end of this section. The RCP must address:

- The risk factor to control,
- How the risk factor will be controlled,
- Who is responsible for the control,
- What monitoring, corrective actions, and record keeping are required,
- The agreed timeframe for correction, and
- How the results will be communicated.

Some inspectors may find the RCP a useful method to attain compliance with ongoing violations. Occasionally, non-compliance is a result of not fully understanding corrective measures or options and by using the RCP the inspector and the operator discuss the violation and what is needed to be compliant. If an RCP is used, it may encourage active managerial control and eliminate the need for a work order or a closing order. Commitment by operators and managers to develop effective monitoring and control measures or system changes to address the risk factors most often responsible for foodborne illness is essential. Various methods may be implemented along with the RCP, such as: standard operating procedures, buyer specifications, menu modification, HACCP plans, and equipment or facility modification.

An increase in inspection frequency may be necessary to assure implementation of the RCP. The RCP “expires” when active managerial control is successful and compliance is attained.

Use of an RCP does not require retail food program approval.

## Enforcement Guidelines

Enforcement is the last step of the process in bringing a food facility into compliance. In the vast majority of instances, voluntary compliance can be achieved by educating and working with the facility's management. This process is to be used where the local Environmental Public Health Specialist (EPHS) operates under the Missouri Food Code. Agencies operating under a stricter local code will have their own enforcement policy. Decisions to proceed with enforcement activities should always be based on mitigating public health threats; not simply achieving compliance with a code. Before enforcement activities can begin, there must be a clear well-documented trail of routine and follow-up inspections that demonstrate a need for enforcement, except in cases where an imminent health hazard is observed. There are two [flow charts](#) later in the Training and Resources section that graphically represent the work order and closing order process.

In 8-404.11, an operator shall immediately discontinue operations and notify the regulatory authority if an imminent health hazard exists. Prior to re-opening the operator must obtain written approval. If during an inspection an imminent health hazard is found and the operator has not ceased operations, 8-404.13 allows for the immediate issuance of a closing order by DHSS. The inspector must contact the Retail Food Program immediately in order to obtain the closing order.

### Criteria for Closing a Food Facility

Prior to issuance of a closing order under the Department of Health and Senior Services (DHSS) authority, one or more of the following conditions must be present:

- A person operating a food establishment or an employee of a food establishment allows violations of a priority item to remain uncorrected beyond the correct-by-date established by the Local Public Health Agency (LPHA) and BEHS regional EPHS.
- A person operating a food establishment or an employee of a food establishment allows an imminent health hazard to exist within the establishment and refuses to close voluntarily until the imminent health hazard is abated. An imminent health hazard is any condition which presents an immediate, significant threat or danger to health when there is sufficient evidence to show that a product, practice, or circumstance requires immediate correction based on the number of potential injuries and the nature, severity, and duration of the anticipated injury. Examples include, but are not limited to: fire, flood, onset of an apparent foodborne illness outbreak, sewage backing up into a food establishment or lack of running water or electricity.
- A person operating a food establishment or an employee of a food establishment fails to comply with the inspecting authority's order concerning an employee suspected of having a disease transmissible through handling food.
- A person operating a food establishment or an employee of a food establishment has not eliminated the cause of the food borne illness outbreak from the establishment.
- A person operating a food establishment or an employee of a food establishment fails to detain food placed under embargo.
- A person operating a food establishment or an employee of a food establishment allows numerous repeat violations of core items to remain uncorrected beyond the correct-by-date established by the LPHA and Regional EPHS.

## Work Order Guidelines

Barring an imminent health hazard, work orders are the initial step in the enforcement process. Work orders should not be used as a threat or issued lightly. All possible alternative avenues for compliance must be exhausted before a work order is issued. The work order should not be used as a step in the inspection process. If a follow-up inspection has been conducted and still shows unresolved violations, the inspector needs to consider the violation; the risk or threat to public health; and whether the person in charge is agreeable to correcting the remaining violations. It is quite possible that the remaining violations would not warrant follow-up until the next routine inspection. If some violations were corrected, provided there is not an imminent health hazard, a follow-up inspection should be scheduled and a work order should not be pursued.

If a facility fails to address the violations noted and enforcement is needed to gain compliance, and corrective action and enforcement under state authority is necessary, the local EPHS must contact the BEHS regional EPHS and discuss the routine inspection and the follow-up inspection(s). From that discussion the regional EPHS staff (IV and V) and the local EPHS will determine the best course of action which may include a joint inspection or the issuance of a work order. Agencies with their own ordinances should follow the enforcement process required within the ordinance. The purpose of the work order is to concisely communicate to the food facility owner/operator the actions that will be taken if the specifically outlined violations are not corrected within a stated timeframe. The decision to close a food facility if corrections are not forthcoming is made before a work order is issued.

Before serving a work order, evidence must show the chronology and summary of events; that one or more of the above-mentioned condition(s) exist (this may be accomplished by presenting copies of inspection reports, photographs, etc.); that each violation observed during an initial and/or follow up inspection was written clearly and concisely on the Inspection Report form; and the correct-by-dates were written clearly and presented to the owner/operator on the form. The specifics of the case have been discussed with the Retail Food Program Manager and or the BEHS Field Services Coordinator and they have approved the work order. The work order is served to the owner/operator which notifies them that failure to correct the violations listed in the work order will lead to a closing order. After a work order is served, and just prior to the re-inspection to determine if a closing order will be served, the program manager will prepare and fax a closing order to the BEHS regional EPHS V.

If the inspector uses the Work Order (E1.24) form and completes all the fields on the form, all the required information will be present. However, if that form isn't used and the work order is documented on the inspection sheet, then the following must be clearly recorded:

- The observed priority violations noted during the inspection, that must be corrected in order to alleviate the conditions that necessitated the work order and/or:
- The observed core violations noted during the inspection, that must be corrected in order to alleviate the conditions that necessitated the work order;
- The appropriate code reference/statute number for each violation;
- The standards for compliance;
- The "correct-by-date" and "time" for each violation; and

- A statement, such as “Failure to comply with the conditions of this work order will result in you, as the owner of this facility, being immediately served with an order to close until such time as the conditions of this work order have been met.”

### **Conducting Follow up to Work Order**

The severity of the violations noted on the work order will determine the timeframe for establishing the correct-by-date. The date written on the work order must be the date in which the local EPHS and regional EPHS will return to the establishment to conduct another inspection to assure that the owner/operator has made the necessary corrections.

- The owner/operator may be granted the maximum timeframe of 72 hours to make the necessary corrections to priority violations that can lead directly to an immediate foodborne illness. However, the correct-by-date may be as short as 24 hours depending upon the situation.
- The owner/operator may be granted the maximum timeframe of 15 days to make the necessary corrections to priority violations that cannot lead directly to an immediate foodborne illness.
- The owner/operator may be granted the maximum timeframe of 45 days to make the necessary corrections to repeat core violations.

These dates are typically set with the agreement of the owner/operator. Therefore, barring any usual extenuating circumstances, extensions will not be granted to an owner/operator who has failed to make the necessary corrections within the allotted timeframe.

### **Compliance with a Work Order**

The local EPHS and regional EPHS shall deem an owner/operator in compliance with a work order if the violations noted on the work order were corrected. An additional inspection, conducted by the local EPHS, shall be completed within 120 days to assure continued compliance.

### **Closing Order Authority**

Section 196.240, RSMo states, “It shall be the duty of the director of the department of health and senior services, and he is hereby authorized and empowered, to close any market place, grocery store, general store, bakery, confectionery, butcher shop, slaughterhouse, dining car, refrigerator car, cold storage plant or warehouse, hotel dining room or kitchen, cafe, restaurant, lunch counter, drug store, or any other place, or places, where articles or commodities intended for human food, or for human consumption as medicine, are manufactured, sold, stored or prepared for sale, or wherever food and drink is served, where such places shall, in the judgment of said director, constitute a menace to the public health, by reason of dirt, filth, or other insanitary cause.”

Section 196.245, RSMo states, “Any order issued by the director of the department of health and senior services for the closing of any place or places mentioned in section 196.240, shall specify the cause or causes for which such order was issued, and the time during which same shall be in effect. The director shall revoke such order before the time specified therein for its expiration; provided, that the cause for which such order was issued is removed, and if the director is satisfied that such place or places may be reopened without endangering the public health.”

## **Closing Order Guidelines**

Upon re-inspection, if the items presenting a menace to public health have not been corrected the closing order will be served. If so, the establishment is to close immediately, patrons who have placed orders or who are already eating may finish, but no new customers will be seated or served. The owner/operator should notify the LPHA when the items presenting a menace to public health have been corrected. The BEHS Chief or program manager will contact the DHSS Legislative Liaison if the establishment is closed. The LPHA should notify the county administrator and possibly county commissioners, members of the board of health, the county prosecuting attorney, or other county officials. The LPHA should verify that the establishment remains closed until an approval to open has been issued.

When the LPHA is notified by the owner/operator that the necessary corrections have been made, either the LPHA or the LPHA and BEHS regional EPHS will immediately conduct a re-inspection to verify the corrections have been made and the health hazards have been abated. If the violations have been corrected, the BEHS regional EPHS will notify the program manager or the Bureau Chief and Field Services Coordinator who will in turn notify the DHSS Legislative Liaison that the establishment has made the corrections and is reopened. A copy of the completed inspection report will be sent to the program manager. If the violations have not been corrected, the closing order remains in effect and the remaining violations that need to be corrected must be documented. Staff will return for a follow-up inspection when the owner/operator corrects the remaining violations and notifies the LPHA that they are ready for a follow-up inspection. Once re-opened, the LPHA will conduct a routine inspection within sixty (60) days to assure continued compliance. In many instances additional more frequent inspections may be warranted.

## Technical Points and Rule Interpretations

Previous versions of this manual utilized technical bulletins and informational releases to disseminate rule interpretations and updated programmatic information. Technical bulletins issued prior to publication of the current version of this document have been incorporated in rule or this chapter and are no longer to be used as a reference. In order to clearly organize these issues, the topics are categorized based on the sections found in rule. For additional interpretation or clarification the District EPHS or the Food Program should be consulted.

### Purpose and Definitions

#### Statute and Rule Changes Allowing Retail Sale Exemptions

In 2005, a change in 196.291, RSMo, resulted in religious, charitable and non-profit organizations being exempt from all sanitation food inspections that are delineated in 196.190 to 196.271, RSMo. These entities are exempt provided the food sold is not potentially hazardous and is sold at their religious event, charitable function or activity. Local ordinances may be more stringent than state law and therefore may not permit the sale of these foods from these entities.

In 2014, the addition of 196.056, RSMo, resulted in an allowance for nonprofit organizations to prepare food in a private home or other area for distribution to the end consumer at a charitable fundraising event. This allowance does not apply to nonprofit organizations and their events in Boone, Jackson, Jefferson, St. Charles, and St. Louis counties; and St. Louis City and Kansas City. This statute does not apply to food establishments regulated by DHSS.

In 2014, the addition of 196.298, RSMo, resulted in the allowance for the production of baked goods as part of a cottage industry. This statute allows that the foods produced in these home based cottage food operations be sold from the home. The statute indicates that the local health department shall not regulate the production of food at the cottage food operation. The definition of food establishment allows for the production and sale of many cottage food products. Agencies inspecting using the State's food code should use the food code since it clearly describes the foods and where they can be sold.

Section 261.241, RSMo, was amended to allow producers of jams, jellies and honey whose annual sales of those items are less than thirty-thousand dollars; to produce their products without inspection and without meeting health standards and regulations. In the food code, the definition of a food establishment allows these sales without the dollar amount.

Section 252.244, RSMo, was amended to allow the use of wild game by any political subdivision, elementary or secondary school, or any charitable, religious, fraternal or not-for-profit organization provided there is no charge for the wild game served. The wild game may be served at the organization's meeting, a fundraising event or provided to indigent persons. A notice must be posted in the dining area that states: "The wild game served at this facility has not been subject to state or federal inspection."

In 1-201.10 (B) Food **Establishment** (3)(h), the sale of non-potentially hazardous foods is allowed without inspection provided the vendor meets the following criteria:

- The foods are non-potentially hazardous. These foods can be breads; cookies; fruit pies; jams; jellies; preserves; fruit butters; honey; sorghum; cracked nuts; packaged spices and spice, dry cookie, cake, bread, and soup mixes. There can be no sale of low acid canned or acidified foods.
- The food is sold at a stand. This means it may be offered for sale at a fair, festival, farmer's market, roadside stand, fund raising event table etc. Local ordinances may not allow this exemption. The sale of foods from internet sites or business storefronts does not meet the intent of this exemption.
- The seller is the individual producing the food or an immediate family member residing in the producer's household with extensive knowledge about the food.
- The seller only sells, samples, or serves the food directly to the end consumer.
- The foods must be labeled with the name and address of the manufacturer, common name of the food, all the ingredients and a statement that the foods were made in a kitchen that is not subject to inspection by the Department of Health and Senior Services. An additional label is recommended for honey: "Honey is not recommended for infants less than twelve (12) months of age".
- At the point of sale, the consumer is informed by a clearly visible placard that the food is prepared in a kitchen that is not subject to inspection by the Department of Health and Senior Services if the foods are sold, sampled or served in unpackaged, individual portions.

#### Deer Processing Inspections

Legislation was passed at the request of the Missouri Department of Conservation (MDC) that requires processors of deer, meet Missouri Department of Agriculture (MDA) standards for custom exempt operations. If a retail food establishment (restaurant or grocery store) chooses to process deer: they must be approved by MDC and they must obtain approval for a special process from DHSS. When processing there must be a complete separation of operations at all times. The facility and equipment must be cleaned and sanitized before normal food operations can resume after processing deer meat.

#### Donated Wild Game

Hunters can voluntarily donate meat that has been processed at an MDC approved facility to the Share the Harvest Program. Share the Harvest or other wild game cannot be sold or used in most retail food establishments. The deer meat may be used by a political subdivision, elementary or secondary school, or any charitable, religious, fraternal, or other not-for-profit organization for a wild game dinner provided there is no charge for the game served. (See subsection 3-201.17(C.) of the Food Code)

#### Facility Inspections

Occasionally LPHAs are requested to conduct inspections of assisted living group homes and similar facilities. These facilities do not meet the definition of a food establishment and should not receive an official inspection. If workload allows, a site consultation or visit may be performed and food safety recommendations based on best practices can be provided on a Sanitation Observation form. Facilities that should be inspected:

- Hospitals, nursing homes, and/or long term care facilities that serve food exclusively to the resident population of that facility will be inspected by other agencies. However, if these facilities serve food to the general public, they shall be inspected by the LPHA as they meet the definition of a food establishment.
- Colleges and other higher education facilities shall be inspected by the LPHA as they meet the definition of a food establishment.
- Food establishments within a state facility shall be inspected by the LPHA as they meet the definition of a food establishment. Inspections shall be performed using the Missouri Food Code. These facilities are not subject to local ordinances or required to obtain local licenses and/or permits.
- A facility that sells food directly to consumers is a retail food establishment. Any facility that sells food wholesale is a manufactured food facility. Many food facilities will meet both definitions. If the LPHA is aware of this type of facility they should notify their District EPHS. When inspected by the LPHA, the establishment will be inspected as a retail establishment using the retail food code. Staff with DHSS will inspect the establishment as a food processing plant and require that it meet the standards in the Current Good Manufacturing Practices, 21 CFR Part 110.

### Edible Insects

Guidance received from the Food and Drug Administration (FDA) is that potential businesses must adhere to 21 CFR 110 and 21 CFR 101 for labeling as adopted by 19 CSR 20-1.040 and 19 CSR 20-1.045. Insects must be raised specifically for human food following 21 CFR 110. Insects raised for animal feed cannot be diverted to human food. The manufacturer needs to demonstrate the “wholesomeness” of the product. To demonstrate “wholesomeness” the operator must show compliance with all applicable regulations. Inspections of the facility where the insects are raised and where they are processed would be conducted by the DHSS Manufactured Food Program or an equivalent program. Retail food establishments need to be able to demonstrate that they have purchased the insects from an approved, inspected producer. Facilities wanting to provide edible insects to the end consumer should be aware of the risks involved with these products. One of these risks is that there is a growing body of scientific literature indicating that people who are allergic to shrimp, clams, etc. may also be allergic to insects when eaten in or as food.

### **Management and Personnel**

#### Demonstration of Knowledge

During the inspection and upon request the person in charge shall demonstrate to the regulatory authority knowledge of foodborne disease prevention, HACCP and the requirements of this code. In 2-102.11 (A) a facility that has priority violations noted during the inspection also will have this code reference cited because the priority violations demonstrate that the person in charge did not successfully demonstrate knowledge.

#### Food Employees and Intact Gloves

Unless wearing intact gloves in good repair a food employee may not wear fingernail polish or artificial nails when working with exposed food.

## Personnel Policies

Section 2-201.11 of the food code requires that management and employees be responsible for following the required 8-304.11(B) establishment illness policy. Employees are responsible for reporting their illnesses to the management. Management is responsible for reporting the necessary information on illnesses to the regulatory authority.

## **Food**

### Sharing Table Service

The “sharing table” service is a national effort to re-serve or recycle the foods that school lunches appear to waste. In an effort to reduce the amount of food waste and encourage the consumption of food served, many school food service operations have established "**sharing tables.**" Sharing tables are carts and/or tables where children can place unconsumed foods and beverage items (pre-packaged food and beverages, unopened wrapped food and beverages, or food items with a peel) that they choose not to eat or drink. These tables provide an opportunity for other children to take additional helpings of food or beverages at no cost to them.

While the United States Department of Agriculture (USDA) guidance has permitted the use of both sharing tables and the recycling of food and beverages, including milk, the food code is more restrictive and clearly prohibits the re-service of foods in: 3-306.14. In section 3-306.14, food in the possession of a consumer may not be offered as food for human consumption unless it is a non-PHF and in a container that is dispensed so that it is protected from contamination and the container is closed between uses, or packaged in an unopened original package and is in sound condition. To further clarify the code: re-service is defined as: “the transfer of food that is unused and returned by a consumer after being served or sold and in the possession of the consumer, to another person.”

The public health concern with the re-service of food is that it can serve as a means of person-to-person transmission of disease. Allowing foods that need temperature control for safety further complicates this practice.

If a school asks about “sharing tables”, explain the public health concerns and the restrictions in the code and ask them if the food service would allow their servers to use “offer versus serve”. This practice would promote staff to offer menu items to minimize food waste and control costs instead of serving food that was unwanted to the students. The “offer versus serve” option allows the students to decline one or two foods and would still allow the school to claim the meal for reimbursement. The “offer versus serve” option is required at high school level it is generally an option for the other grade levels. If the school is adamant that the “sharing table” is a practice that they want to implement they will need to demonstrate that they can control the risks.

Since the food code clearly prohibits this practice, if a school chooses to pursue the “sharing table” service, they must submit a written plan that when reviewed and approved by the regulatory authority will allow a waiver or modification from complying with section 3-306.14. The written plan will be part of the food service operation’s Hazard Analysis Critical Control Points plan and should follow the same premise when preparing the document.

When reviewing the “sharing table” document there are a few areas that the plan must address:

- Placement of the “sharing table”. The “table” should be placed at the end of the serving line or as close as reasonably possible. This will allow students to place foods they do not want on the table quickly and with minimal opportunities for contamination. It will also allow the food safety staff to supervise the table. If the food safety staff is not participating in the “sharing table” service, then the table must be supervised by someone who can demonstrate food safety knowledge as required in 2-102.11. The “sharing table” must be under constant supervision.
- Since the personal hygiene of the children is questionable at best, the plan must discuss the measures that the sponsor will take to assure that foods are not contaminated by the students through bare hand contact. The plan also needs to address what the sponsor will do with students who have been ill with vomiting or diarrhea or who have a sore throat with fever.
- The foods to be re-served. Proper storage must be discussed with it clearly noting that these foods must be stored separately from all other foods. The plan should also describe how the sponsor for the “sharing table” will examine and evaluate the foods left to assure that the foods are safe to share. (There can be no bare-hand contact with ready-to-eat foods.) The plan must also describe how long the foods will be kept. None of the food items placed on the “sharing tables” may be re-used by cafeteria staff.
- Foods donated to the “sharing table” can’t be donated to outside organizations.

### Fresh Shrimp Vendors

Retail food service encompasses many settings, including the roadside sales of shrimp. Using the food code to aid and support the evaluation of the vendor requires that you consider the source of the shrimp and the service. There is no objection to these sales if the following guidelines are followed:

1. Source of shrimp and ice: Shrimp fishing is not subject to specific “approved” and “unapproved” harvest areas. Information that the shrimp vendor should have available is:
  - The name and address of the wholesaler from whom they purchased the shrimp.
  - The date of purchase.
  - Receipts for the ice used to keep the shrimp cooled should be available, current, and from a commercial, sanitary source(s).
2. Freshness and sound condition. The most important public health considerations in a retail shrimp operation are the freshness of the product and maintenance of an adequate ice supply to keep the product cold. Fresh shrimp should be firm with a mild odor; the shells should be translucent without black spots or edges. A typical life expectancy for fresh shrimp is from two to four days. Keeping the shrimp surrounded with continuously drained ice is crucial. Sulfiting agents may not be used on fresh shrimp. These agents are permitted on frozen, packaged shrimp if their presence is disclosed on the package in the list of ingredients.
3. Handwashing. All vendors must have handwashing facilities. This may include a portable handwash station.

4. Labeling. Bulk shrimp sales do not require labeling. Prepackaged shrimp must have the name of the product, net weight, ingredients, and name and address of the processor or manufacturer.
5. Miscellaneous. Reasonable provisions must be made for washing, rinsing and sanitizing coolers and scoops, protecting product from contamination, preventing ice drain water from creating a nuisance, and securing the product when unattended. If the vendor is selling the shrimp by weight, he must have a commercial scale currently certified by the Missouri Department of Agriculture.

#### Use and Re-Use of Dry Breading Mixtures

The Food and Drug Administration (FDA) has provided an interpretation on whether or not dry breading mixtures that are used to dredge raw animal foods such as chicken and fish are potentially hazardous foods. The complete text can be found at this website:

<http://ehs.ncpublichealth.com/faf/docs/foodprot/DryBreading.pdf> . The staff with BEHS concurs with FDA's recommendations. A brief summary of the document is below. Please note these recommendations apply only to dry breading mixtures and include those dry breadings or coatings that contain nonfat dry milk, egg white, whey, etc.

Many food protection agencies consider dry breading mixtures to be potentially hazardous foods (PHF), thereby requiring temperature control per the Food Code definition. This is because raw animal products come in contact with, and may become part of, the mixture during food preparation. Because of the PHF classification, many regulators have required food service and retail operations to sift the flour mixture every 4 hours to remove dough balls and to refrigerate these mixtures in between uses and overnight. Industry has questioned the need to refrigerate these mixtures and has provided evidence from in-house studies demonstrating that these dry breading mixtures are not capable of supporting the growth of infectious or toxigenic microorganisms.

Containers of dry breading mixtures (containing flour, cornmeal, spices, etc.) into which raw animal foods such as poultry and fish are repeatedly dipped, may be used for a total period of up to 7 days and stored at room temperature, provided that:

- Containers are stored covered in a clean dry area overnight and/or when not in use;
- The breading mixture is sifted at a minimum of every 4 hours to remove excess moisture and dough balls; and
- Containers are completely emptied and cleaned and the breading mixtures discarded at intervals of no greater than 7 days.
- If this procedure is used, the person in charge must have a system in place to indicate the date the breading must be discarded. These recommendations do not apply to the use, handling, and storage of batters and other coatings, which may contain milk, eggs, or other ingredients considered to be PHF.

#### **Equipment, Utensils and Linens**

##### F'REAL! Shake Machines

In 4-602.11, the frequency for cleaning equipment and utensils is discussed. The F'REAL Company requested that we allow a cleaning and sanitizing frequency of every 24 hours rather than every four (4) hours as is required in the code. The F'REAL shake machines are found in convenience store settings. The customer selects a frozen shake out of a freezer adjacent to the shake machine and then places the shake into the machine where the shake is automatically blended. The machine automatically rinses the blender shaft and blades with warm water each time after it blends the shake.

This may be allowed under the code in 4-602.11 (D)(6): provided the cleaning schedule is approved based on the characteristics of the equipment, the type of food, the amount of food residue accumulation and the temperature that the food is maintained.

The F'REAL Company contracted with National Food Laboratory, to design a testing protocol to verify that the extended time between cleaning and sanitizing the blender would not lead to extensive microbiological growth on the blades and blender shaft. Tests were conducted in the field in Quick Trip stores and in a laboratory setting. Test results demonstrate that it should be acceptable to clean and sanitize the machines on a more extended cleaning schedule. Test results revealed in both the laboratory and field test studies, that there was no appreciable increase in numbers of organisms from "0" hour to "24" hour.

Therefore, in light of the allowance in 4-602.11 (D)(6) and the test results the extended cleaning and sanitizing frequency is allowed. However, the allowance is only for areas operating under the Missouri Food Code. Local agencies with their own ordinances are not bound to accept this allowance. If facilities are not properly maintaining their machines and cleaning and sanitizing at least every 24 hours, the allowance will be rescinded.

## **Water, Plumbing and Waste**

### Direct and Indirect Plumbing Connections

In the Food Code: 19 CSR 20.1.025, Section 5-402.11, states the requirement for indirect connection to drain lines for equipment in which food, equipment or utensils are placed. This requirement became effective when the code was implemented in 1999. New facilities that opened after 1999 would need to comply; however, there have been issues or questions about existing facilities and whether changes were needed to their plumbing fixtures.

In existing facilities, replacement of existing plumbing should be considered on the basis of public health risk: i.e., if sewage back-ups into the warewashing or food preparation sink are occurring, the drain line must be modified so that the equipment is indirectly connected to the sewage system. This modification must be accomplished without creating an additional health hazard from sewage overflow due to the sewage line being undersized and unable to accommodate the flow rate from the equipment. In existing facilities, if sewage backups are not occurring, even though a direct connection between the equipment waste line and the sewer line exists, and if a modification to the system would result in overflow of sewage into the surrounding area, a greater health hazard would be created by the change and the system should not be modified.

Prior to ordering a reconfiguration of fixtures and waste lines, which can result in significant expense and may not result in a significant increase in the protection of public health, it is prudent to consider the appropriateness of the change and the public health benefit which is to be gained.

#### Evaluation of Onsite Wastewater Treatment Systems

Wastewater treatment systems that serve regulated establishments shall provide for the sanitary treatment and disposal of wastewater and be in compliance with state laws, regulations, and local ordinances. In some cases, there are too many variables involved in individual situations for a single recommended guidance statement to apply to all situations. If there is any doubt what the proper action is, contact BEHS for technical assistance. Environmental Public Health Specialists EPHSs must evaluate the wastewater system as a part of each annual or routine inspection. Municipal or other public treatment systems only need to be evaluated if there are pump tanks or other components under the control of the management of the establishment. Small community or multi-establishment systems should be evaluated when the owner of the establishment has a reasonable degree of control over the system and the ability to make corrections. Additional guidance can be found in the Onsite Wastewater Treatment section of this manual.

#### Non-community and Private Water Systems

Water treatment systems that serve regulated establishments shall provide safe potable water and be in compliance with state laws, regulations, and local ordinances. It is challenging to evaluate these systems, if there is any doubt what the proper action is, contact BEHS for technical assistance. Environmental Public Health Specialists (EPHS) must evaluate the water system as a part of each annual or routine inspection. A sample of the water should be collected per guidance found in this manual in the Drinking Water section. Follow the guidance provided in the Drinking Water section when laboratory results are obtained. Positive test results on a non-community water source must be reported to the appropriate Department of Natural Resources (DNR) regional office.

#### **Previously Issued Informational Releases/Technical Bulletins**

As time permits old informational releases and technical bulletins will be reviewed. Their pertinence to the code and program policy will be determined and incorporated in this document.

## Farmer's Market Guidelines

There is an increasing demand for locally grown produce and healthier unprocessed foods; this increase has led to a substantial growth in the amount of food being sold at farmer's markets. As public health officials, we want to encourage and facilitate convenient access to these foods. We also recognize that these foods, like those sold in more traditional retail venues can present food safety risks if not handled properly. The concept of farmer's markets has also evolved in recent years. Formerly, they were a place for farmers to sell the fruits and vegetables they had raised locally. Today many farmer's markets resemble an outdoor bazaar and offer a wide variety of items for sale from fruits and vegetables, to prepared foods, and arts and crafts. The DHSS continues to receive questions requesting clarification about which food items can be sold at farmer's markets and the acceptable conditions or processes necessary to assure food safety for the public.

A key principle is state law 196.015, RSMo, which prohibits the sale of adulterated food. This applies to food from approved inspected sources and food from exempt sources made in individuals' homes. Another important consideration is some local jurisdictions have adopted local food safety ordinances that are more stringent than state standards. Some local ordinances require that all food sold to the public come from an inspected approved source.

### Fruits and Vegetables

If a vendor sells only unprocessed whole fruits and vegetables, in-shell nuts, and other whole agricultural products, they do not meet the meaning of a food establishment, as defined in the food code. These vendors do not need to be under routine inspection by a health agency. This applies both to the market where the goods are sold and to the farm where they are produced. However, these vendors should be encouraged to know, understand and apply "good agricultural practices" (GAP). An excellent free GAP guideline is available from Cornell University at <http://www.gaps.cornell.edu/documents/edumat/FSBFEngLOW.pdf>. The GAP guideline's focus is to assure safe and unadulterated products through best practices and recommendations regarding the use of agricultural chemicals, manure as fertilizer, and on-farm sanitation practices. Another online tool, part of Family Farmed.org's On-Farm Food Safety Project, was developed by a broad coalition of farm and produce industry partners. It is available at: <http://onfarmfoodsafety.org/>.

### Processing

Generally, an inspected and approved facility must be used if processing of fruits and vegetables occurs. Removing the outer husks from an ear of corn or the outer leaves from a head of cabbage or cutting the tops off of carrots or beets are not processing steps. Processing changes the fruit or vegetable from its harvested state. Examples of processing include blanching corn kernels after cutting them from the ear, slicing tomatoes, chopping lettuce, etc. If a vendor processes fruits and vegetables, proper food safety practices must be followed. Since the food code allows the production of non-potentially hazardous processed foods from a home kitchen, sold by the processor or their immediate family member to the end consumer when properly labeled, some fruits and vegetables can be "processed" without inspection. For example: snapping peas or cutting corn kernels from the ear and bagging the peas and corn kernels is allowed if the bags are labeled that the food was prepared in a kitchen not subject to inspection because both peas and corn are non-potentially hazardous foods. However, tomatoes can't be sliced or

lettuce cut because both are potentially hazardous foods and are not subject to the exemption and would need to be processed in a facility with the required physical facilities: hand washing sinks, warewashing sinks, mop sinks, shielded lights, etc.

### **Offering Samples**

Often vendors want to give prospective customers a sample of their products. This may involve processing steps such as washing and cutting. Small items, such as blueberries or strawberries, should be washed before being given as samples. Larger items, such as, cantaloupe or watermelon must be washed and cut in order to offer a small portion as a sample. This may be done off-site at an approved and inspected location, or it may be performed on-site if the vendor has hand washing facilities and an approved facility to wash, rinse, and sanitize the utensils and cutting board. Equipment for washing the produce prior to processing is also needed. The sampling itself should be done in a sanitary manner using toothpicks or individual cups to dispense the food. The public should never reach into a bulk container to get a sample. Fruits or vegetables that meet the definition of potentially hazardous food, such as tomatoes, watermelon and cantaloupe, must be kept at a proper temperature or the vendor must use a process where time is used as the public health control.

As part of the stand inspection, the inspector will need to determine where these products are processed and assure that the foods are presented for sampling or on display safely.

### **Meat, Fish, Poultry, Eggs, Milk, and Other Dairy Products**

#### Beef, Pork and Other USDA Amenable Species

The livestock must be slaughtered and processed under United States Department of Agriculture (USDA) or Missouri Department of Agriculture (MDA) inspections. Each individual package of meat is required to have a mark of inspection from USDA or MDA. Meat labeled “not for sale” may not be sold at a farmer’s market.

The inspector must assure that meat offered at the farmer’s market is kept at proper temperature. In an effort to assure proper temperatures, many local jurisdictions will only allow meat sold at a farmer’s market to be held frozen in a freezer, while others will allow the frozen product to be kept in a cooler with ice. The inspector should assure that the meat is stored or displayed in a manner that is safe and sanitary and that cross-contamination or adulteration will not occur.

#### Fish

The sale of either fish taken from State waters or raised is allowed based on point of sale and volume. The position that BEHS has taken with fish is similar to the poultry/rabbit exemption. Provided the sales are small in number and limited to the end consumer, fish may be sold with limited “processing” and no inspection where processed.

Commercially harvested fish may be offered for sale provided the vendor complies with the Missouri Department of Conservation (MDC) rules and has a commercial fishing license and the fish is kept cold (41<sup>0</sup>F). Limited processing of the fish is allowed in order to limit the deterioration of the flesh. Limited processing is the removal of the head, tail, and viscera. If the vendor intends to fillet the fish, they must do that process in a properly equipped facility and be inspected.

With respect to the aquaculture and the raising of the fish and selling the fish, again the sale is allowed provided that the fish is kept cold (41<sup>0</sup>F), it is sold to the end consumer and no more than the head, tail and viscera are removed. If the vendor intends to fillet the fish, they must do that process in a properly equipped facility and be inspected.

To maintain the fish at the proper cold holding temperature, it would be best to recommend that the vendor use drained ice to pack the fish in. If using ice is not an option it would be best to freeze the fish. If the vendor does not pre-package the fish and only packages when the customer makes their order, then there would be no labeling requirement. However, if the fish is pre-packaged, then the vendor would need to comply with the labeling requirements in 3-602.11. If a processor intends to use a reduced oxygen packaging (ROP) method, they will need to comply with 3-502.11 and 3-502.12 and be inspected.

### Poultry and Rabbits

The [federal poultry law](#) exempts producers who slaughter fewer than 1,000 birds a year from USDA inspection. The Missouri meat inspection law was changed in 2006, to allow rabbit producers to slaughter up to 1,000 rabbits a year without inspection. Vendors who process fewer than 1,000 chickens and rabbits may sell them at farmer's markets. These products must be unadulterated and kept at proper temperature until sold.

### Unpasteurized Dairy Products

The [state milk law](#) allows a producer to sell unpasteurized (raw) milk at their farm or to deliver it directly to a customer; this includes unregulated and ungraded milk. Unpasteurized milk cannot be sold in retail food establishments; therefore unpasteurized milk cannot be sold at a farmer's market.

The above raw milk discussion applies to fluid milk and cream. Other dairy products including cheese, yogurt, cottage cheese, butter, sour cream and the like must be produced in facilities licensed and regulated by the State Milk Board. Packaging of these items must be intact and they must be held at a temperature below 45 ° F.

### Eggs

Vendors selling eggs at farmer's markets must have the proper egg licenses from the MDA. The vendor may qualify for either a limited retailer's license or a retailer's license. Specifics about licensing can be found at: <http://agriculture.mo.gov/weights/device/egglic.php>.

The inspector should determine that the vendor possesses the required license. The eggs should appear to be clean and egg cartons should have the name and address of the producer. Eggs must be held at a temperature below 45 ° F at the farmer's market.

### Sale of Manufactured Foods

Non-potentially hazardous foods manufactured in approved, inspected facilities may be sold at farmer's markets. This would include food from small Missouri manufacturers but would also allow someone to retail Oreo® cookies, jars of Vlasic® pickles, cans of Star Kist® Tuna, etc. Although, not common or

typical of a farmer's market from a regulatory standpoint, if only prepackaged non-potentially hazardous foods are sold they are not a food establishment and would not be subject to routine inspection.

### Pickles, Salsa, Sauces and Other Acidified Foods

An acidified food is a food with a relatively neutral pH and an acid is added to lower the pH below 4.6. The purpose of the acidification is preservation of the food and the public health benefit is the prevention of the outgrowth of *Clostridium botulinum* spores. If not properly prepared, *C. botulinum* can grow and produce botulism toxin. If consumed, this can result in severe illness or death. To that end, there are federal regulations for the manufacture of acidified foods. The manufacturer must submit their recipe and procedures to a process authority, and if needed, attend a "better process control school". In addition, the manufacturer must assure the safety of the food produced by testing the pH of each batch of product and maintain records. All acidified foods must be manufactured in approved inspected facilities and comply with labeling regulations.

When acidified foods are found at a farmer's market, the inspector should inquire in general terms about the recipe and the procedures in an effort to determine if a review was done by a process authority and if the manufacturer has attended process control training. The inspector should also assure that the product is stored and displayed properly and the product is labeled according to the food code. These products will be processed off site so an inspection by the regulatory agency is necessary.

### **Exemptions**

#### Jams/Jellies/Honey

In general, these products are considered to be a low risk food product because they have both low pH and low water activity which inhibits the growth of microorganisms. In 2005, RSMo 261.241 became state law. It allows manufacturers of jams, jellies, and honey that produce less than \$30,000 per year to process these products in their home kitchens. The product must be sold by the manufacturer directly to the end consumer and must comply with the labeling requirements found in the food code: name and address of the person manufacturing the food; common name of the food; name of all ingredients in the food; and statement that the product has not been inspected by the Department of Health and Senior Services.

In addition, at the point of sale, there must be a placard that says "This product has not been inspected by the Department of Health and Senior Services." The inspector is responsible for determining that the vendor has displayed the placard and the product is labeled appropriately. Honey should be labeled to discourage feeding to infants under twelve months old. If the inspector suspects that sales may exceed the \$30,000 per year, the vendor is required to have records of the sales available on request.

Sugar free jams and jellies or "no sugar added" are an exception. These products should be labeled "no sugar added." They should never be labeled "sugar free" because the fruit has natural sugars present. Typically, jams and jellies have enough sugar content to bind the available water that supports bacterial growth. If fruit with a pH above 4.0 and artificial sweeteners are used then *Clostridium botulinum* growth is a potential hazard. Products that contain artificial sweeteners in the finished product need to be sent to a laboratory and have the pH tested. Since there are not large quantities of sugar in these products to bind water available for bacterial growth, pH is the only barrier against microbial growth.

- Jam or jelly with a final pH below 4.0 should be allowed to be made in home kitchens under the statutory exemption. The manufacturer should be told they must always follow the recipe or formulation used in the tested sample. Even a slight change in formulation would require re-testing.
- “No sugar added” jelly that has a pH between 4.0 and 4.6 should be made in an inspected or regulated facility. The pH should be tested on every batch with a quality pH meter and a log kept of the results.
- “No sugar added” jelly with a pH above 4.6 should not be allowed under any circumstance.
- Jellies made with juices (with a pH above 4.6) should also be tested.
  - If the pH is below 4.0 DHSS will consider that the primary control point and allow them to proceed.
  - If the pH is above 4.0, water activity becomes the primary control and the water activity of the jelly must be tested in a laboratory. If the water activity is below .80, allow the jelly to be made under the food code exemption.
  - For both of the above methods the processor should be warned not to change the formulation or process.
  - If the water activity is between .80 and .85 it must be manufactured in a regulated facility and the water activity monitored.

### Baked Goods

Shortly after the passage of 261.241, RSMo, DHSS revised the definition of a food establishment to allow individuals to make other kinds of non-potentially hazardous foods in their home kitchens for sale to the public. These foods include breads, cookies, fruit pies, cracked nuts and similar foods. There are specific requirements for the manufacture and sale of these foods. The inspector must be familiar with the definition of “food establishment” found in the food code.

During the inspection the inspector must determine that the vendor is the manufacturer or an immediate family member and that the food is sold to the end user. The inspector must also assure that the food bears a label stating the name and address of the manufacturer/processor preparing the food, common name of the food, name of all the ingredients in the food and a statement that the product is prepared in a kitchen that is not subject to inspection by the Department of Health and Senior Services. When the food items are in unpackaged, individual portions, the inspector needs to assure that the consumer is informed by a clearly visible placard at the sales or service location that the food is prepared in a kitchen that is not subject to inspection by the Department of Health and Senior Services.

### Sale of Live Animals

Markets that permit the sale of pets and farm animals must implement control measures to prevent the contamination of food products by those animals. A minimum distance of fifty (50’) feet between animals and food products is recommended for all farmer’s markets. If excessive flies or other pests are present, additional control measures may be needed to minimize their presence.

The inspector should discuss transportation of food products when they note that vendors are selling both foods and live animals. Cross-contamination of foods is easily prevented if the proper precautions are utilized.

At events where live animals are available, the inspector may use this as an opportunity to promote hand washing. If there is a primary point of contact or sponsor for the farmer's market, it would be beneficial to encourage them to consider portable hand washing stations. Offering customers and vendors the ability to wash their hands promotes good hygiene and public health.

### **Foodservice Operations**

Some farmer's markets allow food vendors to sell prepared foods. While these may not meet the food code definition of "temporary food event" (fourteen days or less in conjunction with an event) they do meet the definition of a "food establishment." Therefore, they must have the ability to protect food from environmental contaminants and pests, hot and cold running water, hand washing facilities, a three compartment sink set-up, capability for hot and cold holding (if applicable), safe and adequate water supply, sanitary wastewater disposal, and convenient access to a toilet. Normally, these are not permanent fixed facilities, so a smoker/grill would require overhead protection but not a screened enclosure.

### **Duties of DHSS Staff**

1. Assess needs and develop guidelines for farmer's markets and food products for both LPHA environmental staff and vendors at farmer's markets.
2. Provide technical assistance and training to LPHA environmental staff.
3. Act as a liaison between DHSS and other governmental agencies.
4. Assist LPHA environmental staff without ordinances with enforcement activities.
5. Inform Food Program Manager of any difficulties in obtaining compliance with safety and sanitation standards.

### **Common Responsibilities of LPHA**

1. Provide technical assistance and guidance to market vendors, sponsors of farmer's markets, etc.
2. Develop a list of farmer's markets within their jurisdiction.
3. Inspect the farmer's markets at a frequency that supports the risks that the foods vended indicate.
4. Conduct follow-up inspections, site visits, and/or enforcement actions when necessary.
5. Respond to consumer inquiries or complaints.
6. Contact Regional EPHS V or Central Office program staff for assistance.

### **Resources**

Regional EPHS V Contact Information:

EPHS Tech Support Map can be found in Training and Resources at the end of this chapter.

## **Fairs, Festivals, and Temporary Events**

A food establishment that operates for a period of not more than fourteen (14) consecutive days in conjunction with a single event or celebration is the focus of this section. Fairs and festivals or similar celebrations, as well as, dinners or other events sponsored by organizations serving food and open to the public are all examples of temporary events.

Temporary operations often require the food service to be set up out-of-doors or in locations where keeping foods safe and sanitary is challenging. The following actions and equipment required are intended for all temporary food operations and should not be mistaken for other regulations that exist for permanent food establishments, mobile food units, or food processing plants. A food stand or other outdoor concession operating for more than fourteen (14) consecutive days must then comply with all requirements of the food code including food source, facilities, plumbing, equipment, labeling and food handling practices just as any other retail food establishment.

In addition to the following requirements, many Local Public Health Agencies (LPHAs) require temporary event vendors to obtain a permit and/or inspection prior to opening/operating at an event.

### **Booth**

The stand or booth should have overhead protection and in most cases, be fully enclosed. There may be openings for a serving window and a door for entry; however, the door is to be kept closed during operation. All food preparation, food storage, and service are to be done within this enclosed area. Screening material may be used for the walls, doors and serving window. However, screening may not be necessary if flying insects or other pests are absent due to the location of the food stand, the weather, or other limiting factors.

The floor of the stand should be hard, smooth, and constructed of easily cleanable materials. Asphalt, concrete, or plywood may be acceptable floor surfaces in temporary food stands.

### **Hand Sink**

Adequate hand washing facilities consist of a hand-sink equipped with hot and cold running water, soap, and paper towels. A temporary sink set up can be made that consists of a vessel full of water with a spigot type dispenser, soap, paper towels, a wastebasket and a bucket to collect wastewater.

Hands must be washed before starting or returning to work, after eating, smoking, or using the restroom, when changing duties, before putting on gloves and whenever hands become soiled. The use of gloves or hand sanitizers is not a substitute for handwashing.

### **Bare Hand Contact**

A food employee's bare hands may not touch ready-to-eat foods. Tongs, spatulas, deli tissues, or gloves must be used.

### **Food**

All foods and beverages are to be from approved sources, prepared on-site or at a food establishment currently under inspection.

Non-profit organizations may prepare food in a private home or other area for distribution to the end consumer at a charitable fundraising event. This exemption does not apply in Boone, Jackson, Jefferson, St. Charles, and St. Louis counties; and St. Louis City and Kansas City. The food code allows non-potentially hazardous foods, as detailed in the definition section of the food code; to be prepared in home kitchens, sold to the end consumer and properly labeled.

### **Cooking**

An essential part of food safety is assuring that proper final cooking temperatures are met. Proper cooking temperatures for some common foods are as follows:

Chicken	165 °F
Hamburger	155 °F
Pork	145 °F
Fish/Seafood	145 °F

The carry over or reuse of leftover foods from one day to the next is strongly discouraged since proper cooling, cold holding and reheating can be challenging to accomplish in small temporary stands.

### **Hot and Cold Holding**

Sufficient equipment capable of keeping foods hot and/or cold must be provided. Mechanical refrigeration or ice is needed for cold foods. Refrigerators and freezers should be clean and contain thermometers. Coolers must be cleanable and have a drain. Hot holding units must be clean and contain a thermometer. Hot foods are to be kept at or above 135°F and cold foods are to be kept at or below 41°F.

### **Thermometers**

A metal-stemmed thermometer should be available for employees to monitor cooking and holding temperatures. The temperature must range from 0-220°F with increments no greater than 2°F. Glass-stemmed thermometers or mercury filled thermometers are prohibited.

### **Ice**

Ice for use in beverages and/or as an ingredient is to be kept in a separate cooler with no other food items. An ice scoop with a handle should be used to scoop ice to prevent bare hand contact with the ice. Ice shall be from an approved commercial source.

Ice used as a coolant for foods and/or beverages is to be drained or have chlorine present at 10 ppm.

### **Warewashing**

Warewashing may be done in a three-bin sink or temporary set-up using bus tubs. First, items shall be washed in hot, soapy water. Second, they shall be rinsed in clean, warm water. Third, they shall be chemically sanitized in warm water with an approved sanitizer. Finally, the items shall be air-dried.

**Water**

Sufficient potable water needs to be on hand. If the unit is a mobile temporary stand the tank is to be constructed of a durable, corrosion resistant material that is easily cleanable. Vents, inlets and outlets should be screened or positioned so that they are protected from contaminants. The tank and system shall be flushed and sanitized prior to use and after any repairs.

## Recall Procedures

The Department of Health and Senior Services (DHSS) has a program to monitor recalled products that may have been distributed in Missouri. As part of this program, DHSS posts the information to its website and provides distribution information to LPHAs. This is an important process as all agencies and the manufacturer work together to remove a possibly adulterated or misbranded product from commerce.

A recall is a firm's voluntary removal of a product from commerce or consumer channels to protect the public from consuming adulterated or misbranded products. Generally, recalls are conducted on a firm's own initiative but some are initiated at the request of governmental agencies. A large number of the recalls that are required are done at the request of the Food and Drug Administration (FDA) or by the U.S. Department of Agriculture (USDA) Food Safety and Inspection Service (FSIS) in the case of meat and poultry products. Withdrawals of products produced and sold only in Missouri often occur due to a request by DHSS or the Missouri Department of Agriculture.

DHSS is responsible for disseminating information on the recalled products when sent or sold in Missouri, to Local Public Health Agencies and other entities within the state. DHSS will not announce a recall until the announcement appears on the FDA or USDA website; or until the recall is received through verifiable means of notification by the recalling agency or firm. Once DHSS receives official information regarding a recall the Bureau of Environmental Health Services (BEHS) will begin researching the distribution of these products. When distribution to Missouri has been verified BEHS will provide the recall information and recommended recall activities to the LPHAs.

There is increasing interest by the public to learn about recalled products quickly. In some cases the manufacturer or distributor may choose to send a notice of the recall directly to their customers prior to the issuance of a press release. In other cases the recalling firm will issue a press release simultaneously with contacting their customers. In addition, there may be announcements regarding the recall on various "list-serves" on the Internet. The public needs to be made aware that not all recall information is current or accurate when they have questions.

Communication and information sharing with other state agencies that are involved with regulating recalled product within the state is critical to the health of the public. DHSS will work cooperatively with these other state agencies when there is a recalled product within the state. DHSS staff will assist in recall investigation at the request of other agencies or when the recall is statewide.

### Three Classifications of Recalls

There are three general classes of recalls that are recognized by federal agencies with jurisdiction over the nation's food supply. Each classification is explained in detail below:

**Class I** – Dangerous or defective products that predictably could cause serious health problems or death. Examples include: food found to contain botulism toxin, the presence of the bacteria *Listeria*

*monocytogenes* in cantaloupe, ready-to-eat meats and cheeses, food with undeclared allergens, or a label mix-up on a lifesaving drug. All Class I recalls that impact Missouri will be posted on DHSS's web page. This will make the information accessible to the public and DHSS will develop a press release as appropriate for further information dissemination.

**Class II** – Products that might cause temporary health problems or pose only a slight threat of a serious nature. Examples include: a drug that is under-strength but that is not used to treat life-threatening conditions, the presence of FD&C Yellow #5 dye in candy, inadequate records, or foreign material in ground meat.

**Class III** – Products that are unlikely to cause any adverse health reaction but that violate FDA labeling or manufacturing laws. Examples include: a minor container defect and lack of English labeling in a retail food or the addition of water to a processed meat without listing the water on the label as required by federal regulations.

### **Response Activities**

Food product recalls in Missouri will follow the above classification system with further delineation as described below for Class I recalls. Recalls initiated voluntarily by a Missouri firm or at the request of DHSS due to results of an epidemiologic investigation, consumer complaint, or laboratory-sampling results will also be placed in one of the above classes based on the hazard level associated with the food.

When the Bureau of Environmental Health Services (BEHS) receives a recall notification, appropriate action will be taken to protect the health of consumers in Missouri.

Actions taken will include the following:

1. Obtain the name of the recalled product, size of containers, lot numbers involved, and production dates;
2. Obtain distribution sites in Missouri and neighboring states;
3. Obtain information regarding any adverse health effects caused by use of the product;
4. Provide procedures or directions for proper disposition of the product in Missouri:
  - Recall or disposition of the product relies on direction from the recalling firm, BEHS, MDA, FDA or FSIS. The recalling firm generally provides direction to their customers/vendors as to the proper disposition;
  - The recalling firm will request specifically identified product to be removed from commerce and further direction may request the product to be discarded or returned; and,
5. Provide notification to the LPHAs through the use of electronic messaging, fax system, or via telephone communication. The recall notification will include:
  - Distribution information provided by the recalling firm, state or federal lead agency; and
  - The action(s) DHSS recommends the LPHA to take as a result of the recall.

Each recall is unique with some having a much greater potential to cause harm for the consuming public than others. Therefore, the response activities for each recall may be different. However, the most common recall activity requested of the LPHAs is a recall effectiveness check. These effectiveness checks should be documented on the DHSS Recall Follow-up Report Form, Recall Summary Form, LPHA report form or email. These checks are to be performed by a site visit to the facility or by

telephone to assure that potentially adulterated products have been removed from commerce. If, during an effectiveness check, a recalled product is available on the shelf for sale, and the firm does not take immediate corrective action, the product should be embargoed and stored in a secured location at the facility. The BEHS Regional EPHS V or the Recall Coordinator should be contacted. LPHAs will only be asked to complete federal effectiveness check reports when DHSS requests assistance in performing these checks for FDA or FSIS.

The following is a brief overview of the recommended responses for Class I, II, III recalls of food, drug and medical devices. Additional guidance will be provided on each individual recall notice.

### **Class I Recall Response Guidance**

This class of recall has been further categorized into three potential levels of risk and their appropriate response activities.

#### **1. Class I Recall – HIGH Priority**

**Situation:** A product in distribution may be associated with a widespread foodborne illness outbreak or other situations of critical importance such as botulism toxin being found. It may have caused severe illness, injury, or death to consumers. . Illnesses or injuries have been confirmed in Missouri that are associated to the outbreak. Examples include any botulism toxin in canned food or a widespread outbreak affecting large numbers of consumers such as outbreaks of listeriosis in cantaloupe, salmonellosis in eggs and salmonellosis in peanut butter products.

**Response:** This type of Class I recall is the highest priority recall and requires immediate attention and response. There must be a comprehensive, prompt response to the recall assuring the product is removed from distribution. It is strongly recommended that the LPHA will take every step necessary to assure the effected food product/drug is removed from commerce. The LPHA should perform the following actions in response to this type of Class I recall:

- Within 24 hours assure press releases, if available, are disseminated to local media channels.
- Notify all retail food establishments including restaurants, grocers, institutions, food pantries, salvage stores, child care facilities, and other facilities that could have the product by site visit or telephone, fax or email.
- Within two working days of receiving the recall notification, conduct onsite effectiveness checks at affected establishments to assure recalled product is removed from commerce. If recalled product is found and the product is still available for the public to purchase, the retailer may remove the product from commerce voluntarily or the recalled product will be embargoed, which effectively removes it from commerce. Follow procedures on disposition of embargoed products discussed in the enforcement section of this document.
- Document findings on the DHSS Food Recall Follow-up Form or the Recall Follow-up Summary Form and send a copy of the completed form to BEHS. Other means of reporting such as email reports are acceptable as long as the necessary details are included. Copies of the report forms mentioned can be downloaded through links found at the end of this section.

#### **2. Class I Recall – MEDIUM Priority**

Situation: A product in distribution has been associated with a foodborne illness or injury or where the potential harm is extreme. None of the associated illnesses are in Missouri. This type of Class I can have a significant health impact but is less urgent than the High Priority; prompt attention is strongly recommended. Examples include: *Listeria* in lunchmeat, *E. coli* in meat, or undeclared allergens associated with illness in other states.

Response: This type of Class I can have a significant health impact but is less urgent than the High Priority; prompt attention is strongly recommended. The LPHA should perform the following actions in response to this type of Class I Recall:

- Within 24 hours assure press releases, if available, are disseminated to local media channels.
- Notify all retail food establishments including restaurants, grocers, institutions, food pantries, salvage stores, child care facilities, and other facilities that could have the product by site visit, telephone, fax or email.
- Within three working days of receiving the recall notification, conduct effectiveness checks at the affected establishments to assure recalled product is removed from commerce. The majority of recall effectiveness checks should be on-site, however, in some instances; a phone call may be acceptable. For example: You have six locations of a national grocery chain in your jurisdiction and historically the company has shown to have excellent recall procedures in place. You might visit three of these stores and call the other three. However, it is prudent to immediately perform on-site effectiveness checks at any salvage stores, small grocery stores, and establishments that, from your experience, have not effectively implemented recall procedures in the past.
- If recalled product is found and is still available for the public to purchase, the retailer may remove the product from commerce voluntarily or the recalled product will be embargoed, which effectively removes it from commerce. Follow procedures on disposition of embargoed products discussed in the enforcement section of this document.
- Document findings on the DHSS Food Recall Follow-up Form or the Recall Follow-up Summary Report Form and send a copy of the completed form to BEHS. Other means of reporting such as email reports are acceptable as long as the necessary details are included. Copies of the report forms mentioned can be downloaded through links found at the end of this section.

### 3. Class I Recall – LOW Priority

Situation: A product in distribution has been found by laboratory testing to contain pathogens or undeclared allergens with no reported illnesses or adverse reactions.

Response: This type of Class I recall remains very important, however the urgency is not as great as seen in the other types of Class I recalls. If local resources can support it, a response identical to that described for Medium Priority recalls is ideal. At a minimum, the LPHA should perform the following actions in response to this type of Class I Recall:

- Assure press releases are disseminated to local media channels.
- Notify all retail food establishments including restaurants, grocers, institutions, food pantries, salvage stores, child care facilities, and other food establishments that could have the product by site visit, telephone, fax or email.
- Conduct effectiveness checks during routine inspections, and as time allows, at potentially affected establishments. Often, the effectiveness checks may be completed by telephone. Firms

with a poor track record of complying with recall notifications should have an on-site effectiveness check.

- If recalled product is found and is still available for the public to purchase, the retailer may remove the product from commerce voluntarily or the recalled product will be embargoed, which effectively removes it from commerce. Follow procedures on disposition of embargoed products discussed in the enforcement section of this document.
- Document findings on the DHSS Recall Follow-up Form or the Recall Follow-up Summary Report Form and send a copy of the completed report to BEHS. Other means of reporting such as email reports are acceptable as long as the necessary details are included. Copies of the report forms mentioned can be downloaded through links found at the end of this section.

### **Class II and Class III Recall Response Guidance**

These recalls have less of a public health impact; however, it is important to provide the public and food establishments with information related to these recalls. Examples include: a drug that is under-strength but that is not used to treat life-threatening conditions; the presence of FD&C Yellow #5 dye in candy; inadequate records; or an industry initiated product withdrawal of items such as baby wipes. Also included in this class are recalls involving pet foods due to the risk of cross-contamination when people handle contaminated pet foods and do not wash their hands prior to preparing food for themselves and their families. Unless otherwise notified, the recall information will be provided to the LPHA primarily for informational purposes with the recommendation that the LPHA should perform effectiveness checks during routine inspections if a regulated facility is involved. The recall information will be posted to the DHSS website.

### **Drug Recall Response Guidance**

The DHSS has authority and the responsibility to assure that adulterated and misbranded drugs and medical devices are removed from commerce. Recalls of prescription drugs will be handled through the Board of Pharmacy instead of BEHS and LPHA. Support will be provided when requested by the Board of Pharmacy. Over the counter drug recalls will be evaluated on a case by case basis and information provided when appropriate. Because prescription drugs are issued by licensed professionals effectiveness checks, of these products are not routinely requested.

### **Duties of BEHS Staff:**

1. Staff will serve on a recall team as assembled by the Section for Environmental Public Health (SEPH) or BEHS. A Recall Leader will be designated and the Recall Leader will act as a liaison with LPHAs, federal agencies, other state agencies as necessary, and within DHSS. Staff will assist the FDA, FSIS or other state agencies with jurisdictional responsibilities in their ongoing investigations.
2. Staff will contact product distributors to determine the presence and the amount of the recalled product in Missouri. They will work to determine the distribution of product in Missouri and assemble a list of sites where product was distributed.
3. All staff involved in the recall will maintain ongoing communication with the designated Recall Leader. The Recall Leader will provide direction for notification to LPHAs regarding recall status, and any changes in classification, additional products involved, etc.
4. The Recall Leader will notify the Section Administrator and Division Director's Office, Center for Local Public Health, BEHS staff, Bureau of Communicable Disease Control (BCDCP), other

involved state agencies, as well as, all LPHAs via internet, email, fax, or telephone of the occurrence of the recall and the recommended actions that the LPHA should take in response to the recall, such as embargos and effectiveness checks.

5. All technical staff will provide assistance to LPHA staff.
6. Staff will direct embargo of recalled product, as necessary.
7. The Recall Leader will assist the Office of Public Information and the Director's office in developing press releases as necessary.
8. Staff will respond to consumer inquiries regarding the adverse health effects if a recalled product is consumed. This information will be contained in the recall announcement itself or can be obtained from the local communicable disease coordinator. Distribution information will be maintained confidential and treated as proprietary information.
9. If the recalled product was manufactured in Missouri under the jurisdiction of DHSS, BEHS will conduct an investigation of the facility to assure compliance with good manufacturing practices. Any recalled product in inventory at the facility will be embargoed as necessary.
10. If the recalled product was manufactured in Missouri under the jurisdiction of Missouri Department of Agriculture (MDA), DHSS staff will conduct joint investigations within the processing facility under MDA jurisdiction and at the request of MDA.
11. BEHS will develop and provide a report of recall activities to management.

### **Common Responsibilities of LPHA**

1. Follow the action(s) the DHSS Central Office Staff recommends in the recall notification announcement, such as checking retail outlets for the presence of recalled product (effectiveness checks).
2. Respond to consumer inquiries regarding adverse health effects if the recalled product is consumed. This information will be contained in the recall announcement itself or can be obtained from the local communicable disease coordinator.
3. Assure recalled product is removed from commerce; place recalled product under embargo, if necessary.
4. Maintain communication with BEHS's regional staff and central office regarding actions taken involving the recalled product.
5. Provide recall follow-up reports as necessary for complete documentation of activities.

### **Resources**

1. Recall Coordinator contact information  
Nancy Beyer  
Bureau of Environmental Health Services  
(573)751-6095  
[Nancy.beyer@health.mo.gov](mailto:Nancy.beyer@health.mo.gov)
2. DHSS Recall Web Address:  
<http://health.mo.gov/safety/foodrecalls/index.php>
3. FDA Recall Web Address:  
<http://www.fda.gov/Safety/Recalls/default.htm>

4. USDA Recall Web Address:

<http://www.fsis.usda.gov/wps/portal/fsis/topics/recalls-and-public-health-alerts/current-recalls-and-alerts>

## **Foodborne Illness Investigations**

While epidemiologists and other communicable disease specialists fulfill lead roles in assessing communicable disease outbreaks, an Environmental Public Health Specialist (EPHS) who is responsible for food safety inspections will inevitably participate in any foodborne illness outbreak investigation. Understanding the roles and responsibilities of the inspector can substantially impact the investigation. For example, interviews, inspections, and food sampling conducted by the EPHS can be used to identify sources of contamination, causative agents, new cases, and eliminate future illnesses. The foodborne illness investigation team can significantly reduce the length of an outbreak. An appropriate, timely action by an EPHS during an outbreak promotes consumer confidence and improves public opinion of his/her agency.

Missouri is fortunate to have a Rapid Response Team (MRRT). The MRRT is designed to combat large, complex foodborne illness outbreaks. The MRRT provides greater coordination, shared communications and a unified incident command structure to combine experts from different technical disciplines and agencies into a single team. It increases the capability to “connect the dots,” and respond to foodborne illness outbreaks more effectively. The Missouri Department of Agriculture (MDA), DHSS, and the United States Food and Drug Administration (FDA) all contribute experts, resources and many capabilities to the MRRT. Missouri is one of 19 states funded by an FDA grant to create and maintain a Rapid Response Team. The MRRT may be available to assist with illness investigations.

### **Priorities**

When an EPHS is notified of a potential foodborne illness, the matter becomes the highest priority for the EPHS. The report may come from many sources: a complaint by an affected citizen, the local communicable disease investigator, or DHSS. The number, type, and the severity of illnesses contribute to determining the response and resources needed to properly investigate an outbreak. However, if the initial case definition indicates a plausible association between the illness and a regulated facility the EPHS should prepare to conduct an inspection at the facility as quickly as possible once sufficient information regarding the illness and suspected food(s) are obtained. This initial inspection will help the EPHS to have the best chance of finding conditions in the facility that would be similar to the operations that were occurring during the possible exposure period for the outbreak. This might facilitate finding the source more quickly which could help shorten the duration of the outbreak.

### **Inspection/Investigation**

A typical foodborne illness response consists of planning; an interview of the person in charge; a walkthrough of the facility; observation of operations; interviews of employees; food sampling, if necessary; documentation and exit interview; and follow-up. The EPHS must proceed with the understanding that every situation is unique and different components may require varying degrees of attention depending on the circumstances. A good reference for foodborne illness investigations is the Guidelines for Foodborne Disease Outbreak Response available here:

<http://www.cifor.us/documents/CIFOR%20Industry%20Guidelines/CIFOR-Industry-Guideline.pdf>.

1. The inspection process begins in the office with planning, including a review of available epidemiologic information, facility information, and information concerning the causative agent(s). As with any inspection, the EPHS should ensure he/she has the appropriate equipment necessary for the inspection. This may include equipment for taking samples. It will also likely include forms and instructions from the epidemiologist leading the investigation on what they need to further the investigation.
2. Once background information is obtained the EPHS needs to make a visit to the facility. Because of the illnesses associated with this type of complaint and the need to collect food samples, a foodborne illness investigation is a priority. A field visit must occur within 24 hours of notification. The inspection should begin by establishing a dialogue with the person in charge. The initial dialogue should:
  - Take place in as private an environment as possible such as their office. Customers, staff, or other individuals overhearing the conversation may take portions of the conversation out of context which might delay the inspection and add confusion to the situation. In addition the EPHS needs to be conscious of the HIPPA regulations that restrict what information can be shared during the visit.
  - Explain the circumstances. The EPHS should advise the person in charge of the reported illnesses and any potential associations between ill persons and the facility.
  - Explain the purpose of the inspection. This type of inspection is not intended to “prove” an establishment is responsible for the illness; rather it is to determine if there are any conditions or practices present that may promote the spread of illness. If so, the operator can quickly eliminate those conditions to prevent the spread to future customers. Explain to the person in charge that the inspection is limited to an evaluation of the conditions and practices related to the spread of illness.
  - Inquire about recently ill employees and recent complaints received by the facility.
  - Review the facility’s relevant employee illness policies and provide recommendations for improvement as necessary.
  - Verify that the person(s) in charge is knowledgeable in food safety.
3. An initial walkthrough of the facility is conducted to provide an initial survey of the flow of food through the facility, identify persons working with specific foods, and otherwise measure critical operations before they are modified. The walkthrough gives the EPHS an idea of which areas of the facility should be prioritized for further observation.
4. During the investigation it is important to gather information on the suspect food’s preparation, storage, or handling.
5. Further observation of foodservice operations allows the EPHS to spend additional time observing employee hygiene, evaluating cleaning and sanitizing procedures, taking food temperatures, watching for potential cross contamination, and otherwise learning about food preparation processes (no cook, same day service, and complex food processes). Record reviews will also be helpful in pinpointing variations for normal practices. This can include HACCP records, standard operating

procedures, maintenance logs and similar records. Additional information may need to be collected on the facility's suppliers to assist in traceback investigations for finding the source of the outbreak.

6. When interviewing employee(s), the EPHS should ask about any unusual circumstances that may have occurred within the relevant time period—equipment that wasn't working, short-staffing, someone ill, etc. When food employees cannot remember specific details, the EPHS should ask for information in chronological order and inquire about typical work practices and routines.
7. When specific foods are implicated, it may be necessary to take food samples for laboratory analysis. Sampling must be coordinated with the State Public Health Laboratory and Communicable Disease staff in the District Office, prior to collecting and submitting food samples for laboratory analysis. See [Subsection 2.14: Food Sampling Procedures](#) within this section for more information regarding food sampling.
8. If during the investigation the investigator suspects that the illnesses were the result of intentional contamination, the investigator needs to contact the appropriate law enforcement agency.
9. If the investigation results in information that the complaint involves a product that originated outside Missouri the EPHS should contact the retail food program so the information can be shared with the appropriate federal or state agency. If additional information is required, the retail food program staff will have the EPHS gather that while on-site.
10. Documentation of the inspection and the exit interview should be conducted in accordance with [Subsection 1.10: Fundamentals of an Inspection](#).
11. Depending on the investigation and inspection, it may be necessary to conduct a follow-up inspection. If unresolved priority violations are documented, food samples are needed for laboratory analysis, food product is embargoed, or ill food employees are identified, it will be necessary to follow-up with the facility to seek resolution. Multiple visits may be necessary as additional information is provided by the epidemiologists on the illness investigation team, on specific foods or time frame changes.

## **Reporting**

Investigation findings are documented on inspection forms, complaint investigation forms or sanitation observation forms. These documents may be used to develop a final illness investigation report in conjunction with the illness investigation team. The information collected about the investigation should be logged on the complaint log mentioned in [section 2.2](#). Promptly submit a complete narrative of the investigation to the illness investigation team. As noted above, the report may include the inspection report or sanitation observation form or complaint investigation form, and any of the following: references to exhibits, samples, medical records, and laboratory reports. There is no prescribed reporting format, but it should be in a logical order. Environmental investigation findings should be provided to communicable disease staff who will prepare and submit final reports of the investigations to the state epidemiologist and to the Centers for Disease Control and Prevention (CDC) when appropriate.

## **Trace-back**

Trace-back activities are generally guided by either federal or state authorities. The local EPHS may be called on to participate in collecting information to assist in the trace-back functions of the investigation. Trace-back investigations are used to determine the source of an implicated food. This type of investigation begins at the retail establishment(s) implicated in the outbreak. Information on their suppliers is used to trace implicated foods through the distribution system back to the producer/processor that made/grew the implicated product. This process often includes the local EPHS supplying documentation to the appropriate state and federal agencies involved in the investigation. These agencies then coordinate and analyze the data. This will help to assure that identified products are removed from distribution. LPHAs will also assist in trace-forward activities by performing effectiveness checks as advised by a recall. Not all illness investigations result in foods or products being recalled. The process of a recall is a decision made by the federal agency with regulatory authority and the manufacturer. The information obtained during the trace-back or trace-forward activities must be documented and shared with the illness investigation team.

## **Data Review and Analysis**

At least annually, a review of the complaint log or database should occur to identify trends and contributing factors that are most likely to cause foodborne illness or food-related injuries. The focus of the review is preventing foodborne illnesses or injuries. The EPHS should consider:

- Illnesses/Outbreaks in a single establishment,
- Illnesses/Outbreaks in the same establishment,
- Illnesses/Outbreaks implicating the same food,
- Illnesses/Outbreaks associated with similar food preparation processes,
- Number of confirmed foodborne disease outbreaks,
- Number of foodborne disease outbreaks and suspected foodborne disease outbreaks
- Contributing factors most often identified,
- Number of complaints involving real and alleged threats of intentional food contamination, and
- Number of complaints involving the same agent and any complaints involving unusual agents when agents are identified.

## **Resources**

For additional information regarding food borne illness outbreak investigations refer to the Missouri Department of Health and Senior Services [Communicable Disease Investigation Reference Manual](#).

The American Public Health Association's (APHA) [Control of Communicable Diseases Manual](#) also serves as a good reference tool.

[Procedures to Investigate Foodborne Illness](#), published by the International Association for Food Protection.

## Specialized Process Approval

Some food processes have greater sensitivity to food safety considerations than others. These processes present a significant health risk if not conducted under strict operational procedures. These types of operations may require the person in charge and food employees to identify specific hazards, demonstrate specific competencies, utilize complex equipment, and document results. The specialized process approval requirement has been designed to ensure that the proposed method of operation is carried out safely. General guidance regarding administrative procedures for compliance with this section of the Missouri Food Code that address these processes is given below.

Authority to conduct inspections comes from sections 196.190 through 196.265, RSMo and except where governed by local ordinance, food safety inspections are currently conducted under a code modeled after the Food and Drug Administration's food code. In September of 2013, DHSS updated the State's food code to include a chapter that outlines the requirements for submissions of special processes for review as required by sections 3-502.11 or 3-502.12 of the food code.

The jurisdictions that operate under a local food code may have different procedures for conducting these reviews. DHSS can provide these jurisdictions with consulting services on the information being submitted but the LPHA will be responsible for the final review and approval of any special process.

This section of the manual outlines the program policies on review of special processes under 3-502.11. This method should be used by a local agency when requiring a specialized process plan review, as well as, the food establishment when compiling material and information for submission for review.

In this section is a discussion of the specialized process requirements. The term "specialized process" was chosen for use because, in addition to reducing confusion regarding variance authority, it is used exclusively in modern FDA codes and more accurately describes the systematic approach.

1. If one of the specialized processes listed below is being performed by the facility they must submit an application and related materials for review. They must indicate on the application checklist which process the application is being submitted to cover. A separate checklist for each specialized process must be completed.
  - Smoking food as a method of food preservation rather than as a method of flavor enhancement;
  - Curing food;
  - Using food additives or adding components such as vinegar:
    - As a method of food preservation rather than as a method of flavor enhancement, or
    - To render a food so that it is not potentially hazardous or time/temperature control for food safety;
  - Packaging food using a reduced oxygen packaging method except where the growth of and toxin formation by *Clostridium botulinum* and the growth of *Listeria monocytogenes* are controlled as specified under § 3-502.12\*;
  - Operating a molluscan shellfish life-support system display tank used to store and display shellfish that are offered for human consumption;

- Custom processing animals;
- Sprouting seeds or beans; or
- Preparing food by another method that is determined by the department to require approval.

\*3-502.12 – Reduced Oxygen Packaging may be conducted without having to obtain a specialized process waiver from the Bureau where the growth of and toxin formation by *Clostridium botulinum* and the growth of *Listeria monocytogenes* are controlled as specified under § 3-502.12. The facility must have a Hazard Analysis Critical Control (HACCP) plan that has evidence of being reviewed and accepted by the appropriate Health Department. This will include written proof that the barriers utilized are sufficient to prevent growth of the identified pathogens. This could include scientific documentation along with monitoring records or independent laboratory analysis as needed.

2. Information to be submitted for a waiver includes:
  - A written proposal as to which specialized process is to be used including, citing the applicable code reference numbers.
  - A written statement why the proposal should be approved and why the proposal will not create a potential public health hazard or nuisance.
3. Supporting documentation that may be required may include any or all of the following:
  - Documentation supporting the rationale for the proposal which could include scientific studies, analysis reports, maintenance programs and HACCP plans;
  - A written process review report by a recognized Process Authority for each process being submitted;
  - Written prerequisite programs (such as maintenance logs, cleaning schedules and policy manuals) and Standard Sanitation Operating Procedures (SSOP);
  - Checklists and/or verification records on the prerequisite programs and procedures; and/or
  - Training programs and procedures.
4. An analysis of the hazards related to the process and/or specific items being reviewed including information on ingredients, materials and equipment to be used.
  - For a food establishment that is required to have a HACCP plan, the plan and specifications shall indicate:
    - A list of the potentially hazardous foods that the establishment intends to use the proposed process for; or other foods that are specified by the regulatory authority;
    - A flow diagram and hazard analysis by specific food or group of foods where the specialized process is to be used that identifies critical control points and provides information on the following:
      - Ingredients, materials and equipment used in the preparation of that food, and
      - Formulations or recipes that delineate methods and procedural control measures that address the food safety concerns involved;

- Food employee and supervisory training plan that addresses the food safety issues of concern for the specialized process;
  - A Critical Control Point plan that includes clearly identifying:
    - Each Critical Control Point (CCP)
    - The critical limits (CL) for each critical control point;
    - The method and frequency for monitoring and controlling each critical control point by the food employee designated by the person in charge;
    - The method and frequency for the person in charge to routinely verify that the food employee is following standard operating procedures and monitoring critical control points;
    - Action to be taken by the food employee or person in charge if the critical limits for each critical control point are not met; and
    - Records to be maintained by the food employee and the person in charge to demonstrate that the HACCP plan is properly operated and managed.
5. Additional scientific data or other information, as required by the regulatory authority, supporting the determination that food safety is not compromised by the proposal. This may include:
- Examples of the labeling and lot identification system including an explanation of the code and recordkeeping system.
  - Layout of the area showing all equipment where the operation will take place and an explanation of the physical/scheduling barriers between this area and other parts of the operation.
  - Information on the prerequisite programs to include:
    - Safety of water;
    - Cleaning and maintenance of equipment and facilities;
    - Methods of prevention of cross-contamination;
    - Use, storage and labeling of toxics;
    - Personnel health and hygiene policies;
    - Pest control program;
    - List of job descriptions of personnel involved in the process; and
    - Written use procedures and calibration steps for all measuring devices such as thermometers and pH meters.

When accepting proprietary information such as HACCP plan materials the EPHS should also provide completed copies of the confidentiality statement and chain of custody form. The confidentiality statement assures the submitter that their confidential information will be maintained confidential. The chain of custody form provides tracking of this confidential information to insure that it is not shared inappropriately. A confidentiality agreement and chain of custody form can be found in the Training and Resources section of this manual.

HACCP plans and special process proposals are not transferrable from process to process or place to place. Changes that impact the hazard analysis and/or critical control points will require resubmission of the appropriate information for review.

## **Validation**

Before beginning the evaluation of a HACCP plan and system for the special process, the scientific/technical information should be carefully evaluated to determine whether the process under review results in safe food. It is recommended that the establishment submitting the proposal include a validation from a process authority. For the EPHS that is reviewing a plan, they will need to assure that certain information is present in the submission of the special process paperwork. Using the [HACCP Plan Validation Checklist](#) provided in the Training and Resources portion of this section, will help to assure all of the necessary information has been provided in a logical organized manner.

Some retail food establishments may not be prepared to submit an appropriate HACCP plan for a special process. The person in charge (PIC) and their personnel may need additional training to understand the seriousness of the hazards that can be associated with special processes and how to control them. The inspector may need to provide information on the Food Code requirements.

### **Field Verification**

Once the HACCP plan is in place for the special process field staff from the agency performing inspections of the retail establishment will need to perform field verification reviews. This is to assure the plan is being operated as was intended to control and prevent the identified hazards. When doing field verifications the inspector should review the HACCP plan that was submitted by the establishment. There is a suggested [Verification Checklist](#) in the Training and Resources portion of this section to use. The field verification may be documented on this form, a sanitation observation form or an inspection report form.

### **Duties of BEHS Staff:**

- Assess needs and develop guidelines and policies.
- Assist Regional staff and Local Public health Agency (LPHA) staff with specialized process application. See the Specialized Process Approval Application Submission Flow Chart.
- Act as a liaison between DHSS and other government agencies.
- Provide training to LPHA staff and industry.
- Review and approve completed specialized process applications and HACCP plans.

### **Common Responsibilities of LPHA**

- Perform routine food safety inspections under DHSS authority 19 CSR 20-1.025. Noting during inspections where specialized processes are performed.
- Provide facilities with specialized process application.
- Provide technical assistance to facility management.
- Perform preliminary review of application and HACCP plan.
- Work with regional staff to assure the application accurately reflects the process is complete.
- Submit completed application packet to Food Program staff for review and approval.

### **Reduced Oxygen Packaging**

The Missouri Food Code requires the submission of a HACCP plan for reduced oxygen packaging (ROP) products that do not require the special process approval or waiver. Except for a food establishment that obtains approval as specified under § 3-502.11, a food establishment that packages

potentially hazardous food using a ROP methods shall control the growth and toxin formation of *Clostridium botulinum* and the growth of *Listeria monocytogenes* at a minimum.

A food establishment that packages potentially hazardous food using ROP methods shall have a HACCP plan that contains the information specified under § 8-201.14 of the food code. A checklist found at the end of this section should be completed and submitted with the HACCP plan and materials. This plan will include information that:

1. Identifies the food to be packaged;
2. Shows the ROP food will be maintained at forty-one degrees Fahrenheit (41°F) or less and will meet at least one (1) of the following criteria:
  - Have an  $a_w$  of ninety-one hundredths (0.91) or less,
  - Have a pH of four and six tenths (4.6) or less,
  - Is a meat or poultry product cured at a food processing plant regulated by the USDA using substances specified in 9 CFR 424.21 - Use of Food Ingredients and Sources of Radiation, and is received in an intact package, or
  - Is a food with a high level of competing organisms such as raw meat, raw poultry, or raw vegetables;
3. Describes how the package shall be prominently and conspicuously labeled on the principal display panel in bold type on a contrasting background, with instructions to:
  - Maintain the food at forty-one degrees Fahrenheit (41°F) or below, and
  - Discard the food if within fourteen (14) \* calendar days of its packaging it is not served for on-premises consumption, or consumed if served or sold for off- premises consumption;
4. Limits the refrigerated shelf life to no more than fourteen (14) \* calendar days from packaging to consumption, except the time the product is maintained frozen, or the original manufacturer's "sell by" or "use by" date, whichever occurs first;

\* Note: The FDA 2013 model food code allows this time frame to be extended to thirty (30) days unless the manufacturer's sell-by or use-by dates expire first. If submitters want to claim this time frame they need to include with the request a description of their labeling and the discard timeframe and refer to the FDA 2013 model food code as their supporting documentation for this request.

5. Includes operational procedures that:
  - Prohibit contacting ready-to-eat food with bare hands.
  - Identify a designated work area and the method by which:
    - Physical barriers or methods of separation of raw foods and ready-to-eat foods minimize cross contamination, (this can include walls and doors and/or scheduling this processing for a time when no other food handling is occurring) and
    - Access to the processing equipment is limited to responsible trained personnel familiar with the potential hazards of the operation, and
  - Delineate cleaning and sanitization procedures for food-contact surfaces; and
  - Describes the training program that ensures that the individual responsible for the reduced oxygen packaging operation understands the:
    - Concepts required for a safe operation,

- Equipment and facilities, and
  - Procedures specified under 3-502.12 (B)(5) and § 8-201.14 of the food code.
6. When fish is packaged with ROP methods the HACCP plan needs to show that the fish is frozen before, during, and after packaging.
7. Cook-chill or sous vide process shall:
- Implement a HACCP plan that includes how the food is:
    - Prepared and consumed on the premises, or prepared and consumed off the premises but within the same business entity with no distribution or sale of the packaged product to another business entity or the consumer,
    - Cooked to heat all parts of the food to a temperature and for a time as specified under § 3-401.11 of the food code,
    - Protected from contamination before and after cooking as specified under Parts 3- 3 and 3-4 of the food code,
    - Placed in a package with an oxygen barrier and sealed before cooking, or placed in a package and sealed immediately after cooking and before reaching a temperature below one hundred thirty-five degrees Fahrenheit (135°F),
    - Describes cooking, cooling and cold holding that meets the requirements of the food code. *Note: The FDA 2013 model food code can be used to justify HACCP plans or systems that meet the newer temperature requirements,*
    - Held in a refrigeration unit that is equipped with an electronic system that continuously monitors time and temperature and is visually examined for proper operation twice daily,
    - Held frozen with no shelf life restriction while frozen until consumed or used.
    - If transported off-site to a satellite location of the same business entity, equipped with verifiable electronic monitoring devices to ensure that times and temperatures are monitored during transportation, and
    - Labeled with the product name and the date packaged; and
  - Maintain the records required to confirm that cooling and cold holding refrigeration time/temperature parameters are required as part of the HACCP plan and:
    - Make such records available to the regulatory authority upon request, and
    - Hold such records for at least six (6) months; and
  - Implement written operational procedures as specified under 3-502.12 (B)(5) and a training program as specified under 3-502.12 (B)(6) of the food code.
8. A food establishment that packages cheese using a reduced oxygen packaging method shall:
- Limit the cheeses packaged to those that are commercially manufactured in a food processing plant with no ingredients added in the food establishment and that meet the Standards of Identity as specified in 21 CFR 133.150 Hard cheeses, 21 CFR 133.169 Pasteurized process cheese or 21 CFR 133.187 Semisoft cheeses;
  - Have a HACCP plan that contains the information specified under § 8-201.14 and as specified under 3-502.12 (B)(1), (B)(3)(a), (B)(5) and (B)(6) of the food code;
  - Labels the package on the principal display panel with a “use by” date that does not exceed thirty (30) days from its packaging or the original manufacturer’s “sell by” or “use by” date, whichever occurs first; and
  - Discards the reduced oxygen packaged cheese if it is not sold for off-premises consumption or consumed within thirty (30) calendar days of its packaging.

Note: The FDA model food code does not require a HACCP plan be submitted when the ROP foods are labeled with the production time and date, are held at forty-one (41<sup>0</sup>) degrees F. or less during refrigerated storage and the products are removed from the ROP packaging in the establishment within forty-eight (48) hours after packaging. BEHS will accept proposals that meet these requirements when using ROP packaging in this manner and that use the 2013 model food code as their supporting documentation.

When accepting proprietary information such as HACCP plan materials the EPHS should also provide completed copies of the confidentiality statement and chain of custody form. The confidentiality statement assures the submitter that their confidential information will be maintained confidential. The chain of custody form provides tracking of this confidential information to insure that it is not shared inappropriately. Copies of examples of these forms are included in the Training and Resources portion of this section. HACCP plans and proposals are not transferrable from process to process or place to place. Changes that impact the hazard analysis and/or critical control points will require resubmission of the appropriate information for review.

### **Validation**

Before beginning the evaluation of a HACCP plan and system for the reduced oxygen packaging process, the scientific/technical information should be carefully evaluated to determine whether the process under review results in safe food. It is recommended that the establishment submitting the proposal include a validation from a process authority. For the EPHS that is reviewing a plan they still need to assure that certain information is present in the submission of the ROP paperwork. Using the [HACCP Plan Validation Checklist](#) provided in the Training and Resources portion of this section will help to assure all of the necessary information has been provided in a logical organized manner.

Some retail food establishments may not be prepared to submit an appropriate HACCP plan the ROP process. The person-in-charge (PIC) and their personnel may need additional training to understand the seriousness of the hazards that can be associated with special processes and how to control them. The inspector may need to provide information on the Food Code requirements.

### **Field Verification**

Once the HACCP plan is in place for the reduced oxygen packaging process field staff from the agency performing inspections of the retail establishment will need to perform field verification reviews. This is to assure the plan is being operated as was intended to prevent the identified hazards. When doing field verifications the inspector should review the HACCP plan that was submitted by the establishment. There is a suggested [Verification Checklist](#) in the Training and Resources portion of this section, to use. The field verification may be documented on this form, a sanitation observation form or an inspection report form.

### **Duties of BEHS Staff:**

- Assess needs and develop guidelines and policies.
- Assist regional staff and Local Public health Agency (LPHA) staff with specialized process application. Provide confidentiality agreement and chain of custody information to all appropriate parties. See the Specialized Process Approval Application Submission Flow Chart.

- Act as a liaison between DHSS and other government agencies.
- Provide training to LPHA staff and industry.
- Review and verify compliance with the Missouri Food Code in writing for completed specialized process applications and HACCP plans.

#### **Common Responsibilities of LPHA**

- Perform routine food safety inspections under DHSS authority 19 CSR 20-1.025. Noting during inspections where specialized processes are performed.
- Provide facilities with specialized process application.
- Provide technical assistance to facility management.
- Perform preliminary review of application and HACCP plan.
- Work with regional staff to assure the application accurately reflects the process is complete.
- Submit completed application packet to Food Program staff for review and verification.

## Summer Food Service Program

The Summer Food Service Program (SFSP) is a supplemental meal program sponsored by the United States Department of Agriculture (USDA) and managed by Community Food and Nutrition Assistance (CFNA) program within the Department of Health and Senior Services (DHSS). The program provides funding that allows community groups to serve meals from various feeding sites to children who otherwise may go hungry or lack adequate nutrition throughout the summer months when school is not in session. Food safety and sanitation inspections are conducted by Local Public Health Agency (LPHA) staff of food preparation sites and meal service locations. Many of these sites are located at schools, churches, parks, and children's camps.

Participation Agreements (PA) to conduct inspections are entered into between DHSS and LPHAs. Participation agreements contain the required deliverables and the scope of work. All PAs begin on May 15<sup>th</sup> and continue through September 15<sup>th</sup>; however, some sites may not begin their food service on May 15<sup>th</sup> or continue with their service through September 15<sup>th</sup>. Some of the deliverables in the PA are:

- No inspections of schools, unless they prepare food for off-site service locations, will be accepted for the SFSP;
- The inspection of a feeding site or meal service location is to be conducted within the first half of the dates of operation;
- The menu for the meal served during the inspection should be noted in the comments section of the inspection sheet and corresponding food temperatures should be recorded;
- Inspection reports must be submitted within two weeks of the date of inspection and a copy of the sanitarian report no older than seven days should accompany the inspection report form;
- The correct forms to use for inspections and attempted inspections; and
- The amount of reimbursement for inspections and attempted inspections.

Because sponsors for the program may sign-up throughout the summer, it is important to check the site listing often. The site listing report contains specifics about the facilities that are participating in the SFSP. It can be accessed through the [Summer Food Service Program](#) website. This link takes you to the SFSP webpage. On the SFSP page, select the bullet point titled: "*SFSP Site List for Food Establishment Inspectors.*" This will provide a list of all sponsors and sites, to find those in your jurisdiction use "Ctrl F" and type 'County' and then the name. For example, if you were in Adair County you would type 'County Adair'. The sites to be inspected will be listed. Agencies can look at the list of participating sites beginning in April. DHSS recommends that inspectors check the website at least weekly through the end of August, since sponsors have until a week or so before school resumes to add feeding sites.

When inspecting these SFSP sites, inspectors will conduct a routine food safety and sanitation inspection. Staff preparing foods should follow safe food handling practices. Inspectors should focus on items such as cooking and reheating temperatures, cooling procedures, hot and cold-holding temperatures, cross-contamination issues, food handler health, personal hygiene, proper hand-washing practices, and food storage practices. Follow-up inspections shall be performed to verify correction of priority violations that were not corrected on-site during the initial inspection. Follow-up inspections should be conducted as required in the agency's written plan or program policies and procedures.

Completed inspection reports are to be submitted to DHSS within two (2) weeks of the inspection. Mail the inspection report to: DHSS, Bureau of Environmental Health Services (BEHS), Summer Food Service Program, P.O. Box 570, Jefferson City, MO, 65102-0570. BEHS will review the inspection report to assure that it was completed according to the PA. All fields on the inspection report should be completed. Some of the more important fields are: the facility name, address, inspection date and “time in-time out”, and signature. The inspector should note the food items served and food temperatures must be recorded on the inspection report in the chart provided. The inspection time shall be a minimum of thirty (30) minutes for food preparation sites and an unobligated timeframe for service sites. Specifics about what inspection report form to use can be found in the PA. The forms can be ordered through the DHSS warehouse: <http://dhssnet/Warehouse/i-f-seph-behs.html>.

All inspections must meet the criteria in the PA and the EHOOG and be “approved” or accepted by BEHS. For BEHS to reimburse for attempted inspections, the form must clearly show the date and time of the inspection attempt and a copy of the SFSP Site Listing must be submitted. The SFSP Site Listing sent must support or document the facility’s hours of operation and must have been printed within seven (7) days of the date of the inspection. No more than two (2) attempted inspections for the same site will be reimbursed.

When billing DHSS for services, submit one invoice for all inspections on a Vendor Request for Payment form, DH-38. The vendor request for payment form is available electronically at <http://health.mo.gov/living/lpha/forms.php>. Do not use any other form, to request payment. All invoices must be received by BEHS by October 15<sup>th</sup> of the billing year.

BEHS has set up a dedicated email address for the SFSP: [BEHS.SUMMERFOOD@health.mo.gov](mailto:BEHS.SUMMERFOOD@health.mo.gov)

## Standardization

Standardization is the process which provides a uniform system of measuring one's knowledge and skills related to performing inspections. It is a process based on current food code provisions and focuses on foodborne illness risk factors, interventions and Hazard Analysis of Critical Control Point (HACCP) principles. Standardization measures proficiency and provides for more consistency in inspections. Standardization is necessary to meet Standard 2 in the Food and Drug Administration (FDA) National Retail Standards. You will learn about your strengths and weaknesses. This will allow you to become more consistent in observing violations, documenting the violations and providing guidance and technical assistance. Participation will help a thorough inspector meet the ultimate goal of reducing the incidence of foodborne illness.

It is important to note, this procedure is not intended to be basic training for a candidate. It is a test of your skills as an inspector. Candidates must have at least two years of experience and have completed a minimum of 100 retail food inspections within the last two years.

When DHSS standardizes an Environmental Public Health Specialist (EPHS) at a Local Public Health Agency (LPHA), the Standardization Officer and candidate will conduct and complete the following items:

1. Five to eight inspections of high or medium priority facilities. The goal is to be timely and not spread the inspections out over months;
2. One of the 5-8 inspections will be a HACCP inspection. This inspection will include development of flow charts and risk control plans; and
3. All inspections and paperwork are to be completed and submitted to the DHSS standardization officer within a one to two week period.

### Performance Areas

DHSS follows the FDA protocol and evaluates these performance areas:

1. Risk Factors and Interventions. The candidate must be able to demonstrate knowledge of the food safety risk factors and the appropriate interventions to address priority violations noted.
2. Good Retail Practices. The candidate must be able to identify core violations and demonstrate their knowledge of all good retail practices.
3. Application of HACCP Principles. During the food establishment inspections, the candidate must demonstrate the proper inspection approach for food establishments with pre-existing HACCP plans and those without HACCP plans.
4. Inspection Equipment. The candidate must have the appropriate inspection equipment which includes:
  - Appropriate inspection report form(s)
  - Missouri food code
  - Head cover: baseball cap, hair net, or equivalent
  - Temperature measuring device(s)
  - Maximum registering thermometer or temperature- sensitive tapes for verifying hot water warewasher final rinse temperature
  - Chemical test kits for different chemical sanitizer types

- Flashlight
  - Camera (optional)
  - Alcohol prep pads
5. Communication. The candidate must be able to communicate in the following instances:
- Introductions to the Person in Charge (PIC)
  - Fact finding questions through interview with PIC
  - Candidates should set an example
  - Exit conference with the PIC

### **Field Exercise**

During the field inspections candidates will be expected to:

1. Take the lead – introductions, contact the PIC, etc. They will ask questions of the PIC as needed to determine compliance.
2. Record observations and inspection data. A normal inspection will be conducted where violations are noted as priority items and core items.
3. Conduct an exit interview and explain the inspection to the PIC. Explain code requirements, prepare flow charts, review HACCP records, and demonstrate how to calibrate equipment when appropriate. Flow charts, risk control plans, etc. are documents prepared strictly for the standardization process and do not need to be shared with the PIC.

### **Comparison of Findings**

Since this is a “test” there must be a passing score. Inspections are compared and the grade is determined as follows:

1. Candidate and Standardization Officer complete inspection report with:
  - Observations of priority violations – agreement 85%
  - Code citations – agreement 85%
  - Observations of core items – agreement 80%
2. Candidate demonstrates understanding of HACCP by being able to:
  - Prepare Process Flow Charts for:
    - Process 1 – No Cook Step
    - Process 2 – Cook and Serve or Same Day Service
    - Process 3 – Complex Food Preparation
  - The candidate must also be able to identify hazards, Critical Control Points (CCPs) and Critical Limits (CLs). One of the inspections should be an evaluation of a facility’s HACCP plan. Where lacking the candidate will prepare flow charts for the processes above, as found in the establishments inspected.
3. Review of Record-keeping and Monitoring
  - The candidate should be able to instruct the PIC on which records they will need to review:
    - Monitoring should be performed on three selected dates
    - Determine the accuracy and consistency of records on the three dates
    - Determine the appropriateness of the documented corrective action taken when the CL was not met
4. HACCP Principles

- The candidate must be able to discuss the seven HACCP principles and how they apply to the food establishment's operation. The HACCP plan verification consists of reviewing records as noted above and being able to discuss the appropriate HACCP principle. Those principles are:
    - Assess the hazards
    - Identify the CCPs
    - Determine the CLs for each CCP
    - Monitor the CCPs
    - Take Corrective Action
    - Develop and implement a record-keeping system
    - Verify that the HACCP system is working
5. Communication
- The candidate will demonstrate their ability to communicate by being able to perform the following:
    - Interview the PIC about employee training and health policies. The candidate must also be able to perform a menu review with the PIC.
    - Perform an exit interview by discussing the inspection findings. This would include an ability to discuss and resolve issues that need to be addressed with the PIC.
6. Expectations
- The candidate may conduct standardization exercises for other field inspectors on their staff after becoming standardized with eight inspections. The standardization process for the LPHA should be similar to that used by DHSS:
    - Use the same forms
    - Use medium and high risk facilities
    - Evaluation of communication skills and understanding

To learn more about this process contact the food program at (573) 751-6095.

## **Food Samples for Laboratory Analysis**

The Department of Health and Senior Services (DHSS) State Public Health Laboratory (SPHL) has the capability to analyze and evaluate food samples for microbiological and chemical contamination. All samples of product must be classified as an official sample. An official sample is defined as a sample specimen, that is collected by DHSS or Local Public Health Agency (LPHA) staff, handled, transported, and analyzed by DHSS or LPHA staff with the results of such analysis becoming a permanent record of the DHSS demonstrating compliance or noncompliance with DHSS laws and regulations.

### **Criteria for Food Sample Submission**

Consumer complaint samples from the general public will not be accepted. The SPHL will only accept food samples for testing under the following scenarios:

1. In support of a foodborne disease outbreak investigation:
  - Investigation shall be coordinated by DHSS, Section for Disease Prevention in conjunction with the Section for Environmental Public Health.
  - Samples must be collected and submitted by DHSS or LPHA staff. Sample collection and submission shall be coordinated through the Regional Epidemiology Specialist.
  - Samples should be non-compromised, unopened containers that are properly transported and submitted with complete documentation. Compromised samples may be tested after consultation with the laboratory and approval by the Epidemiology Specialist.
  - Clinical samples from the affected consumers should be available for testing.
  
2. In support of an investigation of a food-related terrorism activity:
  - Samples must be collected and submitted by the FBI or other designated law enforcement personnel.
  - Investigation shall be coordinated through the DHSS, Emergency Coordination Center (ERC).
  
3. Prior to collecting a sample in support of a surveillance or enforcement action resulting from a sanitation inspection performed by DHSS or LPHA staff contact the Food Program Manager or Regional EPHS.

## **Food Sampling Procedures**

The laboratory will not accept samples or specimens that have been handled or transported in an incorrect manner; are obviously unacceptable for the test required; or are not accompanied by a proper and completed laboratory request form. In addition, a chain of custody form for all samples should be properly completed and included with samples shipments.

Food and water products may be analyzed by DHSS or local public health or other laboratories when those laboratories are equipped to perform a validated analysis. More complex analyses will be performed by DHSS laboratory in Jefferson City. The person collecting the sample is responsible for informing the receiving laboratory of intent to deliver a sample. The receiving laboratory is responsible for recording receipt of all samples submitted for analysis, including time and date received and by whom.

In most cases, the sample will be the container of the product of concern, such as a box of cake mix, a sack of corn meal, a bag of potato chips. This is appropriate during an inspection when a container is suspected to contain adulterated product.

In other cases, there is no container or it is impractical to submit a container. In these cases, it is appropriate to collect and submit a portion of the food product in question. The SPHL provides a “food sampling kit” that shall be used to collect and submit these food samples. Sampling kits are available at all Regional Offices and many Local Public Health Agencies. Contact the SPHL Environmental Bacteriology Unit at (573) 751-3334 for replacement kits.

### **Food Sampling Instructions**

Preparation:

1. Contact the receiving laboratory and inform them of intent to collect and submit food sample.
2. Find a clean environment to open the sampling kit and prepare sampling materials.
3. Label specimen cups or bags prior to sample collection. Label with the following:
  - a. Sample description and sub-sample identifier if needed.
  - b. Date, time, and temperature.
  - c. Collector’s name or initials.
4. Complete a sample information form for each sample submitted. Include the following:
  - a. Collector’s name and agency.
  - b. Date and time collected.
  - c. Sample information including description, location collected, producer information, manufacturer codes, lot number, expiration date, type and size of original container.
  - d. Reason for analysis and specific tests requested (consult with SPHL if needed).
5. Complete a chain of custody form for the sample shipment. Include the following:
  - a. Collector’s information;
  - b. Sample descriptions and locations of collection;
  - c. Date and time of collection;
  - d. Sampler’s initials; and
  - e. Signatures, dates and times of sample transfers.

6. Use sterile gloves when hand contamination is a concern.

#### Sample Collection:

1. Wash hands with soap and warm running water.
2. For small, intact packaged foods:
  - a. Place entire package in a labeled, large, suitable sterile zip-lock bag (double-bagging).
3. For bulk foods (bags and buckets):
  - a. Rotate container to thoroughly mix the food, if possible, without spilling the food.
  - b. Wipe the outer surfaces of the container with a sanitizer or alcohol prep pads.
  - c. Aseptically open the food container or ask the facility staff to open it using their routine method.
  - d. Aseptically sample the center of the bulk food using a sterile scoop or sanitized ladle as appropriate.
  - e. Push the top layer (about ¼ inch) aside for dry items, thoroughly mix liquid items.
  - f. Hold the specimen cup away from the opened container and add the sample. Two people may be necessary for this type of aseptic sampling.
  - g. Carefully reseal the food container and ask plant staff to set aside.
  - h. Place sample cups into a small zip-lock bag (double bagging).
4. For buffet lines, open pans, service containers, etc:
  - a. Aseptically sample the food using a sterile scoop, forceps, or tongue depressor.
  - b. When sampling, collect portions of the product throughout the container (composite sample) to assure a representative sample is taken.
  - c. Hold the sample cup away from the open food service container and add sample.
  - d. Place sample cups into a small zip-lock bag (double bagging).

#### Sample Packing and Shipping:

1. Place all sample information forms into a large zip-lock bag.
2. Place all food samples into plastic bucket and seal lid by turning clockwise. If any items are fragile, put packing material (newspaper) on top of samples to take up empty space in bucket.
3. Place bucket into foam cooler box.
4. Place two freeze packs on either side of the bucket and place foam lid on cooler.
5. Seal cooler with orange security tape.
6. Place bag with sample information forms on top of sealed cooler.
7. Close cardboard box flaps and seal with shipping tape.
8. Complete the chain-of-custody form (if necessary), insert into an envelope, and attach to outside of box.
9. Notify the receiving laboratory of the number of samples collected and the time/date shipped.
10. Ship samples to address below in the quickest manner possible. Samples may be carried directly to the laboratory, or shipped by state courier or commercial carrier service. The statewide SPHL courier system will deliver samples overnight.

Missouri Department of Health and Senior Services  
State Public Health Laboratory  
101 North Chestnut Street  
Jefferson City, MO 65101  
Attn: Environmental Bacteriology Unit

Keep any extra sampling kit items. A replacement sampling kit will be mailed back.

### **Chain of Custody**

For purposes of documentation in cases of possible tampering, adulteration or misbranding, a chain of custody must be maintained to track the possession and handling of sample(s) from collection through reporting. A sample is in someone's "custody" when:

- It is in one's actual physical possession;
- It is in one's view, after being in one's actual physical possession;
- It is in one's actual physical possession and then locked up so that no one can tamper with it; or
- It is kept in a secured area and restricted to authorized personnel only.

Case law has determined that use of a parcel service or common carrier does not break the chain of custody, provided the seal(s) remain intact after delivery of the package.

### **Payment of Samples**

1. When samples are submitted to the DHSS laboratories, payment for the samples collected shall be made or offered to the owner.
2. DHSS staff should request reimbursement for purchase on the DH-57, Monthly Expense Report. Attach a receipt from the business that clearly identifies the name and address of the establishment, the kind of sample, and the amount paid.
3. LPHA staff should arrange for purchase from a local fund. When this is not possible, purchase of samples should be arranged through the BEHS Chief.

### **Disposal of Spent Sample**

Laboratory analysis often results in excess quantities of sample contents. The remaining contents, if not retained for support reasons, should be disposed of properly. The laboratory shall determine the acceptable method for disposal of the spent sample. In no instance may anyone use the contents for personal use and/or gain or give the contents to anyone else for this purpose.

## **Manufactured Food Program**

A food processor is an individual or organization that takes raw food products and ingredients or pre-processed products, combines or repackages them and distributes the finished product. This distribution can be to restaurants, grocery stores, warehouses, or other distributors. Food processing can be a simple operation, such as repackaging bulk foods, baking bread and distributing it, or a more complicated operation such as canning and preserving. The key difference between a food processor and a food establishment is that the product from a food processor is not sold directly to the end consumer.

### **Jurisdiction**

It is important to know that in some instances there is an overlap of regulatory jurisdiction between local, state, and federal agencies. This means a food processor may be inspected and regulated by more than one regulatory agency. In Missouri, food processors or food processing plants are inspected by the Department of Health and Senior Services (DHSS). Plants involved in interstate commerce are inspected by DHSS and the U.S. Food and Drug Administration (FDA). Similarly, the Missouri Department of Agriculture regulates and inspects the manufacturing of meat and poultry products for intrastate distribution. Meat/poultry plants involved in interstate commerce are regulated and inspected by the U.S. Department of Agriculture.

Occasionally an individual or organization will meet the definition of both a food processing plant and retail food establishment. When this occurs, if the primary business is retail (50% or more of the sales is directly from end consumers) and sales to wholesale accounts are less than \$50,000 the facility will be inspected by the Local Public Health Agency as a retail food establishment; this inspection will suffice for both the food establishment and food processing operations. However, if the primary business is wholesale or if sales to wholesale accounts is more than \$50,000 then they will be added to DHSS's inventory of food processors and the individual or organization will be inspected by both the LPHA and the state.

Commissaries or central kitchens may also be a retail food establishment or food processing plant. If a restaurant operation has a central kitchen that prepares food for sale at five or less locations, owned and operated as part of the same business, then the kitchen will be inspected by the LPHA as part of the retail food establishment. If the commissary or central kitchen distributes to more than five retail locations it should be considered a food processing plant and will be inspected by the state.

### **Conducting Inspections**

Food processing plants inspected by DHSS must comply with the requirements of [21 CFR Part 110](#) Good Manufacturing Practices (GMPs). This is a federal regulation that DHSS adopted by reference and uses when inspecting all types of processing, distributing, and warehousing facilities. 21 CFR Part 110 is a very general set of regulations that provides information about the food processing structure, plumbing, and building materials to name a few. Some operations, such as acidified foods, low acid foods, and bottled water have additional regulations to adhere to. Many of the facility provisions of the GMPs are similar to those found in the Food Code. A facility approved as a retail food establishment should qualify as a food processing plant and vice versa.

### **Inquiries and Complaints**

LPHAs receiving calls from an individual interested in starting a food processing operation should refer the caller to the nearest DHSS Regional EPHS for additional information and assistance. In addition, the individual may be directed to DHSS' website: <http://health.mo.gov/safety/foodsafety/processors.php> and given a brochure, [Food Processor Requirements in Missouri](#).

When a complaint is received about a food product, the LPHA needs to complete the Food Product Complaint form, [E6.37C](#). This form can be used to collect the necessary information to begin a complaint investigation. Completing as much of the information listed on the form as possible will improve the investigator's ability to investigate the complaint effectively. If the Bureau of Environmental Health Services (BEHS) receives a complaint this form will be completed and forwarded to the appropriate agency for follow-up. BEHS should receive a copy of all food complaint forms completed by LPHA's for tracking purposes.

Regional EPHS V's will provide technical assistance as necessary to the LPHA on investigating food product related complaints.

## **Product Tampering**

Tampering, threat of tampering and false reporting of tampering of food products, over-the-counter drugs, or cosmetics is a federal crime. Whenever a report of possible or actual tampering is received, referral must be made to the U.S. Food & Drug Administration (FDA) via the Department of Health and Senior Services, Bureau of Environmental Health Services central office. Timely communication with FDA is important for purposes of coordination and investigation.

## Frozen Dessert Program

The Department of Health and Senior Services (DHSS) and Local Public Health Agencies (LPHAs) regulate more than 2,000 establishments that manufacture, sell, or serve frozen dessert products throughout the state. Under sections 196.851-.895, RSMo, DHSS is given the responsibility of assuring ice cream and related frozen dessert products are wholesome and pure; to prevent confusion, fraud and deception in connection with their manufacturing and sale; and to make unlawful the misbranding and adulteration of such products.

A frozen dessert establishment is defined as:

- A frozen dessert plant, which is any place or premise when frozen desserts or mixes are processed, pasteurized, frozen, or packaged for distribution or sale;
- A frozen dessert processor, which is any person who freezes any pasteurized mix into semisolid or solid form for retail distribution or sale as a frozen dessert; and
- A frozen dessert plant and those establishments processing products such as ice cream, soft-serve products, frozen yogurt, frozen custard, sherbets, water ice, and frozen novelties.

A frozen dessert license shall be obtained for each frozen dessert establishment. Most frequently this applies to restaurants, convenience stores, and other food establishments with a soft-serve ice cream machine. Licenses are issued to each manufacturer once a completed [frozen dessert application](#), a copy of the most recent health department inspection report, a certificate of no tax due, and appropriate license fee has been submitted to the DHSS and processed by the Frozen Dessert Program. The license expires one year following the date of issuance and must be renewed annually.

DHSS has determined that establishments manufacturing and/or freezing ice beverage products exclusively, such as ices, slurpies, and frozen cappuccinos, or serving hard hand-dipped ice cream, manufactured in a licensed plant, do not require a frozen dessert license.

### Inspection Procedures

A frozen dessert inspection is not a separate inspection of a retail food establishment, but merely a part of the routine inspection of the facility. A facility with a frozen dessert machine(s) must be inspected at least annually.

During the inspection the following criteria shall be observed and used to evaluate whether the frozen dessert machine is in compliance and should be approved for licensing:

1. Assure all mixes used for a frozen dessert are obtained from an approved source.
2. Determine if the facility is using rerun product. Rerun is the reuse of frozen dessert mix that was previously in the machine prior to machine disassembly.
3. If the facility uses rerun product, review the facility's policy on its use to assure it is being handled and stored properly. Rerun product must be used in the machine at the beginning of the next day. If the rerun product is kept more than 24-hours it must be labeled and dated according to 3-501.17. The cycle of using rerun product must be broken at least every four (4) days.

4. Assure that the machine is disassembled, cleaned, and sanitized in accordance with the manufacturer's specifications and frequencies. General guidance concerning cleaning frequency is noted below:
  - A. Machines not having a standby mode must be disassembled, cleaned, and sanitized nightly; and
  - B. Machines equipped with a standby mode must be disassembled, cleaned, and sanitized at least every four (4) days.
  - C. Machines with a nightly heat treatment or "pasteurization" cycle (example: Taylor® Heat Treatment units) must be disassembled for cleaning and sanitization at the frequency specified by the manufacturer.
5. Check the temperature of the mix in the machine hopper. The frozen dessert mix must be maintained at temperatures in compliance with the most current food code requirements (41°F). Record the temperature on the inspection sheet.
6. Most machines have a drip pan that should be inspected to assure there is no leakage of mix out of the rear main seal of the freezing cylinder.
7. Check the "Frozen Dessert" category on the inspection sheet and record the frozen dessert establishment number. This number can be found in the upper right hand corner of the posted license.
8. Lastly, note if the establishment should be approved/not approved for a frozen dessert license. A check box is provided on the food inspection form. If the inspection form that is used by an agency with their own food ordinance, doesn't have a check box for frozen dessert license, be sure to clearly mark on the inspection sheet that the machine is approved/not approved for a frozen dessert license. The facility will need a form showing that the machine is compliant and approvable.

## Training and Resources



### RECALL FOLLOW-UP REPORT FORM

MISSOURI DEPARTMENT OF HEALTH AND SENIOR SERVICES  
BUREAU OF ENVIRONMENTAL HEALTH SERVICES

[Print Report](#)

[Reset Form](#)

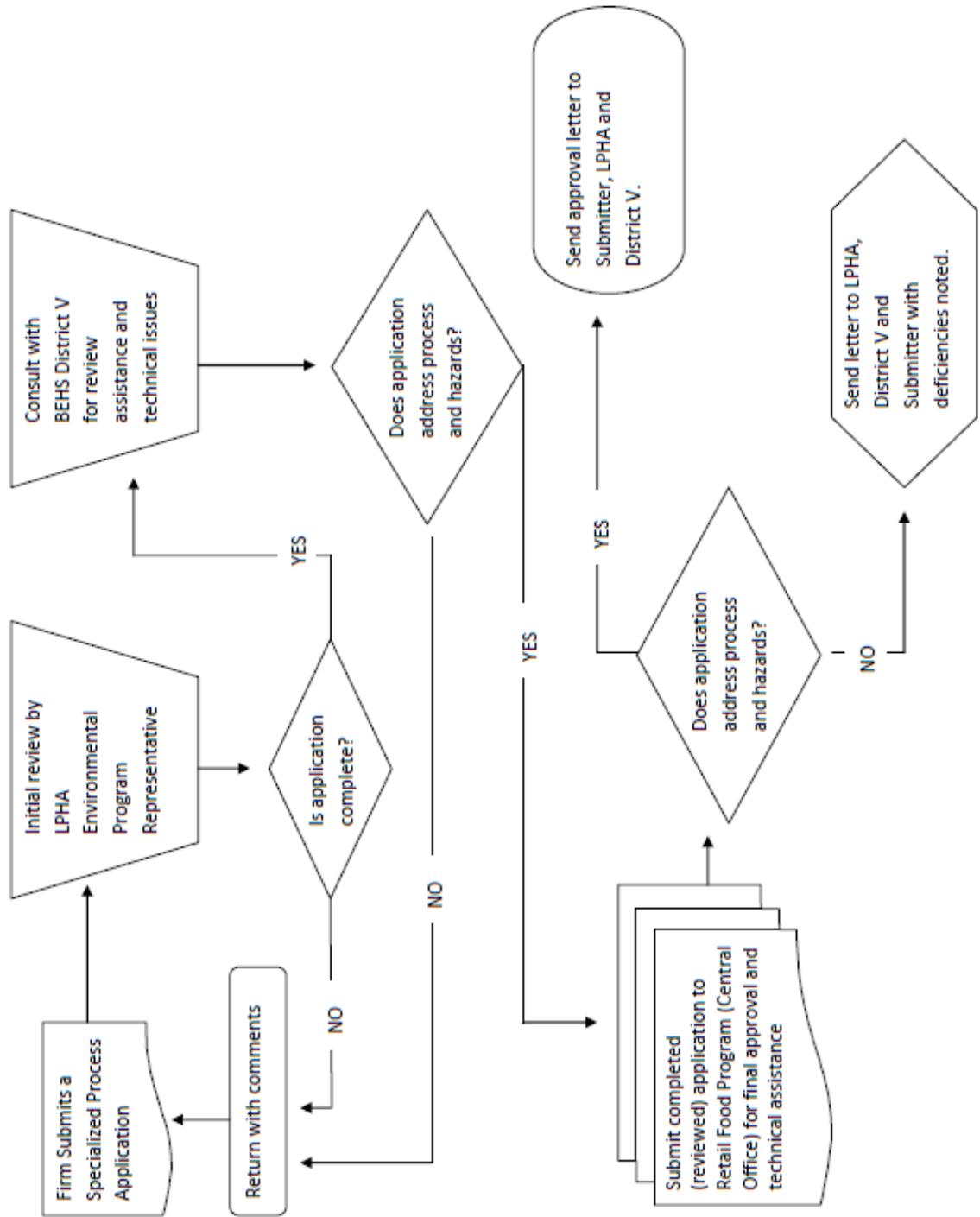
Date: \_\_\_\_\_  
County: \_\_\_\_\_

1. RECALL INFORMATION		
RECALLING COMPANY NAME/ADDRESS: _____	PRODUCT BEING RECALLED: _____	
	PRODUCT DESCRIPTION: (Recall code #, Plant Number, etc.) _____	
2. ESTABLISHMENT INFORMATION		
ESTABLISHMENT NAME: _____ PHONE #: _____		
ADDRESS: _____ CITY: _____		
ESTABLISHMENT TYPE:		
<input type="checkbox"/> RESTAURANT <input type="checkbox"/> CONVENIENCE STORE <input type="checkbox"/> SCHOOL <input type="checkbox"/> GROCERY STORE <input type="checkbox"/> SALVAGE STORE <input type="checkbox"/> INSTITUTION <input type="checkbox"/> MANUFACTURER <input type="checkbox"/> DISTRIBUTOR <input type="checkbox"/> OTHER: _____		
3. TYPE OF RECALL FOLLOW-UP CHECK. NAME & TITLE OF PERSON CONTACTED		
<input type="checkbox"/> SITE VISIT TO FACILITY <input type="checkbox"/> TELEPHONE CALL TO FACILITY <input type="checkbox"/> OTHER: _____		
NAME OF PERSON CONTACTED: _____ TITLE: _____		
4. PRODUCT STATUS		
A. DOES THE ESTABLISHMENT CARRY THE RECALLED PRODUCT? <input type="checkbox"/> YES* <input type="checkbox"/> NO (if NO skip to #6) *YES: ESTIMATED QUANTITY OF RECALLED PRODUCT ON HAND AT TIME OF NOTIFICATION: _____		
B. DID THE ESTABLISHMENT RECEIVE NOTIFICATION OF THE RECALL FROM ANOTHER SOURCE (RECALLING FIRM, DISTRIBUTOR, ETC.)? <input type="checkbox"/> YES* <input type="checkbox"/> NO                   *YES: Recall Notification Source: _____		
C. DID THE ESTABLISHMENT FOLLOW THE RECALL INSTRUCTIONS? <input type="checkbox"/> YES <input type="checkbox"/> NO* (Explain): _____		
D. IS THERE CURRENTLY ANY RECALLED PRODUCT FOR SALE OR USE? <input type="checkbox"/> YES* <input type="checkbox"/> NO *NOTE: If the recalled product is still on the shelf for sale to the customer and the establishment does not take immediate corrective action to remove it from sale, the product must be immediately embargoed and placed in a secured location at the facility.		
E. WHAT IS THE CURRENT STATUS OF THE RECALLED PRODUCT? <input type="checkbox"/> NONE ON HAND <input type="checkbox"/> RETURNED TO RECALLING FIRM <input type="checkbox"/> RECALLED PRODUCT DESTROYED <input type="checkbox"/> PRODUCT BEING HELD FOR RETURN & STORED IN A SECURED LOCATION AND LABELED IN A MANNER TO PREVENT IT FROM BEING RETURNED TO THE SALES FLOOR <input type="checkbox"/> OTHER: _____		
F. IS AN EMBARGO IN PLACE AT THIS TIME? <input type="checkbox"/> YES* <input type="checkbox"/> NO                   *Attach Embargo Paperwork with this Report.		
5. INJURIES/COMPLAINTS		
IS THE ESTABLISHMENT AWARE OF ANY INJURIES, ILLNESSES, OR COMPLAINTS ASSOCIATED WITH THE RECALLED PRODUCT? <input type="checkbox"/> INJURY <input type="checkbox"/> ILLNESS <input type="checkbox"/> COMPLAINT <input type="checkbox"/> NONE		
6. REMARKS/COMMENTS (INCLUDE ACTION TAKEN IF PRODUCT WAS STILL AVAILABLE FOR SALE OR USE) Attach additional pages/documents as needed.		
FAX form to 573-526-7377		
NAME / TITLE / EPHS NUMBER	AGENCY NAME	TELEPHONE NUMBER

[Link to electronic Recall Follow-Up Report Form](#)



Specialized Process Approval Application Submission Flow Chart



## Specialized Process Application Checklist

On completion of collection and initial review this information shall be submitted to the appropriate Local Public Health Agency or Department of Health and Senior Services District office. This form can be found on the Department's Food Safety Web Page.

Name \_\_\_\_\_

Address \_\_\_\_\_

Telephone Number \_\_\_\_\_

Section 1 – Check which specific specialized process. Submit a separate application for each process.

- Smoking food (for preservation)
- Curing food
- Food additives (for preservation or to alter a food to a non-\*PHF)
- Packaging food using Reduced Oxygen Packaging except as specified under 3-502.12\*\*
- Custom Animal Processing (under Missouri Department of Agriculture (MDA) regulation)
- Other (per Regulatory Authority)

Section 2 – Proposal

- Statement of proposal citing code reference
- Statement why this proposal should be approved

Section 3 – Supporting documentation

- Scientific studies or other applicable supporting documentation
- Process authority analysis reports
- Prerequisite programs
- Maintenance logs
- Cleaning schedules
- Employee policy manuals
- Applicable Standard Operating Procedures
- Applicable Standard Sanitation Operating Procedures
- Examples of applicable checklists or records for verification of prerequisite programs and procedures
- Documentation of training programs and procedures including examples of training logs

Section 4 – HACCP plan

- Recipe
  - Flow Chart
  - Hazard Analysis
  - Critical Control Point plan
  - List of each Critical Control Point
  - Statement of specific Critical Limit to be measured
  - Statement of method and frequency of for monitoring
  - Statement of who is responsible for monitoring and what records are to be kept
  - Statement of corrective actions for each critical limit when not met
  - Examples of applicable records used to document corrective actions taken
  - Examples of verification records
  - Other
- 

Section 5 – Additional information

- Examples of labeling and lot identification systems with explanations
- Layout of area to be used showing all equipment to be used for specialized process
- Explanation of physical or scheduling barriers between this area and other parts of the operation
- Information as needed on
- Safe source of water supply
- Approved waste disposal
- Methods to prevent cross-contamination
- Use, storage and labeling of toxics
- Pest control program
- List of job descriptions of personnel involved in the specialized process
- Calibration and use records on equipment used for monitoring Critical Control Point
- Other \_\_\_\_\_

I hereby certify that the above information is correct. I have provided all relevant material to the best of my ability. I understand until such time as this special process proposal is approved I must cease operation of any specialized process activity. I understand that submitting this application in no way guarantees that my application will be approved. I understand that if this application is approved it can be rescinded immediately during any official inspection if there is evidence of non-compliance with the approved process.

Applicant Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Print Name and Position Title: \_\_\_\_\_

Meets requirements: YES NO (If NO See comment sheet)

LPHA/DHSS Representative Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Print Name and Position Title: \_\_\_\_\_

Submit the completed checklist and supporting documentation to your Local Public Health Agency (<http://health.mo.gov/living/lpha/lphas.php>). Questions may be directed to DHSS at (573) 751-6095 your Local Public Health Agency.

\*PHF – potentially hazardous food

\*\*3-502.12 – Reduced Oxygen Packaging may be conducted without having to obtain a “specialized process approval” from the Bureau when *Clostridium botulinum* and *Listeria monocytogenes* is identified as a microbiological hazard in the final packaged form and there are at least two barriers in place to control the growth and toxin formation of *C. botulinum* and *L. monocytogenes*. The facility must have an approved Hazard Analysis Critical Control Point (HACCP) plan and written proof that the barriers utilized are sufficient to prevent growth of the identified pathogens. This could include scientific documentation along with monitoring records, or independent laboratory analysis as needed. A separate checklist is available to assist in developing a HACCP plan in accordance with 3-502.12.

## HACCP Resources

United States Department of Agriculture: <http://www.fsis.usda.gov/wps/portal/fsis/topics/regulatory-compliance/haccp/small-and-very-small-plant-outreach/guidebook-haccp-plans-generic-haccp-models/haccp-plans-guidebook>

Iowa State University Extension: <http://www.extension.iastate.edu/foodsafety/HACCP>

Food and Drug Administration HACCP: <http://www.fda.gov/food/guidanceregulation/retailfoodprotection/foodcode/ucm054471.htm>

Food and Drug Administration Food Safety: <http://www.fda.gov/downloads/Food/GuidanceRegulation/HACCP/UCM077957.pdf>

National Food Service Management Institute <http://sop.nfsmi.org/HACCPBasedSOPs.php>

Association of Food and Drug Officials: <http://www.afdo.org/seafoodhaccp/>

Food and Drug Administration Food Safety Management Manual: <http://www.fda.gov/downloads/Food/FoodSafety/RetailFoodProtection/ManagingFoodSafetyHACCPPrinciples/Operators/UCM077957.pdf>

UC Davis HACCP: [http://ucfoodsafety.ucdavis.edu/Food\\_Processing/HACCP\\_Information/](http://ucfoodsafety.ucdavis.edu/Food_Processing/HACCP_Information/)

University of Nebraska – Lincoln - Meat Products: <http://food.unl.edu/web/meatproducts/introduction-to-haccp-training>

University of Nebraska – Lincoln - Meat Products HACCP: <http://food.unl.edu/web/meatproducts/haccpdocandlink>

University of Nebraska – Lincoln – Meat Products SSOP: <http://food.unl.edu/web/meatproducts/haccpsop#ssop>





**Missouri Department of Health and Senior Services**

P.O. Box 570, Jefferson City, MO 65102-0570 Phone: 573-

751-6400 FAX: 573-751-6010

RELAY MISSOURI for Hearing and Speech Impaired 1-800-735-

2966 VOICE 1-800-735-2466



**Gail Vasterling**

Director

**Jeremiah W. (Jay)**

**Nixon**

Governor

Chain-of-Custody Record for Specialized Process Material

Processor or Firm Name: \_\_\_\_\_

Agent or Representative: \_\_\_\_\_

Address: \_\_\_\_\_ City: \_\_\_\_\_ Zip: \_\_\_\_\_

General Description of Materials Relinquished/Received

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Relinquished by	Agency	Received by	Agency	Date	Time

[www.health.mo.gov](http://www.health.mo.gov)

**Healthy Missourians for life.**

The Missouri Department of Health and Senior Services will be the leader in promoting, protecting and partnering for health.

### 3-502.12 Reduced Oxygen Packaging without a Special Process Approval, Criteria

Except for an establishment that obtains a special process approval as specified under § 3-502.11 of the Missouri Food Code, a food establishment that packages a potentially hazardous food (PHF) using a reduced oxygen packaging (ROP) method shall control the growth and toxin formation of *Clostridium botulinum* and the growth of *Listeria monocytogenes*.

A food establishment that packages a PHF using an ROP method such as vacuum packaging, modified atmosphere packaging, cook/chill packaging or sous vide packaging shall implement a HACCP plan that contains the information specified under ¶¶ 8-201.14 (B) and (D) of the Missouri Food Code and that:

- (1) identifies the food to be packaged: \_\_\_\_\_
- (2) requires that vacuum packaged food(s) shall be maintained at 5°C (41°F) or less and meet at least one of the following criteria:
  - has an  $A_w$  of 0.91 or less,
  - has a pH of 4.6 or less,
  - is a meat or poultry product cured at a food processing plant regulated by the USDA using substances specified in 9 CFR 424.21, Use of food ingredients and sources of radiation, and is received in an intact package, or
  - is a food with a high level of competing organisms such as raw meat, raw poultry, or raw vegetables;
- (3) describes how the package shall be prominently and conspicuously labeled on the principal display panel in bold type on a contrasting background, with instructions to:
  - maintain the food at 41°F (5°C) or below, and
  - discard the food if within 30 calendar days of its packaging if it is not served for on-premises consumption, or consumed if served or sold for off-premises consumption;
- (4) limits the refrigerated shelf life to no more than 30 calendar days from packaging to consumption, except the time the product is maintained frozen, or the original manufacturer's "sell by" or "use by" date, whichever occurs first;
- (5) includes operational procedures that:
  - prohibit contacting ready-to-eat food with bare hands as specified under ¶ 3-301.11(B) of the Missouri Food Code,
  - identifies a designated work area and the method by which:
    - physical barriers or methods of separation of raw foods and ready-to-eat foods minimize cross contamination, and

- access to the processing equipment is limited to responsible trained personnel familiar with the potential hazards of the operation, and
    - delineates cleaning and sanitization procedures for food-contact surfaces; and
- (6) describes the training program that ensures that the individual responsible for the ROP operation understands the:
- concepts required for a safe operation,
  - equipment and facilities, and
  - procedures specified under the previous section and ¶¶ 8-201.14 (B) and (D) of the Missouri Food Code.
- (7) is provided to the regulatory authority prior to implementation

A food establishment may not package fish using an ROP method unless the fish is frozen before, during, and after packaging.

A food establishment that packages PHF using a cook-chill or sous vide process shall:

- (1) provide to the regulatory authority prior a HACCP plan that contains the information as specified under ¶¶ 8-201.14 (B) and (D) of the Missouri Food Code;
- (2) the HACCP plan shall show how the establishment plans to ensure the food is:
  - a. prepared and consumed on the premises, or
  - b. prepared and consumed off the premises but within the same business entity with no distribution or sale of the packaged product to another business entity or the consumer,
  - c. cooked to heat all parts of the food to a temperature and for a time as specified under ¶¶ 3-401.11 (A), (B), and (C) of the Missouri Food Code,
  - d. protected from contamination before and after cooking as specified under Parts 3-3 and 3-4 of the Missouri Food Code,
  - e. placed in a package with an oxygen barrier and sealed before cooking, or
  - f. placed in a package and sealed immediately after cooking and before reaching a temperature below 57°C (135°F),
  - g. cooled to 5°C (41°F) in the sealed package or bag as specified under § 3-501.14 of the Missouri Food Code and:
    - Cooled to 1°C (34°F) within 48 hours of reaching 5°C (41°F) and held at that temperature until consumed or discarded within 30 days after the date of packaging; or
    - Held at 5°C (41°F) or less for no more than 7 days, at which time the food must be consumed or discarded; or
    - Held frozen with no shelf life restriction while frozen until consumed or used
  - h. held in a refrigeration unit that is equipped with an electronic system that continuously monitors time and temperature and is visually examined for proper operation at least twice daily, and
  - i. if transported off-site to a satellite location of the same business entity, equipped with verifiable electronic monitoring devices to ensure that times and temperatures are monitored during transportation, and
  - j. labeled with the product name and the date packaged; and

- (3) include a plan to maintain the records required to confirm that cooling and cold holding refrigeration time/temperature parameters are required as part of the HACCP plan and:
  - a. Make such records available to the regulatory authority upon request, and
  - b. Hold such records for at least 6 months; and
- (4) implement written operational procedures and a training program.

A food establishment that packages cheese using a ROP method shall:

- (1) limit the cheeses packaged to those that are commercially manufactured in a food processing plant with no ingredients added in the food establishment and that meet the Standards of Identity as specified in 21 CFR 133.150 Hard cheeses, 21 CFR 133.169 Pasteurized process cheese or 21 CFR 133.187 Semisoft cheeses; and
- (2) have a HACCP plan that contains the information specified under ¶¶ 8-201.14 (B) and (D) of the Missouri Food Code; and
- (3) labels the package on the principal display panel with a “use by” date that does not exceed 30 days from its packaging or the original manufacturer’s “sell by” or “use by” date, whichever occurs first; and
- (4) Discards the ROP cheese if it is not sold for off-premises consumption or consumed within 30 calendar days of its packaging.

A HACCP plan is not required when a food establishment uses a ROP method to a PHF that is always:

- (1) labeled with the production time and date, and
- (2) held at 5°C (41°F) or less during refrigerated storage, and
- (3) removed from its package in the food establishment within 48 hours after packaging.

I hereby certify that the above information is correct. I have provided all relevant material to the best of my ability. I understand that submitting this application in no way guarantees that my application will be approved. I understand that if this application is approved it can be rescinded immediately during any official inspection if there is evidence of non-compliance with the approved process.

Applicant Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Print Name and Position Title: \_\_\_\_\_

Establishment Name and City: \_\_\_\_\_

Approved: YES NO (If NO See comment sheet)

DHSS Representative Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Print Name and Position Title: \_\_\_\_\_

United States Department of Agriculture:

<http://www.fsis.usda.gov/wps/portal/fsis/topics/regulatory-compliance/haccp/small-and-very-small-plant-outreach/guidebook-haccp-plans-generic-haccp-models/haccp-plans-guidebook>

Iowa State University Extension: <http://www.extension.iastate.edu/foodsafety/HACCP>

Food and Drug Administration HACCP:

<http://www.fda.gov/food/guidanceregulation/retailfoodprotection/foodcode/ucm054471.htm>

Food and Drug Administration Food Safety:

<http://www.fda.gov/downloads/Food/GuidanceRegulation/HACCP/UCM077957.pdf>

National Food Service Management Institute <http://sop.nfsmi.org/HACCPBasedSOPs.php>

Association of Food and Drug Officials: <http://www.afdo.org/seafoodhaccp/>

Food and Drug Administration Food Safety Management Manual:

<http://www.fda.gov/downloads/Food/FoodSafety/RetailFoodProtection/ManagingFoodSafetyHACCPPrinciples/Operators/UCM077957.pdf>

UC Davis HACCP: [http://ucfoodsafety.ucdavis.edu/Food\\_Processing/HACCP\\_Information/](http://ucfoodsafety.ucdavis.edu/Food_Processing/HACCP_Information/)

University of Nebraska – Lincoln - Meat Products:

<http://food.unl.edu/web/meatproducts/introduction-to-haccp-training>

University of Nebraska – Lincoln - Meat Products HACCP:

<http://food.unl.edu/web/meatproducts/haccpdocandlink>

University of Nebraska – Lincoln – Meat Products SSOP:

<http://food.unl.edu/web/meatproducts/haccpsop#ssop>

## HACCP Plan Validation Checklist

**Principle # 1 of HACCP - Hazard Analysis and Flow Chart – Check box if information has been provided, Provide notes on deficiencies on a separate page.** The documents written to support Principle #1 of HACCP are some of the most critical and demanding documents in the written plan. Under Principle #1, the following need to be included in a logical order:

Y N N/A

- Name of the food product and the special process for which the HACCP plan is being submitted.
- Is a Special Process application included?
- Is sufficient data provided to support the petition?
- Detailed formulation and complete list of ingredients.
- Packaging and food contact materials, if used. Show that all are approved for food use.
- Facility layout and information on whether a dedicated workspace is provided to conduct the special process.
- A detailed flow chart showing the holding and preparation of the food product from receiving raw ingredients through packaging and any subsequent distribution. Flow chart should include each specific step and should include cooking, filling and specific temperatures, times, pH or other hurdles that are designed to control food hazards.
- Hazard analysis is provided.
- Description of intended use of product (i.e. Institutional use/Highly Susceptible Population)
- Copy of labeling – Check for any required warning concerning temperatures or shelf-life and disposal of food.
- Description of how the shelf-life will be determined.

### Principle #2 of HACCP – Establish Critical Control Points

Does the submitted information provide:

- A description of the pertinent hazards associated with this food and special process?
- Critical control points on the flow chart that are designed to control hazards associated with the food?
- A description of how the CCP will control the pertinent hazards and specific reference information source?

### Principle #3 of HACCP – Establish Critical Limits

Does the plan:

- Provide a CL for each CC?
- Verify that the critical limit is correct based on Food Code?
- Provide information on how the CL is measured?
- Provide information that demonstrates that this CL controls the identified hazard(s)?

### Principle #4 of HACCP – Establish Monitoring Procedures

Does the plan:

- List of items to be monitored? The list will vary somewhat depending upon the special process.
- Provide forms or checklists used for monitoring each item?.
- State who will monitor the item? When will it be monitored and how often?
- Provide examples of items that might be monitored: sanitation, pH, a<sub>w</sub>, calibration of equipment, temperatures, recipe (each batch), corrective actions, employee training, plan verification and review, HACCP revisions - changes in the recipe or protocols, receiving, food disposal, other.
- Indicate if monitoring is an OBSERVATION or a MEASUREMENT.
- Show that the instrument calibrated?
- Document employee training?
- Indicate how will records for continuous monitoring be provided? (example: cook chill/drying meat/fermenting).

**Principle #5 of HACCP – Establish Corrective Actions**

Does the plan:

- Have specific corrective actions for each CCP when out of compliance?
- Specify who will be responsible for the corrective action?
- Specify how each occurrence will be documented?
- Specify how food disposal will be done when necessary (SOP)?
- Establish a monitoring plan when deviations are identified?

**Principle #6 of HACCP – Establish Record Keeping Procedures**

Does the plan:

- Specify records to be kept and where they are kept?
- Describe of how long will records be kept?
- Provide a plan revision schedule?
- Describe where SOP and SSOP records are?
- Describe employee training records and monitoring records and where they are located?

**Principle #7 of HACCP – Establish Verification Procedures**

Does the plan:

- Establish WHO is responsible for verification?
- Establish what the procedure for verification and the frequency is?
- Establish what will be verified?
- Establish that the verification will confirm that established procedures are followed?
- Establish the verification will be documented in writing and any actions taken recorded?
- Establish that the HACCP system is reviewed annually to keep information up-to-date?
- Establish a policy that the HACCP team will send notification of significant changes in process or HACCP plan to the regulatory authority?

Reviewed by: \_\_\_\_\_ Agency: \_\_\_\_\_  
 \_\_\_\_\_

Review Dates: \_\_\_\_\_

See additional pages for notes.

### HACCP Field Verification Checklist

Establishment Name:		
Address:		
Person-in-Charge:	Phone:	e-mail:
Date Written Plan Validated:		
Food Product and Process:		
Inspection Type: <input type="checkbox"/> HACCP Plan Review <input type="checkbox"/> Record Review <input type="checkbox"/> On-Site Verification		
Inspector:		
YES	NO	<b>Validated HACCP Plan Available for Review</b>
		Comments:

**List Critical Control Points (CCPs) and Critical Limits identified by the establishment's HACCP plan.**

Food Item or Process e.g. receiving, cooler storage, dry storage	Critical Control Point	Critical Limits	Comments/ Problems Noted

**What monitoring records are required by the establishment's HACCP plan?**

Type of Record	Monitoring Frequency and Procedure	Record Location (Where kept?)

YES	NO	N/A	<b>Establishment has Implemented Effective SOP, SSOP, and Pre-Requisite Programs. (Document issues or non-compliances in comments.)</b>
			Vendor certification programs and buyer specifications
			Approved vendor documentation and product labeled for traceability
			Dedicated work areas for raw and prepared foods
			Food preparation complies with HACCP Plan
			Hand washing and bare hand contact policies
			Equipment specifications/Manufacturer's instructions and operational manual.
			Employee health policy (training and reporting requirements; exclusion and restriction requirements for ill food employees)
			Storage and display temperature 5°C (41°F)/ 3°C
			Employee training
			Employee hygiene policy (clean clothing; hair restraints; prohibition of eating, smoking and drinking in work areas and of wearing jewelry)
			Thermometer calibration procedures and schedule
			Program to protect product from contamination--biological, chemical and physical
			Cleaning and sanitizing procedures
			Other
Comments			
YES	NO	N/A	<b>Accurate Description of Product/Process and Intended Uses (Document issues or non-compliances in comments.)</b>
			Food flow, menu, packaging and formulation are consistent with flow chart and approved HACCP
			Temperature and other critical control points and critical limits are followed per HACCP plan
			ROP products not requiring a variance are packaged as prescribed by the Food Code Section 3.502.12
			Employee demonstrates calibration, temperature and CCP measurement for inspector
			Employee uses forms for recording recipe, calibration, temperature or other measurement during inspection
			An accurate description or list of products to be reduced oxygen packaged is provided in the HACCP plan

Comments:			
YES	NO	N/A	<b>Hazards (Document issues or non-compliances in comments.)</b>
			Establishment identifies individual(s) responsible for maintaining system and verification that required records are being completed and properly maintained
			Records for the present day are accurate for the observed situation in the facility
			Employee demonstrates knowledge of CCPs and critical limits for their retail process when asked
			Employee demonstrates understanding of importance of critical limit(s) when asked
			Routine calibrations are performed, and documented on the appropriate form according to the plan
			Monitoring actions are performed according to the HACCP plan
			Are there specific issues with the current monitoring or record keeping regime.
Comments:			
YES	NO		<b>Shows Knowledge (Document issues or non-compliances in comments.)</b>
			When critical limits established by the plan are not met, are immediate corrective actions taken and recorded
			Employee knows whom to contact to take corrective actions. Uses corrective action monitoring form
			Person-in-charge shows knowledge of corrective action and proper disposal of food unfit for consumption
			Corrective actions taken reflect the same actions described in the establishment's plan
Comments:			
YES	NO	NA	<b>Training (Document issues or non-compliances in comments.)</b>
			The establishment has a training program to support the plan. If deficient, describe in comments
			When training is provided, is it documented and are the records available
			Employee demonstrates calibration and pH, temperature or CCP measurement for inspector

Comments:			
YES	NO	<b>Do managers and employees demonstrate knowledge of the plan?</b>	
		Comments:	
YES	NO	N/A	<b>Other issues or comments needing attention</b>
			Comments:

**Corrective Action Needed**

- No (Establishment is in compliance)
- Yes (Field Verification form, Sanitation Observation Form or Inspection Report Form attached)
- Suspension of HACCP operation
- Embargo of food
- Voluntary disposal of food
- Employee restriction/exclusion
- Employee training
- Other: \_\_\_\_\_

Inspector: \_\_\_\_\_ Date of Inspection: \_\_\_\_\_

## RISK CONTROL PLAN

Establishment Name:	Type of Facility:
Physical Address:	County:
Person in Charge:	Title:
Inspector:	Agency:

The “risk control plan” is a voluntary agreement between the operator of the food establishment and the regulatory authority. It is intended to help management regain control over a hazard which was out of control at the time of the inspection. Based on the recent inspection the uncontrolled hazard noted below was identified. A separate risk control plan will be completed for other identified hazards. The inspection report identifies the uncontrolled hazards that may contribute to foodborne illnesses. The risk factors and public health interventions are described in the Food Code.

UNCONTROLLED HAZARD (RISK FACTOR)	CODE REQUIREMENT	DESCRIPTION OF ACTION TO ESTABLISH CONTROL OVER HAZARD	CORRECTIVE ACTION WHEN LIMITS ARE NOT MET

The provisions of this voluntary “risk control plan have been reviewed and are understood

\_\_\_\_\_  
(Operator)

\_\_\_\_\_  
(date)

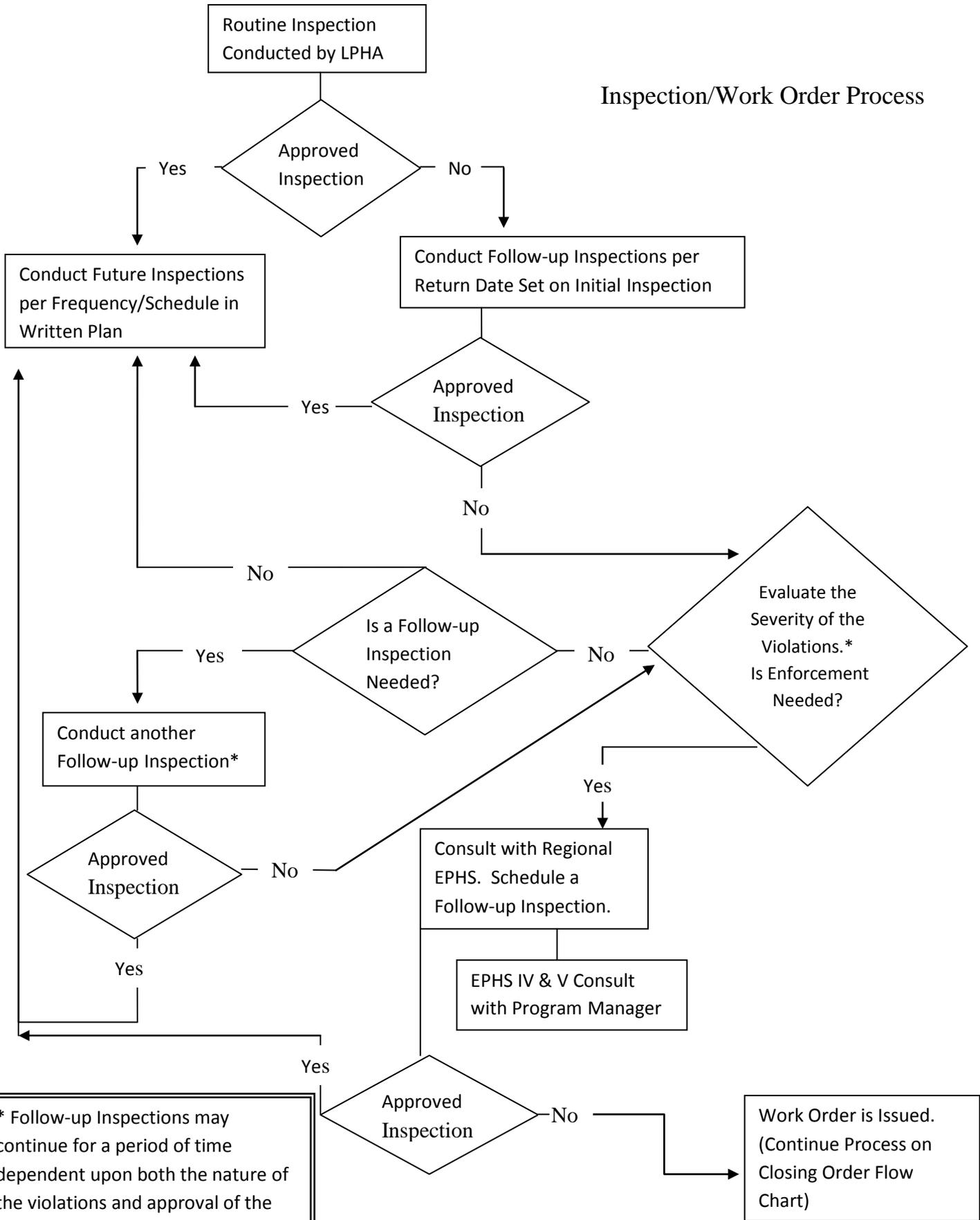
\_\_\_\_\_  
(Inspector)

\_\_\_\_\_  
(date)

Inspection frequency will increase to assure that the facility implements corrective measures.

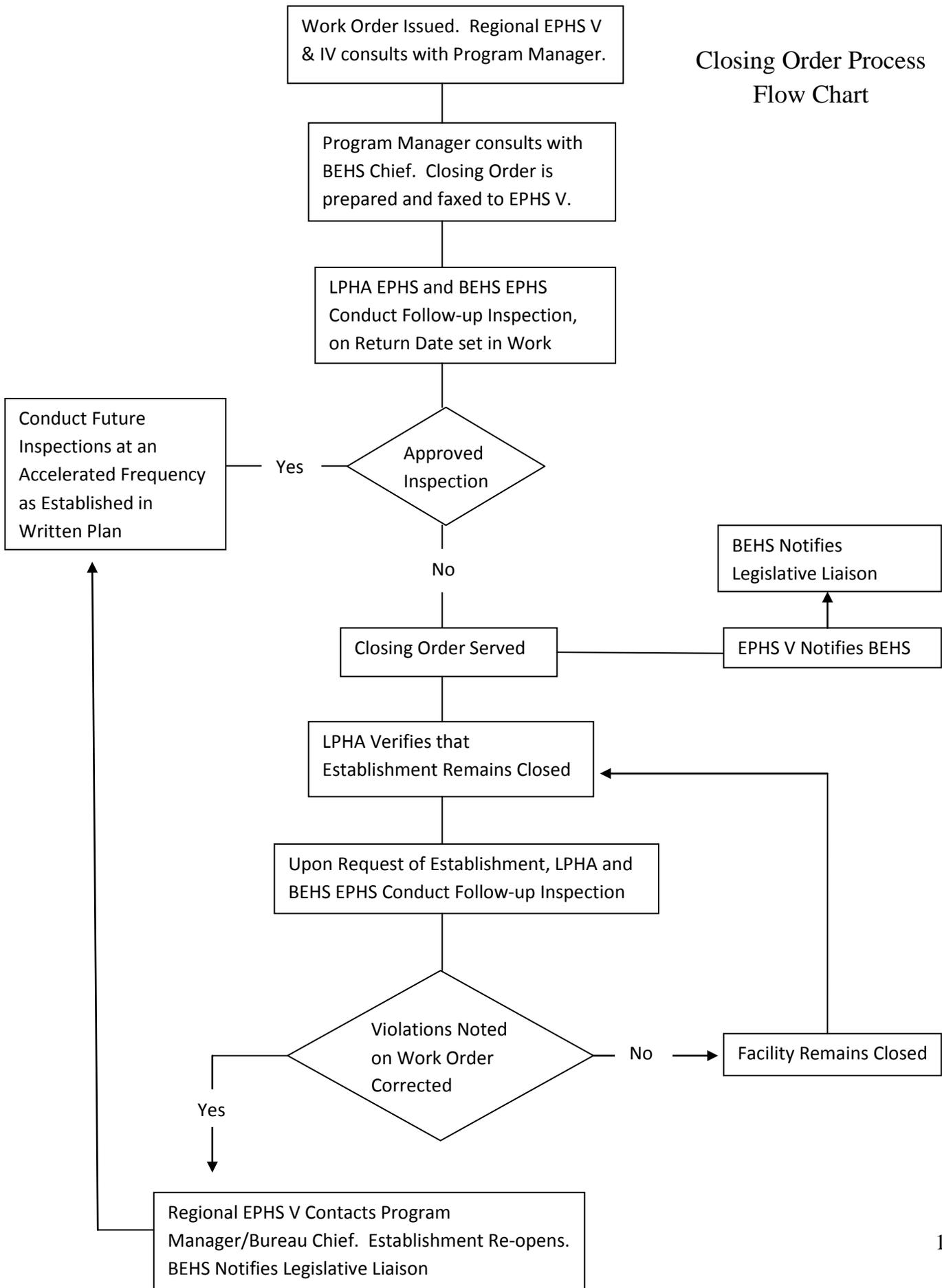
Facility representative declines to implement the risk control plan.

# Inspection/Work Order Process



\* Follow-up Inspections may continue for a period of time dependent upon both the nature of the violations and approval of the EPHS V and Program Manager.

## Closing Order Process Flow Chart



## Risk Based Inspection Assessment

**Establishment Name:** \_\_\_\_\_ **Owner:** \_\_\_\_\_

**Establishment Address:** \_\_\_\_\_

Check all that apply. If a facility meets one or more criteria in any category it must be classified at the higher risk/priority.

**High Priority** (examples include full service restaurants, nursing homes, and hospitals)

- Extensive menu. Potentially hazardous and non-potentially hazardous foods held and prepared.
- Extensive handling of raw ingredients.
- Complex preparation including cooking, cooling, and reheating;
- Potentially hazardous foods are prepared (hot or cold) and held hot or cold.
- Highly susceptible population served (nursing home, hospital, senior center and child care).
- Conducts a specialized process: smoking, curing, reduced oxygen packaging, etc.
- >400 patrons/meals served per day.

**Medium Priority** (examples include grocery stores, schools, and fast food restaurants)

- Potentially hazardous foods require minimal assembly, and are cooked and served immediately.
- Potentially hazardous foods may be held for hot or cold holding after preparation or cooking.
- Complex preparation is limited to only a few potentially hazardous foods that require cooking, cooling, and reheating.
- Establishments that would otherwise be assessed as High Priority, but have shown through inspection history to have achieved active managerial control of foodborne illness risk factors.
- New establishments that would be assessed as Low Priority but because of a lack of inspection history demonstrating active managerial control of foodborne illness risk factors.
- <400 patrons/meals served per day.

**Low Priority** (examples include convenience stores, hot dog carts, and coffee shops)

- Pre-packaged, non-potentially hazardous foods are available or served.\*
- Non-potentially hazardous foods prepared and served.
- Commercially processed potentially hazardous foods prepared for hot holding.
- No cooling of potentially hazardous foods
- Establishments that would otherwise be assessed as Medium Priority, but have shown through inspection history to have achieved active managerial control of foodborne illness risk factors.
- <100 patrons/meals served per day.

**Increase Frequency in Priority Assessment when any apply**

- History of a lack of active managerial control of foodborne illness risk factors.
- Involvement in foodborne illness outbreak.

\_\_\_\_\_  
Environmental Public Health Specialist

\_\_\_\_\_  
Date



**HANDSINK**

- P No hand sink- 5-203.11
- Handwashing signage- 6-301.14
- No soap at sink- 6-301.11
- No towels or dryer at sink- 6-301.12
- No wastebasket for disposable towels- 5-501.16(C)
- No hot water (at least 100° F)- 5-202.12(A)
- Metered faucet does not provide water for at least 15 seconds- 5-202.12(C)
- P Sink not in food preparation area or convenient for employees- 5-204.11
- Sink is dirty (includes restroom sinks)- 6-501.18
- Sink used for purposes other than hand washing- 5-205.11(B)
- Sink is blocked or inaccessible- 5-205.11(A)

**HYGIENIC PRACTICES AND PERSONAL CLEANLINESS**

- P Employees not washing hands- 2-301.14
- P Employees not washing hands, properly- 2-301.12
- Employees' fingernails long, dirty, polished or artificial- 2-302.11
- Employees wearing more jewelry than a plain ring, on arms or hands- 2-303.11
- Employees' clothing is dirty- 2-304.11
- P Employees eating, drinking or using tobacco- 2-401.11
- Hair restrained- 2-402.11

**FOOD**

- P Raw meats above RTE food- 3-302.11
- P Dented cans or moldy food- 3-101.11
- P Bare hand contact with RTE food- 3-301.11(B)
- P Improper use of gloves- 3-304.15
- P Incorrect cooking temperature- 3-401.11
- Improper thawing- 3-501.13
- P Food from an unapproved source or improperly labeled- 3-201.11
- P Food item is not in an hermetically sealed container, from an unapproved source- 3-201.12
- Condiments are not protected from contamination- 3-306.12
- Food uncovered with the risk of cross-contamination- 3-302.11(A)4
- P Food that is unsafe, adulterated or contaminated (discarded)- 3-701.11
- P Reservice of PHF items- 3-306.14
- Food stored on floor or exposed to moisture/contamination- 3-305.11
- P PHFs not cooled to 70° within 2 hours or to less than 41° within 4 hours- 3-501.14
- Food storage is prohibited in areas such as restrooms, mechanical rooms, under sewer lines, etc. - 3-305.12
- Customers who make return trips to a buffet may not use soiled tableware- 3-304.16
- In-use serving utensil not stored properly- 3-304.12
- P No sneeze guard for food at buffet- 3-306.11
- Food stored on a cloth towel or napkin- 3-304.13
- Personal foods stored with other foods- 3-307.11

**FOOD TEMPERATURES (HOT OR COLD)**

- P PHFs not properly reheated for holding- 3-403.11
- P PHFs not held at 135° or above- 3-501.16(A)(1)
- P PHFs not held at 41° or below- 3-501.16(A)(2)
- Refrigeration equipment not maintaining temperature- 4-301.11

- P Time used for temperature control- 3-501.19

**WAREWASHING**

- Dishes dried with a towel (not air-dried)- 4-901.11
- Dishes not completely air-dried before storing- 4-901.11
- Improper wash water temperature- 4-501.110
- P Improper manual-wash sanitizer temperature- 4-703.11
- P Improper mechanical-wash sanitizer temperature- 4-703.11
- P Insufficient sanitizer- 4-501.114
- Improper use of warewashing sinks- 4-501.16
- Dirty warewashing sinks or machine- 4-501.14
- Torn curtains or leaky door seals on machines- 4-501.11
- No audible or visible alarm for sanitizer on machine- 4-204.117
- Insufficient space or lack of drainboards for dirty and clean ware storage- 4-301.13
- Three-compartment sink required for manual warewashing- 4-301.12
- Incorrect order of wash-rinse-sanitize- 4-603.16(A)
- Temperature gauge on dish machine is not functioning- 4-502.11(C)
- Warewashing sink used for hand washing- 4-501.16

**FCS**

- P Dirty FCSs- 4-601.11A or 4-602.11
- P Chipped, cracked or broken- 4-202.11
- P Non-food grade materials used for food storage- 4-101.11
- P Vent hood dirty with grease dripping onto food contact surfaces- 4-601.11(A)
- Wicker baskets used as a food contact surface- 4-101.17
- P Utensils and FCS not sanitized before use- 4-702.11

**NFCS**

- Dirty NFCSs- 4-601.11C or 4-602.13
- Sharp irregular surfaces- 4-202.16
- Vent hood dirty- 4-601.11(C)
- Aluminum foil or contact paper covering shelves- 4-101.19
- Wood shelves not sealed or painted- 4-101.19
- Torn or broken door seals, hinges etc. (poorly maintained or in disrepair) - 4-501.11

**ICE**

- P Drink ice used for cooling food or other surfaces too: such as a bowl of lemons in drink ice- 3-303.11
- Package foods in undrained ice- 3-303.12
- Ice bagged on premises is unlabeled - 3-602.11

**TEST KIT**

- No test kit for sanitizer- 4-302.14

**LABELING AND DATING**

- P Ready to eat PHFs not dated- 3-501.17
- P Ready to eat PHFs past discard date- 3-501.18
- Food packaged on-site not labeled or bulk foods for consumer service unlabelled- 3-602.11(C)
- Manufacturer's dating concealed or altered- 3-602.12(B)
- Containers storing foods that are not readily and unmistakably recognized not labeled- 3-302.12

**LIGHTING/BULBS**

- Unshielded bulbs- 6-202.11(A)
- Insufficient lighting- 6-303.11
- Heat lamp not properly shielded- 6-202.11(C)

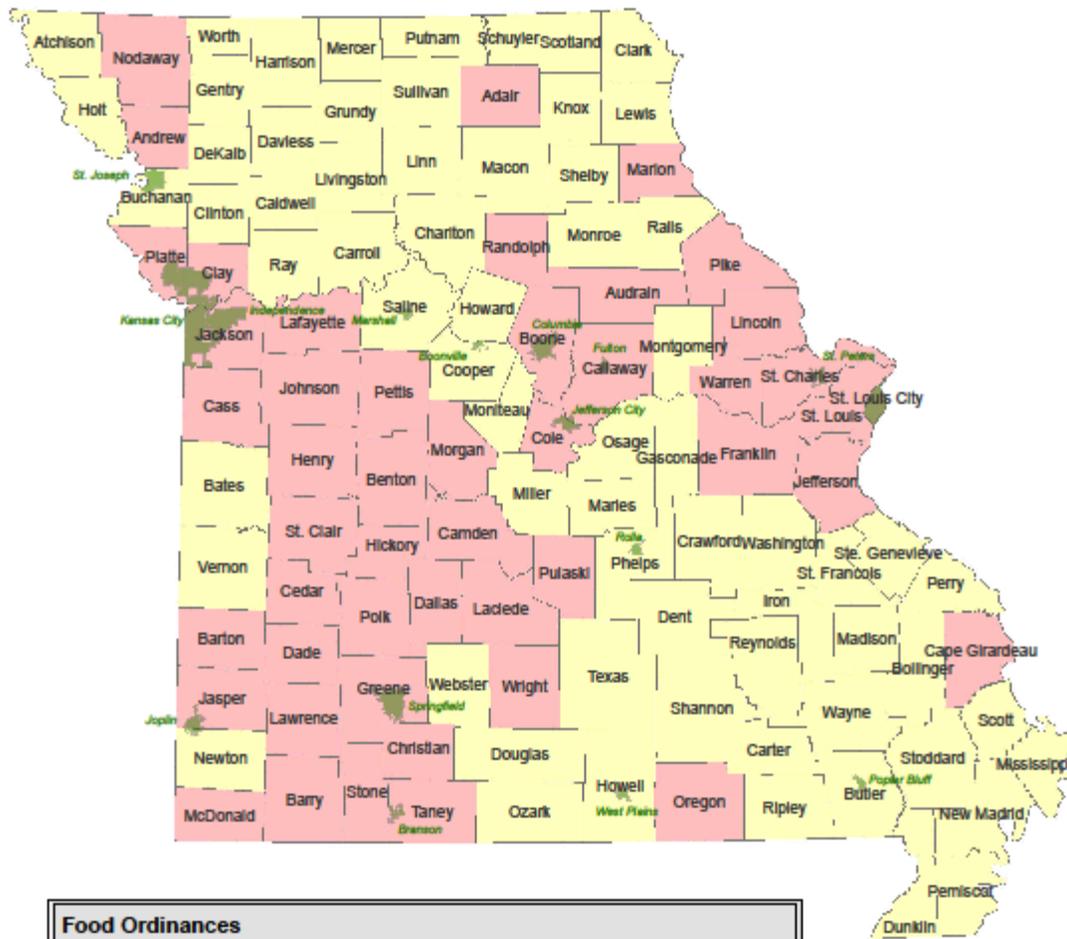


- Equipment, linens, single service not stored properly-  
4-903.11
- LIVING QUARTERS**  
Separation of living quarters- 6-202.112  
P Prohibition of homes and rooms used for food preparation-  
6-202.111
- PESTS AND THEIR CONTROL**  
P Mice feces or roaches seen- 6-501.111 or 3-302.11  
Outer openings unprotected- 6-202.15  
Pests control devices located in food preparation and unable  
to contain bug fragments- 6-202.13(B)  
P Bait stations are not covered or tamper resistant- 7-206.12
- PHYSICAL FACILITIES**  
Dirty walls, floors or ceilings because of infrequent cleaning-  
6-501.12(A)  
Dirty walls, floors or ceilings because of construction or  
improper installation- 6-201.11  
Damaged floor tiles, holes in walls, missing ceiling  
tiles- 6-501.11  
Coats, purses and other personal items stored improperly-  
6-501.110(B)  
Distressed merchandise not held in designated area  
separate from food, equipment, linens, and single-  
service items- 6-404.11  
Unnecessary items/clutter and litter- 6-501.114  
P Unapproved sewage system- 5-403.11 and failing sewage  
system 5-402.13  
P Insufficient water capacity (includes hot water)- 5-103.11  
P No air gap present- 5-202.13  
P Backflow prevention device not present- 5-203.14  
Leaking plumbing or in disrepair- 5-205.15(B)  
No mop sink- 5-203.13  
P Mop water dumped outside- 5-403.11  
Mops not properly stored or dried after use- 6-501.16  
Excessive heat, steam or fumes present, no mechanical  
ventilation- 6-304.11
- RESTROOMS**  
No covered wastebasket in women's restroom- 5-501.17  
No self-closing door to restroom- 6-202.14  
No toilet paper- 6-302.11  
Odors present, no mechanical ventilation - 6-304.11  
Toilet dirty in restroom- 6-501.12  
P No restroom- 5-203.12
- SANITIZER/WIPING CLOTHS**  
P Equipment/ware not sanitized- 4-702.11  
P Improper method used to sanitize- 4-703.11  
P Sanitizer too strong- 7-204.11  
Wiping cloths not stored in sanitizer- 3-304.14
- SINGLE SERVICE**  
SS articles handled, dispensed or displayed improperly-  
4-904.11  
Re-use of SS prohibited- 4-502.13  
Tube at milk dispenser too long and not cut diagonally-  
4-502.13
- SUPERVISION**  
P Consumer Advisory requirement for raw or undercooked  
foods- 3-603.11  
P Failure to designate a Person-in-Charge- 2-101.11  
P Unable to demonstrate knowledge of foodborne diseases,  
HACCP, the Code, etc.- 2-102.11  
P PIC fails to have employees report illnesses- 2-201.11(B)  
Unauthorized people in food prep areas- 2-103.11(B)  
P Operators of new facilities fail to develop written  
cleaning, illness, cooking and cooling procedures-  
8-304.11
- THERMOMETERS**  
Thermometer missing from hot or cold unit- 4-204.112  
No thermometer for cook's use- 4-302.12
- TRASH**  
Trashcans are dirty- 5-501.116  
Cardboard box used as a trash can, is not cleanable, durable  
or nonabsorbent- 5-501.13  
Dumpster lids are open- 5-501.113  
Dumpster lids are missing- 5-501.15  
Dumpster not on a non-absorbent surface- 5-501.11  
Drain plug not in-place in dumpster- 5-501.114  
Unnecessary equipment in enclosure or litter- 5-501.115
- TOXICS**  
P Unlabelled spray bottle- 7-102.11  
P Improper storage of toxics- 7-201.11  
P Toxic item in establishment that is not needed for cleaning or  
sanitizing equipment- 7-202.11  
P Toxic item is not approved for use in a food service  
establishment- 7-202.12(A)(2)  
P Food stored in a container that once held a toxic item-  
7- 203.11  
P Improper storage of medicines in a refrigerator- 7-207.12  
P Employees medicine stored improperly- 7-207.11  
P First aid kit not labeled or improperly located - 7-208.11(B)  
P Toxic items for retail sales not separated by partitioning or  
spacing, or be stored above food, utensils, linens etc. -  
7-301.11
- SPECIAL PROCESSES**  
P Special processes being done without approval- 3-502.11  
P Reduced Oxygen Packaging (ROP) done without approval-  
3-502.12  
P Special processes/ROP not in conformance with approved  
procedures- 8-103.12
- APPLICATION**  
Facility opened without obtaining written approval- 8-301.11  
Application for approval to open submitted with less than  
30 calendar days before proposed opening- 8-302.11



# Missouri Department of Health and Senior Services

## Food Service Ordinance Map



Food Ordinances	
<span style="color: green;">■</span>	Cities with Food Ordinance (city inspectors perform inspection under local authority)
<span style="color: yellow;">■</span>	State Authority (Local Public Health Agency Inspectors perform inspections under state authority)
<span style="color: pink;">■</span>	County Ordinance (Local Public Health Agency Inspectors perform inspections under local authority)

Counties with Food Ordinances = 47  
 Cities with Food Ordinances = 18  
 Counties without Food Ordinances = 87

Revised 01/05/2014

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### **Lodging, Safety and Sanitation**

- 3.1 [Introduction](#)
- 3.2 [Lodging Sanitation and Safety Guidelines](#)
- 3.3 [Technical Points and Rule Interpretations](#)
- 3.4 [Enforcement Guidelines](#)
- 3.5 [Institutional Facilities](#)
- 3.6 [Training and Resources](#)
- 3.7 Updates
- 3.8 [Inspection Reference Sheet](#)

## **Introduction to Commercial Lodging Program**

The purpose of the commercial lodging program is to ensure public health and safety of visitors in Missouri by minimizing exposure to physical, chemical, and microbiological hazards associated with lodging establishments. While the primary intent of lodging licensing and inspection services is to protect public health, it has economic advantages as well. Seventeen tourism-related industries generated over \$11 billion dollars during the fiscal year 2011; providing 280,000 jobs in Missouri.

### **Authority**

Every inspector should understand the statute and rule before they conduct an inspection. In order to know what they are inspecting, the inspector should start with a clear understanding of how the statute defines a lodging establishment. A lodging establishment is “any building, group of buildings, structure, facility, place or places of business where five or more guest rooms are provided, which is owned, maintained, or operated by any person and which is kept, used, maintained, advertised or held out to the public for hire which can be construed to be a hotel, motel, motor hotel, apartment hotel, tourist court, resort, cabins, tourist home, bunkhouse, dormitory, or other similar place by whatever name called, and includes all such accommodations operated for hire as lodging establishments for either transient guests, permanent guest, or both transient and permanent guests.” **Length of stay is not a factor in determining whether a facility is a lodging establishment.** The following items should be addressed before such determination is made: are services provided (clean bedding, housekeeping, etc.), how are they zoned, how are they licensed through the city or county, and how are they named/advertised (do the words motel, hotel, inn etc. appear).

Chapter 315, RSMo, assigns the Department of Health and Senior Services (DHSS) the responsibility of annually inspecting and licensing every lodging establishment in the state. Within DHSS, the licensing of these facilities is administered by the Bureau of Environmental Health Services (BEHS). Sanitation and Safety Standards for Lodging Establishments or 19 CSR 20-3.050, establishes sanitation and safety standards pertaining to food safety, life safety, fire safety, electrical wiring, fuel-burning appliances, plumbing and swimming pools/spas for lodging establishments.

Lodging programs in jurisdictions without local lodging ordinances must inspect facilities based on guidance outlined in this manual. The lodging program/BEHS may audit programs in these jurisdictions without invitation. Jurisdictions with lodging ordinances are expected to manage their program to be in compliance with both their ordinance and 19 CSR 20-3.050.

### **Background**

The lodging statute, unlike other Missouri public health statutes, has a provision allowing city and county ordinances to be used in lieu of the state’s standards in the areas listed below:

- Fire safety;

- Electrical wiring;
- Fuel burning appliances;
- Plumbing; and
- Swimming pools and spas

Where local ordinances are present, if less stringent than the state requirement in the lodging rule, the local regulatory authority must:

- Perform annual inspections on new and existing lodging establishments;
- Provide the appropriate paperwork to the Local Public Health Agency (LPHA) or the owner of the facility; and
- Have the authority to enforce the local ordinance or regulation.

It is imperative that the inspecting LPHA staff doing lodging inspections be familiar with all local ordinances in their area and be knowledgeable about how local authorities enforce them. Ideally, the lodging inspection and fire or code inspection will be conducted at the same time so the various regulatory authorities can discuss items of mutual interest and concern. There is no allowance for a local food ordinance to be used in lieu of the food code. Therefore, food service operations should be evaluated for each lodging inspection. Some jurisdictions may do a separate food inspection at the same time as the lodging inspection, while others may do the food inspection several weeks or a month before the lodging inspection. A food inspection should be no older than six (6) months or the food service area should be inspected at the same time as the rest of the facility. Inspectors will need to determine what method works best based on compliance history and workload.

## **Lodging Sanitation and Safety Guidelines**

### **Licensing**

Annual licensing inspections are required in 317.037, RSMo, of all lodging establishments in the state. BEHS staff will conduct the initial inspections along with LPHA staff for all newly constructed lodging facilities, facilities that re-open after having been closed for more than eighteen (18) months, and facilities that have added or constructed an addition to the existing structure. The statute further states no person can operate a lodging establishment without a license from (DHSS). Only a person, who complies with the provisions of sections 315.005 to 315.065 RSMo, shall obtain a license. Compliance with the statute and rule is determined through the inspection process.

Once inspected and approved, the facility must submit the approved inspection report with the application material. Since annual inspections are required, each facility will be inspected at least once every twelve months. With licenses expiring on September 30<sup>th</sup>, inspections should occur several months before the current license expires. This would allow the facility to make repairs or correct violations noted and will allow the inspector adequate time to conduct the initial inspection and any follow-up inspections needed. The inspector should consider the workload of their agency and whether seasonal duties may require scheduling inspections at another time of the year. For example, agencies that inspect public and semi-public pools may need to inspect all their lodging establishments before May. The inspector will also need to give consideration to whether the facility has an outdoor pool and should schedule the inspection when the pool is open for the season.

Prior to conducting annual inspections, the inspector needs to determine whether the facility is licensed for the current year. **An annual inspection should be conducted no matter the licensing status of the facility.** Operating without a license is a class B misdemeanor which has a statute of limitations of one year. Therefore, BEHS needs an inspection each licensing year to keep the referrals up to date. Having a consistent and complete inspection history allows for more success with prosecuting establishments that operate for multiple years without a license. Inspection priority should be given to inspected and approved facilities, and then approved but not licensed. When inspecting the facilities not approved, the violations noted from the previous year's inspection must be evaluated and either noted as ongoing violations. If the violations have been corrected then an approved inspection for that licensing year should be completed and submitted; and then the inspector should conduct the next year's inspection. If there is no mention of the previous year's violations, the assumption will be that they were corrected and the facility could be licensed for the previous year. Local Public Health Agency (LPHA) staff are encouraged to work with the Environmental Public Health Specialist (EPHS) V or the Lodging program, if they have questions about the licensing status of a facility.

## Inspection Report Form

The inspector should inspect and evaluate the facility for compliance with 315.005 to 315.065, RSMo and 19 CSR 20-3.050 *Sanitation and Safety Standards for Lodging Establishments*. The inspection report form is a two page document and is obtained through the DHSS warehouse. The form numbers are E9.02 and E9.02A. Use a [DH-48](#) to order the inspection report.

For each facility, complete one E9.02 or page one. On this page general facility information and a checklist review of the facility compliance with the rule is provided. Every blank should be filled in and for each of the parameters noted the inspector will determine if the item is “in compliance,” “out of compliance,” “not applicable” or “not observed.” Any approved inspection with blanks in sections A-H will not be accepted. The lodging program will contact the inspector about obtaining an amended report. Also on this page, the inspector must mark whether the facility is “approved” or “not approved.” All inspections must have a signature from the representative of the facility unless the inspection is a desk approval. General guidance would be that any violation noted on the inspection report shall result in the report being marked “not approved” for licensing. Use the following criteria to determine the approval status of a lodging establishment during an inspection:

1. If no violations are found and it has been determined that the establishment has met all applicable minimum safety and sanitation standards, the establishment should be marked “approved.” The top or white copy of the inspection report shall be left with the establishment. The inspector will mail the canary copy to BEHS within thirty (30) calendar days.
2. If a violation(s) is found and it has been determined that the establishment has not met all applicable minimum safety and sanitation standards, the establishment should be marked “not approved.” The white copy of the inspection report shall be left with the establishment and the canary copy shall be sent to BEHS for processing within thirty (30) calendar days. A correct-by-date or follow-up date shall be given to the establishment to make changes necessary to come into compliance with 315.005-315.065, RSMo and 19 CSR 20-3.050. The correct-by-dates shall not extend beyond September 30<sup>th</sup> of that licensing year. Until the establishment has made all noted corrections and is found to have met all applicable minimum safety and sanitation standards, the establishment should be marked “not approved.”
3. If the establishment has not met the minimum standards as outlined in a local ordinance or regulation pertaining to fire safety, electrical wiring, fuel-burning appliances, plumbing or swimming pools/spas, the establishment should be marked “not approved.” The white copy of the inspection report shall be left with the establishment and the canary copy shall be sent to BEHS for processing within thirty (30) calendar days. Coordinate the correct-by-date or follow-up date with the local agency that performed the inspection and assure that a date is recorded on the lodging form that allows the local agency time to assess their inspection issues and that allows the establishment time to make the changes necessary to come into compliance with applicable local ordinances/regulations, 315.005-315.065, RSMo, and 19 CSR 20-3.050. Ideally, the correct-by-date should not extend beyond September 30<sup>th</sup> of that licensing year. Until the establishment has made

all noted corrections and is found to have met all applicable minimum safety and sanitation standards, the establishment should be marked “not approved.”

4. If a violation(s) is found and has been corrected on-site the violations should be noted on page two along with the notation corrected on-site (COS).

All violations must be corrected before an approved inspection is issued. If violations cannot be corrected prior to the end of the year then the lodging establishment needs to enter into a compliance plan with the lodging program or enforcement action will be taken.

To complete the inspection, the inspector will need to determine or assign the timeframes in which an establishment should be given to make the necessary corrections to violations found during an inspection. The following criteria should be used to determine an appropriate length of time to allow for corrections to be made:

1. No correct-by-date shall extend beyond September 30<sup>th</sup> of that licensing year.
2. If violations that pose a direct imminent health and/or safety hazard have been noted, the EPHS shall set the correct-by-date. This correct-by-date shall be within an accelerated timeframe, such as: immediately, 24 hours or a week. Once the time granted for corrections has expired, a follow-up inspection must be conducted to determine compliance.
3. If violations that pose an indirect health and/or safety hazard have been noted, the EPHS and the owner or manager may set a mutually agreed upon correct-by-date. This “correct-by-date” should be appropriate for the violation, such as, two weeks, one month, etc. but not to exceed three months. Once the time granted for corrections has expired, a follow-up inspection must be conducted to determine compliance.

The inspector must record an actual date for follow-up when the initial inspection is marked “not approved.” Do not write “two months” or “six weeks.” During the follow-up inspection violations that remain uncorrected will result in the inspection report being marked “not approved.” In this instance an actual date for follow-up is not needed and this field should be completed by noting: “Call for Inspection.” The inspector will explain to the facility management that they are to call for a follow-up inspection and that the facility is now responsible for attaining compliance and correcting any remaining violations.

Form E9.02A, or pages two, three, four, etc, is used to describe the violations in detail. There may be multiple E9.02A pages used to document the conditions that are observed during the inspection. Clearly write the violations. Write what is seen, not what the code requires. The notations should also include a corrective measure unless the corrective measure is obvious. A correctly noted violation would be noted as follows:

E7: “No smoke detector in maintenance room. Smoke detectors must be installed in all hazardous areas. Smoke detectors must be hardwired with battery back-up.”

C2: “Food debris, dust, and a sock behind chest of drawers and headboard. The areas behind the chest of drawers and the bed must be routinely cleaned to avoid the accumulation of food, dirt and dust and personal items left by previous guests.”

Inspection reports must be complete and legible. All reports are reviewed and if it cannot be read, it may be return to the LPHA. When completed the report should be mailed to BEHS, if at all possible the report should be sent within thirty (30) calendar days. It is of the utmost importance to be timely in sending in your inspections as there have been several recent cases of establishments altering their inspections. Some of what is reviewed and the criteria to be met is below:

- Completion of the report – any approved inspection with blanks in sections A-H will not be accepted. The lodging program will contact the inspector about obtaining an amended report.
- Inspection reports must be signed – inspections must also be signed by a representative of the facility unless the inspection is a desk approval. Inspectors maybe contacted about obtaining a lodging representative signature if an inspection is received without a signature.

A follow-up field visit may not need to be done for all outstanding violations. In those instances, the inspector may submit a “desk approval” inspection report. The “desk approval” can be done when the pending violations do not need the inspector to go to the location itself in order to confirm the violation has been corrected. Examples include water sample results coming back satisfactory or a copy of a third party inspection (local fire, boiler, etc) being sent to you. Complete page one of the inspection report form and where the facility would sign print: “Desk Approval”.

Be sure to distribute the inspection report as indicted on the form:

- White copy goes to the lodging establishment owner or operator,
- Canary copy goes to BEHS, and
- Pink copy goes to the LPHA.

During the inspection the inspector will verify the facility information: owner, name of facility, number of rooms, etc. If there is a change in the “status” of a facility; for example: new owner, name change, new establishment, no longer open, etc. then a “Change Order” form or [DH-50](#) is to be completed. This form when completed succinctly reports the change. The change in facility information can also be provided to BEHS with an email. Accurate information is critical since legal action will be taken based on the information provided on the inspection report form, so clearly note who the owner and general manager are.

The bottom portion of page one (E9.02) requires that the inspection report be signed by the inspector and a representative of the facility. If, for some reason, the facility refuses to sign in the portion marked “Received by” note they refused to sign. A copy of the report must be left with the facility. Also in this signature block portion of the form, the inspector must mark whether the facility is ‘approved’ to operate and if not ‘approved’ when a follow-up inspection will occur. Guidance on the procedure to determine this is provided in the next section “Conducting Inspections”. The Licensing Year must be completed as well. Because the license expires in September, the licensing year is written as of October 1, through September 30. An example would be: an inspection conducted in January of 2015, for a facility that is currently licensed; would have the licensing year marked as 2015/2016. The reason being is that the facility is currently licensed in January of 2015 which would mean that the inspection used for that license was from the 2014/2015 licensing year and any annual or routine inspection conducted after that date would be for the licensing year that would begin October 2015 and end in September of 2016.

### **Conducting Inspections**

To attain a true picture of the lodging establishment, a variety of rooms should be inspected. Ask management to see handicap accessible, suite-style, king, double, Jacuzzi®, rooms on every floor and wing and even dirty rooms. When selecting rooms to inspect, do not let the establishment select the rooms. Ask for a list of all available rooms and make your selection from that list. Be sure to look at different rooms than those evaluated last year. Management may be apprehensive about selecting a few rooms that have yet to be cleaned, however it is a convenient way to do a thorough inspection of mattresses and box springs for wear, cleanliness, and the presence of bedbugs without remaking beds. Generally an occupied room should not be inspected. However, it may be necessary to inspect a “leased” or rented room, especially at extended stay facilities or when rooms are almost permanently rented. When this is necessary it should always be done with an employee of the facility and preferably unoccupied or with the guests approval/permission.

Unlike many of the environmental health programs, to look at a whole lodging facility would be a lengthy process. In order to do a thorough inspection all common areas (lobby, stairways, exercise rooms, pool rooms, hallways, etc.) would be inspected, hazardous and working areas (mechanical rooms, storerooms, laundry rooms, etc.) would be inspected, and a representative number of guest rooms. Therefore a standard or guide is provided to determine that representative sample. The following table gives the minimum number of rooms to be inspected during the routine inspection:

<b>TOTAL NUMBER OF GUEST ROOMS</b>	<b>PERCENTAGE/NUMBER OF GUEST ROOMS TO INSPECT</b>
5-20	50 % of the total number of guest rooms
21-200	10 guest rooms or 15 % of the total number of guest rooms, whichever is greatest
> 200	Minimum of 30 guest rooms, more if deemed necessary during inspection

The inspection sheet is arranged in a manner that allows the inspector to record identifying information about the facility in the upper portion of the inspection sheet. The facility information should be verified each year during the initial inspection. On page one (E9.02) the majority of the page is a checklist record for facility compliance. The various sections noted correspond to the sections in the rule. These sections have broad headings that pertain to many areas within a facility including water, wastewater, sanitation/housekeeping, food safety, life safety, fire safety, swimming pools/spas, plumbing/mechanical and heating and cooling. There is no substitute for knowing the rule, however; the items below attempt to discuss inspection items common in many facilities.

Lobby- The concerns in the lobby include general cleanliness, fire, and life safety measures. The inspector should check to ensure that smoke detectors, exit signs, and emergency lighting are all functioning correctly. The functionality of carbon monoxide detectors shall also be checked if they are required. Fire extinguishers need to be checked to ensure that they are charged, have a current tag, and are the correct size and type.

Food pantry, kitchen and dining area- Evaluate these areas for general cleanliness, food safety, food handling, and food protection. If potentially hazardous foods are present, then the dining area and food service area are inspected using the current food code and should be documented on a Retail Food Establishment Inspection Report. Also, in the dining area the smoke detectors, emergency lighting, and exit signs should be evaluated. Pay particular attention to food storage, environmental hazards, and pest control.

Exercise room-Evaluate for cleanliness, location of mirrors, emergency lighting, and exit signs.

Pool area- Determine pool/spa water chemistry, check records, evaluate deck safety items, lifesaving equipment, check for correct signage for pool/spa, depth markers, and that ladders are present and in good condition. The pool ventilation, pool recirculation equipment, make up air ventilation, and water heaters (may need state fire marshals' inspection) need to be checked. Check to make sure chemicals are stored appropriately. Ensure that drains are anti-entrapment drains. Receptacles must be GFCI's and need to be properly located. The pool needs to have a fence or appropriate enclosure with a self-latching and self-closing gate/door. Smoke detectors, carbon monoxide detectors, exit signs, emergency lighting and sprinklers need to be checked.

Hallways and stairwells-The inspector should check for fire-rated doors, stair railing height, guard or baluster spacing, combustible storage, emergency lighting, exit signs, smoke detectors, unobstructed egress, and closing devices for doors that remain open.

Meeting rooms-Evaluate for cleanliness, egress, emergency lighting, exit signs, and smoke detectors.

Guest Rooms- Evaluate for cleanliness, general repair, presence of pests, and maintenance. Areas that require attention include bedding, mattresses, and box springs. Check for both hot and cold water, plumbing leaks, and the placement of the coffee pot, cups, ice bucket, and liner. Check the cleanliness of appliances. Also check that there is a correct evacuation route on or near doors. Check for proper wiring and grounding of electrical outlets. Also determine if GFCIs are installed where required and are working correctly. Determine if doors are fire-rated and self-closing. The placement and functioning of smoke detectors in all sleeping rooms and kitchenettes needs to be checked as well as the size, placement, and availability of a fire extinguisher where appropriate (ex. Kitchenettes).

Outdoor areas-Inspect the exterior for pest harborage, over grown foliage, unused equipment, and back flow prevention on outside hydrants/faucets and the irrigation system.

Water-Collect a water sample if the supply is a private well or non-community source, evaluate well head construction and chlorinator if present, and for the Department of Natural Resources (DNR) regulated well ask to see the Permit to Dispense. Refer to the [Chapter 7.0 Drinking Water](#) for additional information on inspections of wells and water testing. During the inspection the inspector will assure that the lodging facility has a safe water source and properly functioning wastewater disposal system. That will mean that at least an annual water sample will be collected for private and non-community water supplies. If a water sample is taken during an inspection the inspection should always be marked unapproved even if no violations are found. On page 2 of the inspection the inspector should note approval pending water sample results. If the water sample comes back satisfactory then a desk approval can be done. Under no circumstances should the inspector write over the original inspection.

Onsite wastewater treatment-Evaluate treatment and dispersal area, look for signs of failure. For DNR regulated systems, also ask to see their National Pollutant Discharge Elimination System (NPDES) permit or Exemption letter. Refer to Chapter 5.0 Onsite Wastewater Treatment for inspection criteria.

Storage buildings- Evaluate for cleanliness, smoke detectors, fire extinguisher, emergency lighting, and exit signs. If gas appliances are in use then a carbon monoxide detector must be present and in working order. Check for appropriate equipment and chemical storage.

Laundry room(s)- Check for a fire-rated door into the laundry room. The laundry chute door should be closed and should be fire-rated. Smoke detector(s), carbon monoxide detector(s), emergency lights, and exit signs should be checked for functionality. Fire extinguishers should be checked to make sure they are charged and have a current inspection. The backflow prevention device/air gaps on washing machines, fill line, and drain lines should be checked. The GFCIs need to be placed appropriately and should test correctly. Chemical storage should be inspected. Ensure that there is adequate make up air for gas appliances as well as appropriate dryer ventilation. Check that the dryer filters are clean.

Storage rooms-Depending on what is stored in the room, evaluate cleanliness, smoke detectors, carbon monoxide detectors, and fire extinguishers.

Communications and electrical rooms-Evaluate these areas for smoke detectors, fire extinguisher, breaker labeling, and unobstructed access to the panels.

Mechanical equipment rooms-Depending on the equipment housed within, there are a lot of things to evaluate: if fuel fired equipment is present then look for carbon monoxide detectors; make-up or combustion air venting and sizing; fire extinguishers; smoke detectors; water heater size, pressure valve sizing and maintenance, discharge lines, shut off valves and/or switches; back flow prevention where necessary; sprinklers as required; emergency lighting, and exit sign when necessary; and Department of Public Safety, Division of Fire Safety (DPS-DFS) inspection of large hot water storage tanks and water heaters/boilers with output greater than 200,000 BTUs.

Pool filter, recirculation and heater rooms- Depending on the equipment housed within this area, evaluate: ventilation for fuel fired water heaters, DPS-DFS inspection for water heaters/boilers, chemical feed, chemical storage, smoke detectors and carbon monoxide detectors, sprinklers when required over gas appliances, fire extinguisher, ventilation, and GFCI receptacles.

Electrical and plumbing chases-Evaluate to assure that wall, floor, and ceiling penetrations are sealed.

Office and staff lounge areas-Evaluate for smoke detectors and cleanliness.

### **Follow-up Inspections**

As previously noted, when determining the date for follow-up, the inspector needs to consider the number of violations and the amount of work required to correct the violations. Consult with the owner or manager and assign a reasonable date. Some criteria to consider when assigning a correct-by-date include:

1. The assigned date shall not exceed 90 days from the initial inspection or occur past September 30<sup>th</sup>.
2. Violations that pose a direct imminent health and/or safety hazard shall have an accelerated timeframe for correction; such as immediately, 24 hours, or a week.
3. Violations that pose an indirect health and/or safety hazard may have a mutually agreed upon correct-by-date set. This “correct-by-date” timeframe should be appropriate for the violation, such as, two weeks, one month, or three months.

Follow-up inspections must be conducted on all lodging establishments marked “not approved” on initial inspections. The follow-up inspection must be conducted no later than ten (10) days after the date recorded on the initial inspection report. The follow-up inspection is documented on a new E9.02 and E9.02A form. Using the violations previously noted, re-evaluate whether these items have been

corrected. When completing the first page, corrected violations will be marked in compliance and for items that were compliant on the initial inspection, these will be recorded as “not observed”.

If, during the course of a re-inspection, substantial new violations are identified, the inspector should terminate the re-inspection. The inspection report shall be identified as “terminated” with a brief description as to why the inspection was terminated, such as “significant additional violations observed.” A new inspection report will be initiated and marked as an “Initial” inspection. All new violations will be noted on the new inspection report as well as any outstanding issues from the terminated inspection report. Assigning a follow-up date will be done as previously discussed.

After a follow up inspection has been conducted and it has been determined that the lodging establishment still has outstanding deficiencies to address, the inspection report will be marked as “not approved.” If the inspector plans to follow-up, then record a mutually agreed upon correct by date otherwise no follow up inspection date is to be entered in the field for the date, instead note: “Call for Inspection.” Do not note: “Call to schedule a compliance plan.” Compliance plans are offered by the program when the facility fails to obtain a license. If a facility is currently licensed and has an unapproved inspection for the next licensing year, that facility may have adequate time to correct the remaining violations. Compliance plans are discussed in detail in the next section. On the E9.02A page of the inspection report, the inspector will enter a comment that the lodging facility must address the uncorrected violations and should call requesting a re-inspection. If an establishment will not let you inspect please fill out an inspection sheet and write that you were denied entry on the E9.02A page of the inspection report. Submit this inspection to BEHS if they refuse to sign the paperwork be sure to note that the report was left with the facility and that they refused to sign the form.

### **Compliance Plan Follow-up Inspections**

Some facilities may not receive an approved inspection after their follow-up inspection. If a facility fails to contact the Local Public Health Agency for a second follow-up inspection, BEHS will contact the facility, after the licensing year begins in September, to determine if the violations have been corrected.

If the violations have been corrected, BEHS will ask the inspecting LPHA to conduct a follow-up inspection. If that inspection passes, the facility can be marked approved and continue through the licensing process.

If the violations have not been corrected, a compliance plan may be offered by BEHS to the facility. The compliance plan is an agreement between BEHS and the owner. The owner must agree to correct the remaining violations in a specified timeframe; in return BEHS will not pursue enforcement until the timeframe expires. The plan will be mailed to the facility and the owner must sign it. When the timeframe for the compliance plan has expired, BEHS will remind the LPHA that a follow-up inspection is needed.

If the owner does not agree to the compliance plan, the facility will be referred to the DHSS General Counsel and to the County Prosecuting Attorney.

### **Complaint Investigations**

When complaints about lodging facilities are received, determine whether the allegations warrant an immediate response or whether they can wait for a few days; for example fire or storm damage as opposed to no hot water or unsanitary conditions. Every complaint should be investigated; some however warrant more immediate attention. When speaking with the complainant be sure to gather enough information to adequately investigate the complaint. Important information to get includes: their name and contact information, what facility and what room number, when they stayed, and what they had issue with. Complaint investigations are generally unannounced or unscheduled, however; upon arriving at the facility the investigator must explain to the facility management that they are there to investigate a complaint. If the complainant's allegations are founded then a follow-up visit must be scheduled to verify that the conditions have been addressed.

Complaint investigation information may be documented on a sanitation observation form or a complaint investigation form. The use of the inspection report form is discouraged since the report form documents a licensing status: either approved or unapproved. Facility owners and managers are often confused by the use of this form. If the investigator doesn't have a sanitation observation form (E6.07) or a complaint form, the use of page 2 or E9.02A would be acceptable. It is important to note that if the inspection report form is used, cross out or through the approval status portion of the inspection report form. Marking the complaint box, under type of inspection, on the report form is also required. Copies of complaint inspection reports should be sent to the BEHS central office.

There is no closing authority in statute. Clearly documenting unsanitary or safety issues will help BEHS determine the course of action. Revocation will only be pursued by BEHS for imminent health and safety issues.

### **Violation Notice**

The seriousness of outstanding violations and the importance of the corrective measures are not communicated well with the complaint investigation form, a sanitation observation form, or the inspection form. Facilities frequently ignore the documents that inspectors leave that detail the violations observed and corrective measures. Therefore, the use of a Violation Notice form is required when a facility fails to comply with the lodging law and rule.

Generally, facts are gathered as part of a complaint investigation, observed violations are noted as part of the routine inspections, or compliance plan inspections. Directions for compliance should be clearly documented on that paperwork. When follow-up visits note uncorrected violations, in addition to documenting the violations, on the appropriate paperwork, the Violation Notice should be completed by

the inspector and signed by a representative of the facility. The form may duplicate some of the information on the inspection form or complaint investigation form. However, it is essential that the facility clearly understands the remedial actions or corrective measures that they must employ and the timeframe for compliance.

The use of the Violation Notice is not a substitute for any of the current paperwork. When completing the form the inspector must clearly present the ongoing issues or violations to the owner or manager and inform them of the timeframe for correction. If the violations and corrective measures have been clearly noted on the inspection form or complaint investigation form, it is acceptable to reference that paperwork. A word of caution, the owner or management must know what is wrong and what the code requires. By using this form the inspector will clearly present the serious nature that the uncorrected inspection or investigation findings remain an issue and that it is the owner or manager's responsibility to notify the inspector or the Lodging Program when the violations have been corrected and they are ready for an inspection. It is important for the inspector to send a copy of the violation notice to DHSS Lodging Program as soon as possible.

Completing the form is much the same as the form used by the Onsite Wastewater Treatment Program. Complete the top part of the form with facility information. The middle part of the form will record how the facility is out of compliance, what they must do, and by when. The last part of the form is the signature block. An example of a completed Violation Notice is provided in this section.

Example: A routine inspection is conducted with multiple life safety, fire safety and plumbing issues noted. When the follow-up inspection is conducted there remain issues with the exit signs, emergency lights, and the boilers. The inspector would complete the inspection paperwork as normal and would also complete the Violation Notice. If the inspector follows the inspection guidance described earlier in this section where they clearly note the violation(s) and describe the corrective measure(s) then the Violation Notice could be completed with general guidance like what is shown below:



MISSOURI DEPARTMENT OF HEALTH AND SENIOR SERVICES  
 LODGING PROGRAM  
 VIOLATION NOTICE

NAME OF OWNER(S) or GENERAL MANAGER OF LODGING ESTABLISHMENT			
Jay Grassley			
NAME OF LODGING ESTABLISHMENT		COUNTY	
Backwoods Lodge		Cole	
LODGING ESTABLISHMENT ADDRESS (STREET, CITY, STATE, ZIP CODE)			
1234 Dusty Trail, Trace, MO 65102			
As provided in Sections 315.005-315.065 RSMo, an act relating to the regulation of lodging establishments, and 19 CSR 20-3.050, "Sanitation and Safety Standards for Lodging Establishments", an inspection or investigation was conducted for the facility noted on this form.			
As a result, the lodging establishment was determined to be in violation of the above law and rule due to the following conditions:			
<input type="checkbox"/> Establishment is operating without a current license <input checked="" type="checkbox"/> Establishment failed to correct violations noted on annual inspection and/or inspection(s) follow-up dated: <u>1/5/2015</u> <input type="checkbox"/> Establishment failed to correct violations noted on complaint investigation(s) dated: _____ <input type="checkbox"/> Establishment failed to correct violations noted on compliance plan inspection dated: _____  <input type="checkbox"/> Other (describe): _____			
Aggrieved persons may request a facility review conference before the Department of Health and Senior Services by filing a written request within ten (10) days of receipt of this notice. Requests are to be directed to: Missouri Department of Health and Senior Services, Lodging Program, P.O. Box 570, Jefferson City, Missouri 65102-0570.			
REMEDIAL ACTION(S) INDICATED			
Violations noted on follow-up inspection dated 1/5/15 remain uncorrected. Facility must address the violations and contact the inspector when violations are fixed:			
<ol style="list-style-type: none"> <li>Emergency light and exit signs on the second floor were not working at the time of the inspection. Emergency lights must light when tested and exit signs are to be illuminated at all times.</li> <li>Boiler in mechanical room is rated for 300,000 Btu heat input. This unit does not have a current inspection from the Division of Fire Safety. The facility should contact the inspector of record on the expired license and schedule an inspection.</li> </ol>			
If at any time it is determined that a lodging establishment is not in compliance with sections 315.005 to 315.065, the department director shall notify the owner of the lodging establishment of such alterations or changes as may be deemed necessary to be in compliance therewith. Should the violations not be addressed in the timeframe(s) allowed the department director is authorized to revoke or not renew the license. Under 315.045 RSMo, any person establishing, conducting, managing, or operating any lodging establishment without a license is guilty of a class B misdemeanor.			
COMPLIANCE SCHEDULE			
The facility is currently licensed until 9/30/2015. In order to obtain a license for the next year these violations must be addressed prior to September 2015. Owners and management are responsible for contacting the inspector to schedule a follow-up inspection. The violations must be corrected by May 1, 2015. Without an approved inspection completed prior to the end of September, the facility will not be able to obtain a license.			
If the violations are not corrected, and the facility doesn't obtain a license to operate, the department will seek legal action through the county prosecutor.			
RECEIVED BY (SIGNATURE)		DATE	
IN LIEU OF SIGNATURE, SENT BY REGISTERED MAIL (ARTICLE NUMBER)		RECEIVED DATE	
SIGNATURE OF REGULATORY AUTHORITY REPRESENTATIVE	TITLE	EPHS NO.	DATE
AGENCY NAME			TELEPHONE NO.

MO

DISTRIBUTION: WHITE/OWNER CANARY/REGULATORY AUTHORITY PINK/OHSS

E

## Technical Points and Rule Interpretations

Previous versions of this manual utilized technical bulletins and informational releases. These documents were used by program managers to disseminate rule interpretations and updated programmatic information. Previous technical bulletins issued by the Lodging Program should no longer be used for reference; as guidance from these documents is now incorporated in rule and/or incorporated into the body of text in this Chapter. In order to clearly organize these issues the topics are categorized based on the sections found in statute and rule.

### Statute

Section 315.019, RSMo, states that city and county ordinances may be used in lieu of Department of Health and Senior Services (DHSS) standards for fire safety, electrical wiring, fuel burning appliances, plumbing and swimming pools, spas and similar facilities. It also specifies that lodging establishments which are located within the jurisdiction of a city or county ordinances or regulations and which are erected and maintained in compliance with such will be accepted as complying with 315.019 (1-5) RSMo. There are two points to make:

- “Erected and maintained in compliance”, means that the city or county conducts an annual inspection and either the lodging establishment or the inspecting entity provides a copy to the inspector. An approved DHSS inspection report cannot be provided until the city or county inspection is “approved”, “passing”, or shows no violations.
- This section of the law only mentions city and county ordinances it does not mention Fire Protection District ordinances. Since fire protection districts date back to 1947 and 315.019 was enacted in 1985, it is apparent that the Legislature omitted Fire Protection Districts intentionally. Fire Protection Districts are also organized differently than cities and counties which may have been a contributing factor for not being included. Therefore an inspection from a Fire Protection District may not be used in lieu of the fire safety standards specified in 315.019. However, if a Fire Protection District conducts routine inspections, a facility will need to comply with violations noted by that entity prior to receiving an approved inspection.

### Local Fire or Pool and Third Party Inspections

When a facility has a fire alarm or sprinkler system to assure that it is functioning properly the owners must hire a qualified professional to inspect the system. Inspections conducted when some cities and counties have fire ordinances or pool ordinances should also be requested during the inspection. Inspectors conducting lodging inspections must ask for and review these third inspections. These inspections must be conducted on a routine basis and must have been conducted within the last twelve months. To accept the inspection report provided by the third party; there must be no violations, failures or repairs outstanding. Unless the third party inspection was conducted recently or close to the date of the lodging licensing inspection, these components of the facility should not go “unobserved”. A pool

inspection done under a local ordinance should have been conducted within a three (3) month timeframe before the lodging inspection, or the pool area must be evaluated during the lodging inspection. Fire alarm and sprinkler inspections should have been conducted within twelve (12) months of the lodging inspection. If during the inspection there are public health and safety issues that may not have been present when the third party inspected, the DHSS or LPHS inspector should note these violations and assure that they are addressed before an “approved” inspection is provided. Although violations in fire safety, pool safety, or other areas may have been noted; accepting the third party inspection is allowed, since an “approved” lodging license inspection will only be provided when the violations have been corrected.

### **Definitions**

Although defined in rule, it isn't always easy to determine what a lodging establishment is. In the law 315.005(4) and 315.065 and rule 19 CSR 20-3.050 definitions are found. However, it can be challenging to interpret and ultimately make a decision. Factors that need to be considered and evaluated in making this decision are discussed below. Unfortunately, this discussion may not address all the situations that will be encountered and for that reason, remember that should you have questions contact the lodging program or your District EPHS.

Using the definition in the law as a starting point, the criteria to consider are:

- How many units or guest rooms does the establishment rent?
- How the accommodations are kept, used or advertised?
- Who owns the facility?

Beginning with the number of rooms available, is perhaps the easiest starting point. The statute defines a lodging establishment as: “any building, group of buildings, structure, facility, place, or places of business where five or more guest rooms are provided...” Therefore the first thing to determine is how many “guest rooms” are provided. If there are fewer than five guest rooms it is not a lodging establishment. Since the definition also states: “group of buildings, structure, facility, place or places of business...” this allows the “guest rooms” to be in one single structure or in multiple structures and in perhaps some situations even in a different locations. So you need to ask questions to determine how many rooms are available for rent and if all of the guest rooms are in a single structure.

Once you have determined how many rooms are available then consider how are the accommodations “kept, used, maintained, advertised or held out to the public for hire which can be construed to be a hotel, motel, motor hotel, apartment hotel, tourist court, resort, cabins, tourist home, bunkhouse, dormitory, or other similar place by whatever name called...” Any facility that refers to the business as a hotel, motel, inn, etc. is advertising as a hotel, etc. is considered to be a lodging establishment. So if you find a facility listed in the phone book as a hotel or the word hotel/motel is in its name, or perhaps they have a city issued business license as a lodging facility, they are advertising themselves as a hotel. You

will need to ask probing questions about the accommodations that are provided. One question to consider is: are the accommodations or services such that the facility may be construed to be a hotel? If there are basic services provided to the guests such as: housekeeping, linens, furniture and essential utilities (water, sewer, electricity, gas, etc.), these are services if offered can be construed to be services that a lodging establishment would offer. What seemingly confuses this interpretation is that some apartments come furnished or have utilities paid. However, remember to consider the rest of the statute and in this instance specifically an apartment is not advertising as a hotel. An apartment also is the tenant's permanent residence. By contacting the city or county to see how the business is licensed or how it is zoned (commercial or residential) valuable information will be obtained to help define the business.

Ownership of the facility is another piece of information that is important to have when evaluating if it is a lodging establishment. In 315.065 RSMo, it states: "The provisions of sections 315.005 to 315.065 shall not apply to dormitories and other living or sleeping facilities owned or maintained by public or private schools, colleges, universities, or churches unless made available to the general public and not used exclusively for students and faculty, school-sponsored events, baseball camps, conferences, dance camps, equitation camps, football camps, learned professional society meetings, music camps, retreats, seminars, soccer camps, swimming camps, track camps, youth leadership conferences, or church-sponsored events." This exemption explains why dormitories, scout camps and church camps are not typically inspected; however, it is worthwhile to assure that the facility continues to operate in a manner consistent with the statute and is not available to the general public.

If rooms, cabins or accommodations are available to the general public then the facility is a lodging establishment. Some examples are:

Condominiums are lodging establishments if a single entity owns five or more units that are available to be rented. If all of the units of a condo have been sold and belong to different individuals, even if a management company's rental program manages more than five, it is not a lodging establishment. Often when a facility is built, as units are being sold, the owner will make unsold units available for rent, if there are more than five owned by the same entity they will need to be licensed.

Timeshare accommodations typically are not lodging establishments. If a timeshare operation has "unsold weeks" on a nightly rental program, the number of rooms and the individual rooms available could change weekly. It is impossible to apply the provisions of the lodging regulations under these circumstances and we would not consider them to be lodging establishments. If a timeshare operation has a block of rooms that are available for rental for a substantial time they would be a lodging establishment and require a license.

One criteria that is frequently misused in determining whether a facility is a lodging establishment is the length of stay. The statute clearly states: “all such accommodations operated for hire as lodging establishments for either transient guests, permanent guests, or for both transient and permanent guests...” Since the statute allows for permanent guests, the length of stay is not a factor to consider.

As facilities are found they “test” or challenge definitions and interpretations, one such facility that appears to meet the definition of lodging establishment is the bunkhouses or cabins provided to hunters. There are sleeping accommodations available where linens are provided and housekeeping services included. These “hunting lodges” often are facilities where more than five rooms are available and they do not meet the exemptions provided in 315.065 RSMo. In clarifying the interpretation that these accommodations are not lodging establishments consider how this facility promotes their business. They are “selling” hunting packages and the accommodations are incidental. The facility does not advertise as a hotel. The accommodations that are provided are complimentary to the actual service. The hunters that stay in these facilities are paying for a packaged hunt; they are not renting a “guest room” in a lodging establishment. These facilities do not rent rooms without the purchase of a hunting package. A similar interpretation could be made for a health and fitness camp, the participants at the camp have purchased the service or activity and the accommodation/guest room is part of the package and not a room for hire as specified in the rule.

Since each situation may have nuances, when faced with challenging interpretations or if you are uncertain, contact your EPHS or the Lodging Program for assistance.

## **Requirements for Licensing**

### New Facilities

New facilities are inspected by BEHS staff. A new facility is considered a facility that is recently constructed, an existing facility with a new addition, or an existing facility that is reopening after being closed for 18 months or more.

### Water and Wastewater

Wastewater treatment systems that serve regulated establishments shall provide for the sanitary treatment and disposal of wastewater and be in compliance with state laws, regulations, and local ordinances. In some cases, there are too many variables involved in individual situations for a single recommended guidance statement to apply to all situations. If there is any doubt what the proper action is, contact BEHS for technical assistance. However, the inspector must evaluate the wastewater system as a part of each annual or routine inspection or if a complaint is received concerning proper treatment and disposal. Municipal or other public treatment systems only need to be evaluated if there are pump tanks or other components under the control of the management of the establishment. Small community or multi-establishment systems should be evaluated when the owner of the establishment has a reasonable degree of control over the system and the ability to make corrections. Additional guidance

can be found in the Onsite Wastewater Treatment section of this manual. A lodging establishment should not be marked approved if it has a failing wastewater system.

### Non-community and Private Water Systems

Water treatment systems that serve regulated establishments shall provide safe potable water and be in compliance with state laws, regulations, and local ordinances. It can be challenging to evaluate these systems, if there is any doubt what the proper action is, contact BEHS for technical assistance. The EPHS must evaluate the water system as a part of each annual or routine inspection. A sample of the water should be collected per guidance found in this manual in the Drinking Water section. Follow the guidance provided in the Drinking Water section when laboratory results are obtained. Positive test results on a non-community water source must be reported to the appropriate Department of Natural Resources (DNR) regional office. A lodging establishment should not be marked approved until the sample has negative test results. When test results indicate the supply is unsafe or a boil water order is issued, guidance in the Drinking Water section should be followed.

## **Sanitation/Housekeeping**

### Bedbug Complaint Investigations

Although bedbugs were once nearly eliminated in the United States they are making an impressive and troublesome comeback. Bedbug infestations are not just associated with filth and squalor, they are efficient “hitchhikers” that can move from one location to another on clothes, bedding and suitcases. Bedbugs are a nuisance issue and studies have not shown that they transmit communicable disease. However, with bedbug bites a person may run the risk of a secondary infection.

The lodging program tracks bedbug complaints, so if a complaint is investigated be sure to forward the findings and follow-up activities to BEHS. The recommended practices for assessing lodging facilities for bedbugs are:

During routine inspections pay particular attention to mattress seams, bedding and the area around the headboard. Signs could be reddish brown spots on sheets or mattresses, eggs, molted shells or the bedbugs themselves. Investigate bedbug complaints promptly.

If bedbugs are found in a room:

- The inspector should check adjacent rooms (side to side, above and below) and a random sampling of other rooms in the facility. This evaluation is a preliminary assessment and the pest management company should conduct a more thorough investigation before beginning treatment.
- Direct the manager or owner that the affected rooms must be taken out of service and only rented when cleared by the pest management company and the inspector.
- Explain to the manager or owner that a professional pest management company shall be employed to evaluate the entire facility and deal with the infestation. Bedbug control and

elimination are not difficult for properly trained and equipped professionals, but the products and techniques used are specialized.

- Documentation or paperwork from the pest management company must be provided that “clears” the rooms where bedbugs were found. The establishment is responsible for cleaning up after the treatment. Inspectors should remind the manager or owner that during the follow-up investigation if dead bedbugs are found then they will need to retreat since it will be difficult to determine if there is still an ongoing problem
- A re-inspection of the facility should occur once the pest management company clears the rooms and again in four (4) to six (6) weeks to assure that effective control measures are in place.

The internet can provide excellent information about bedbugs and methods of control and elimination. The following websites are just a few that are available:

<http://www.cdc.gov/parasites/bedbugs/>

<http://www.extension.umn.edu/distribution/housingandclothing/DK1022.html>

<http://www.ca.uky.edu/entomology/entfacts/ef636.asp>

#### Death of a Patron in a Guest Room

In the event you are notified that an individual has died during their stay at a lodging establishment, the following steps should be taken:

- In all cases, ensure that the lodging owner/operator has notified local law enforcement; and
- Tactfully and professionally inquire as to the cause of death.
- Since each death presents a unique situation, use of professional judgment is warranted.
- Request the sleeping room be placed “out-of-service” until further notice.

If the death was due to natural causes (and there is little or no concern about bodily fluids) and no further action is required by law enforcement the room shall be:

- Cleaned according to the standards in 19 CSR 20-3.050 Sanitation and Safety Standards for Lodging Establishments;
- The area where the body was found should be washed and disinfected, including but not limited to, towels, carpeting, and furniture;
- Bedding that are not excessively soiled may continue to be used after they have been thoroughly washed and dried; and
- Mattresses, that are not excessively soiled or damaged, may continue to be used.
- Once the room has been properly cleaned and disinfected, the room may be rented.

If the death was not discovered in a timely manner or due to an accident, suicide, homicide or other cause requiring further action by law enforcement the owner/operator shall:

- Present to the Local Public Health Agency a signed documentation that the room shall remain “out-of-service” until released from law enforcement;
- Comply with law enforcement’s requests; and

- Provide to the Local Public Health Agency documentation that the room was cleaned by a professional cleaning company.
- Carpeting, furniture, bed linens, mattresses, etc. that have become damaged, stained, or soiled beyond repair shall be discarded appropriately.
- Once the room has been properly cleaned and disinfected and the LPHA has been notified the room may be rented.

#### Donation of used Cosmetic Items

Lodging facilities may consider donating some complimentary cosmetics (soap, shampoo, etc.) to shelters. While the Food and Drug Administration (FDA) does not consider used soap, shampoo, conditioner etc. as adulterated items the practice of donating these items is not sanitary and should not be done.

#### Installation of a Three-Compartment Sink

The food safety requirements that lodging facilities must comply with can be found in 19 CSR 20-3.050 (C) 3, 4 and 5; unfortunately there have been some issues with poor interpretation of the installation of the three-compartment sink. The food code is clear in 4-401.11; that food, equipment, utensils, linens and single-service and single-use articles are not to be located in the same room as the mechanical clothes washer or dryer. Three-compartment sinks should never have been installed in the laundry rooms or in an area where exposed to contamination. In new lodging establishments the three-compartment shall not be installed in the laundry room or in an area exposed to contamination. For existing facilities, where the three-compartment sink is installed in the laundry room or where exposed to contamination, the inspector must determine if when equipment is washed, rinse, and sanitized if there is a risk of contamination. If there is, then the facility must eliminate the exposure to contamination, re-locate the three-compartment sink, or begin using an alternative method as allowed in rule. If an existing facility expands their food service, remodels, re-builds, or re-constructs the laundry room and the three-compartment sink is located in that room, then the lodging establishment shall be required to relocate the sink to an area where it is not exposed to contamination.

#### Handsink

Staff working with food served in a lodging facility must have sinks to wash their hands. A properly located handsink will allow convenient use by employees in food preparation, food dispensing, and warewashing areas.

### **Life Safety**

#### Extension Cords Usage

Nearly all building and electrical codes prohibit the use of extension cords in place of fixed wiring. Ideally, an extension cord is used to power portable devices for immediate, temporary or short-term use. However, the rule does allow the use of extension cords under these conditions:

- The cord is no longer than six (6) feet,
- If longer than six (6) feet it is provided with over-current protection or rated with properly sized wire, and
- No more than two extension cords per room may be used.

Use of an extension cord also requires that the cord be properly sized for the appliance. Permanent wiring, receptacles, and breakers are rated for specific amperages. Typical receptacles and breakers are rated for 15 or 20 amps. If an appliance with a 20 amp draw rating is attached to a circuit with a 15 amp breaker or fuse, it will trip or “blow” cutting the power to the circuit preventing the wire from overheating. If an appliance that draws 20 amps is plugged into an extension cord that is rated for 15 amps, the wiring will over heat and could cause a fire. During the inspection it is necessary to evaluate the size of the extension cord, the amperage that the cord is rated to carry, and the appliances that are plugged into the cord. Surge protectors/bars are a form of extension cords and must meet these requirements.

#### Portable Luminaries with Convenience Outlets

Since there are requirements about extension cords, there have been some questions raised about table/desk lamps that offer additional outlets. Industry refers to these table/desk lamps as portable luminaries and the additional outlets as convenience outlets. These portable luminaries with the convenience outlets are found on desks, dressers and bed side tables in the guest rooms. They are intended to plug in small devices such as computers and cell phones.

The rule does not discuss portable luminaries with the convenience outlets. The statute, however, allows in 315.005 to reference other codes for guidance. In this instance NFPA 70 has incorporated the National Electric Code (NEC) and since the NEC states that once a piece of equipment has been identified as meeting the standards of an organization that is equipped to test and certify, that piece of equipment is subject to no further inspection that would result in conflicting results as to the suitability of the device.

Using this as guidance; provided these fixtures are certified by an entity such as Underwriters Laboratories (UL), they are acceptable for use in a lodging establishment. If no identifiable certification, then the lamp or convenience device is not acceptable. During the inspection it will be important to note how the lamps or the convenience device are being used and to remind staff at the facility that no permanent fixtures in the guest rooms should be plugged into these outlets. Additionally, the facility needs to be vigilant in reminding guests to monitor the usage of these outlets to assure that the devices that are plugged in do not exceed the lamp’s amperage rating.

#### Emergency Lighting Placement

Emergency lighting is required when guest room doors open to an interior corridor and when guest room doors open to the outside but not directly at grade level. The rule does not specifically recommend spacing for emergency lights. The installation of the emergency lighting is a building or fire code requirement and in instances where the lodging rule does not state a requirement, guidance is found in their codes. According to NFPA 101, emergency lighting shall be arranged to provide initial illumination that is not less than an average of 1 ft-candle (10.8 lux) and, at any point not less than 0.1 ft-candle (1.1 lux) measured along the path or egress at floor level. These lighting requirements shall be provided for a minimum of 1 ½ hours in the event of failure of normal lighting. Because there can be a variation in the size of bulbs and batteries, spacing recommendations are challenging. When there is no requirement the safest recommendation is to follow the manufacturer's requirements.

### Tritium Exit Signs

Reference to the use of tritium exit signs is not found in the rule, but they meet the requirement for exit lighting in the lodging regulation. Tritium exit signs do not require electricity or batteries, and are commonly used in areas where it is difficult to install electric signs. They serve a safety function by remaining lit during power outages and emergencies.

The tritium gas is contained in sealed glass tubes. The insides of the tubes are lined with a phosphor. Low-energy Beta particles emitted by the tritium bombard the phosphor, causing it to glow. There are a couple ways to determine whether an EXIT sign contains tritium. The device should contain a permanent warning label that mentions tritium (H-3), displays the three-bladed radiation warning symbol, and states "Caution-Radioactive Materials." If the label is not readily observable, try extinguishing all lights in the vicinity. If the word EXIT is green, the sign contains tritium. If all four letters in EXIT are fully lit, the sign is working properly. If not, the sign may be damaged.

Tritium emits low-energy beta radiation that cannot penetrate a sheet of paper or clothing. If inhaled, it leaves the body relatively quickly. Tritium gas is odorless, colorless and tasteless, and is lighter than air. Tritium EXIT signs must NOT be disposed of as normal trash. To dispose of a sign properly, a general licensee must transfer the sign to a specific licensee. This would typically be a manufacturer, distributor, licensed radioactive waste broker, or a licensed low-level radioactive waste disposal facility. These facilities may charge a fee for this service.

As an inspector, since these signs have a life expectancy they will get progressively dimmer and will eventually need replacement. Determining the amount of illumination will be challenging in well-lighted areas.

### Photo luminescent Exit Signs

Photo luminescent exit signs are popular since they require no additional energy. Where a traditional exit sign is lit by the building's electricity and then is powered by a battery when there is a power outage. This type of sign is of similar construction and design however, it illuminates when the

surrounding area is dark. The photo luminescent sign is made with photo luminescent pigments that provide an infinite number of recharge-glow cycles. A nearby external light source “charges” the sign and when that light source goes out the sign glows. Proper installation includes a light source that provides a minimum of 5-foot candles of light at the surface of the exit sign. The same light source cannot be on a timer or a switch that would result in it being turned off. It must be on at all times. The signs must glow for a minimum of 90 minutes in the event of a power failure. The installation of these signs is allowed indoors only and manufacturer’s installation instructions must be followed. The lodging facility should perform periodic visibility tests of the signs to assure that they glow when the external lighting source is out. Since the code requires exit signs to be illuminated at all times, this type of sign meets that requirement.

#### Labeling of Cleaners and Chemicals

In 19 CSR 20-3.050 (D) 1. B.; toxics, corrosive, oxidizing or other hazardous materials are discussed. This section of the rule discusses proper use and storage: in order to properly use or store a cleaner or chemical it is important to know what the cleaner or chemical is. Therefore, if the cleaner or chemical has been removed from its original container and placed in another container the name of that product must be transferred to the new container.

### **Fire Safety**

#### Balcony and Hand Rails-Egress Requirements

In 19 CSR 20-3.050(3) (E) 2 the requirements for balcony and stair railing heights and guard spacing can be found. Balusters or guards shall be spaced that a four (4) inch sphere cannot pass through them. Hand rails shall not be less than 34 inches and not more than 38 inches above the surface of the tread. Balcony rails shall not be less than 42 inches in height. These requirements only apply to balconies and stairs when they are a component in the means of egress. The same public health concerns would apply to all balconies but these standards would be recommendations for stairs and balconies if not part of the egress path. It is important to note that there is no definition in rule for what a balcony is or when protection of a balcony is warranted. According to NFPA 101 protection for open areas of a means of egress that exceed 30 inches above the floor or the finished ground level below warrants guards and railings.

This portion of the rule allows for the administrative authority to approve existing railings. Building codes in the past allowed for guards to be spaced no further apart than six (6) inches and railings for balconies at 36 inches. If existing guards or balcony railings meet this requirement they may be accepted but no greater guard spacing is allowed or no lower balcony railing height. If existing guards or railings are found that do not meet this standard then they will need to be modified to meet the requirement in the rule.

#### Fire Extinguishers for Swimming Pool Chemical Storage Area

Currently the lodging rule requires a portable five pound, 2A-10BC fire extinguisher in all mechanical rooms, laundry areas, and other hazardous areas. Recent information indicates that this type of extinguisher is not appropriate for use in pool chemical storage areas; and using the wrong type of fire extinguisher on certain oxidizers (swimming pool chemicals) can cause an explosion. Currently the National Fire Protection Association 430: Code for the Storage of Liquid and Solid Oxidizers prohibits the use of class A:B:C extinguishers in areas where oxidizers are stored. The NFPA 10: Standard for Portable Fire Extinguishers recommends that only water-type extinguishers be installed in areas containing oxidizers, such as pool chemicals. When conducting routine lodging inspections please understand that extinguishers located in any area where swimming pool chemicals are stored or chlorinating equipment is located may be of either type. Facilities should not be made to replace their extinguishers; however, they should be made aware that the water type extinguisher poses fewer hazards in these areas. Lodging establishments should be made aware that when the current fire extinguisher needs to be replaced they should purchase the type appropriate for the pool area. The installation and placement of the water type extinguisher shall follow the rest of the rule. Size should be determined by manufacturer's specifications.

### **Swimming Pools/Spas**

#### Americans with Disability Act (ADA)-Standards for Accessible Design

The Americans with Disability Act (ADA) implemented requirements for pools that have a potential impact on lodging facilities. The 2010 Standards for Accessible Design, mandated specific changes to pools in order to make them accessible to everyone. These requirements pertain to public pools, wading pools, and spas in Title II (state and local government facilities) and Title III (public accommodations, private companies and commercial facilities including lodging establishments) facilities that are new or are being altered (remodeled/renovated). Pools that are located within residential dwellings, housing units, private residences, apartment complexes, condos, or homeowners associations do not need to comply with these rules if they limit the use of their pool to their residents. If these pools are open to anyone besides tenants or have no membership requirement, receive federal funds or have members where anyone can join, then these pools will also need to abide by the ADA requirements.

These requirements are an ADA requirement; they are not a requirement of 19 CSR 20-3.050. During the annual inspection compliance with this accessibility requirement is not to be evaluated. So if an establishment's pool does not meet the ADA requirements, it is not to be marked as a violation on the inspection report. The U.S. Department of Justice regulates and enforces ADA requirements.

This web link may provide additional information: [http://www.ada.gov/qa\\_existingpools\\_titleIII.htm](http://www.ada.gov/qa_existingpools_titleIII.htm) .

#### The Virginia Graeme Baker Pool and Spa Safety Act

The Virginia Graeme Baker Pool and Spa Safety Act **is a federal act** aimed at reducing deaths and injuries by setting forth requirements related to preventing possible suction from a pool or spa drain that

could result in entrapping an individual under water or causing other related injuries. The act sets design and construction standards for swimming pool and spa main drain covers and provides for additional anti-entrapment devices to be installed on some swimming pools and spas. The provisions of this act apply to all public swimming pools and spas in the nation. The definition of 'public pool' in the act also encompasses what have been classified as semi-public pools in many swimming pool ordinances and includes swimming pools and spas at facilities like apartments, country clubs, and lodging facilities. The information provided below pertains to pools and spas at lodging establishments. Jurisdictions with pool ordinances will need to determine for themselves if and how they will incorporate compliance with the Virginia Graeme Baker Pool and Spa Safety Act into their ordinance.

Swimming pool and spa compliance with the Missouri Lodging standards will be different for existing and new pools or spas and are as follows:

#### Existing Pools and Spas

The Missouri lodging rule, 19 CSR 20-3.050 Sanitation and Safety Standards for Lodging Establishments, has had a requirement for anti-entrapment main drain grates since 2004. Section F.4.F states that, "Main drain grates shall be whole and openings shall not be over one-half inch (1/2") wide. Main drain grates shall be in good repair, firmly affixed at all times and designed and maintained to prevent user entrapment".

Therefore, all existing pools and spas located in lodging establishments throughout the state of Missouri should already have anti-entrapment drain covers. For these existing anti-entrapment drain covers, we are **not** going to verify that they comply with the Virginia Graeme Baker Pool and Spa Safety Act. This does not mean that the establishment is not responsible for complying with the act, but that for lodging establishment licensing purposes, we are not going to enforce this standard.

For any existing pool or spa that does not have an anti-entrapment drain cover or if the operator is replacing an existing anti-entrapment drain cover, we will require verification that the new drain cover complies with the Virginia Graeme Baker Pool and Spa Safety Act. This act requires anti entrapment drain covers to be designed and constructed meeting the standards set forth in ASME/ANSI A112.19.8-2007. These covers have been on the market since December 2008. These are identified by either the ASME symbol, "ASME/ANSI A112.19.8-2007" or a mark of "VGB 2008". If you are unsure of the certification of the new pool drain cover, request the pool operator contact the manufacturer of the pool drain cover and obtain a copy of the compliance certificate.

If the pool or spa has an unusual size or configuration of drain, it is acceptable for the pool operator to have a drain cover fabricated in the field. In this instance, a Professional Engineer (PE) will need to write a letter certifying that the fabricated drain cover meets the ASME/ANSI A112.19.8-2007 requirement. This certification needs to be on hand for the inspector to verify.

### New Pools and Spas

New pools or spas in the state must be certified to be in compliance with a national swimming pool code. This will now include being fully compliant with the Virginia Graeme Baker Pool and Spa Safety Act. The facility must provide certification to BEHS, either from the architect, engineer or contractor that the pool and/or spa was designed and installed to comply both with a national swimming pool code and the Virginia Graeme Baker Pool and Spa Safety Act.

### New Swimming Pool and Spa Certification

During the initial inspection of new lodging facilities or a facility doing major renovations, all new swimming pools and spas shall be designed by a professional engineer or architect. The design must comply with a national swimming pool standard. The rule does not specify which national standard, so most nationally recognized swimming pool standards are acceptable.

### Closed or Unopened Pools

A pool must be open during the annual inspection. If there is an outdoor pool and not yet open for the season, a return visit must be made to evaluate the operation and maintenance of the pool. If the pool is closed for some other reason, a return visit is needed only if the pool will be open during the licensing year.

### Fecal Accidents in Pools

Facilities that have fecal accidents in pools or spas should be aware of the guidance provided by the Centers for Disease Control and Prevention (CDC). The facility and the inspector can find recommended practices for incidents involving formed or solid stools and diarrhea accidents: <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5020a7.htm>. These recommendations are solely for management of fecal accidents in disinfected recreational water venues. The recommendations do not address use of other non-chlorine disinfectants because there is limited pathogen inactivation data for many of these compounds. Because improper handling of chlorinated disinfectants could cause injury, appropriate occupational safety and health requirements should be followed.

Swimming pool operators should check existing guidelines from local or state regulatory agencies before using these recommendations, because CDC recommendations do not replace existing state or local regulations or guidelines. The CDC revised fecal accident response recommendations are available at <http://www.cdc.gov/healthywater/pdf/swimming/pools/fecal-incident-response-recommendations.pdf>. This is a good guidance document and would be a good educational document to provide to lodging establishments with swimming pools.

### Death of a Patron in Swimming Pool/Spa

The lodging rule does not provide any guidance on what to do if a patron dies in a swimming pool in a lodging facility. In the absence of a specific code requirement, the following guidance is offered. Begin by visiting or contacting the facility to assure that the lodging owner/operator has notified local

law enforcement. Request the swimming pool be placed “out-of-service” until the pool is properly disinfected in accordance with:

- Local ordinances; or
- Center for Disease Control and Prevention (CDC) guidelines at <http://www.cdc.gov/healthywater/swimming/pools/vomit-blood-contamination.html> and <http://www.cdc.gov/healthywater/pdf/swimming/pools/fecal-incident-response-recommendations.pdf>

The model aquatic health code is a free resource provided by the CDC to improve health and safety in pools and spas. The guidelines address the design, construction, operation, maintenance, policies, and management of public pools and spas. These guidelines can be used to create or update pool codes and is located here: <http://www.cdc.gov/healthywater/swimming/pools/mahc/structure-content/index.html>

## **Plumbing/Mechanical**

### Relief valve discharge piping

According to our code relief valve discharge pipes shall be made of rigid pipe approved for water distribution with a temperature rating of two hundred and ten degrees Fahrenheit (210°F) or other materials approved by the manufacturer to be used for this purpose. The CPVC piping found commonly as the discharge pipe is only rated for 180°F, which does not meet the temperature rating required by our code. After contacting several different companies that manufacture water heaters and boilers, piping and the relief valves, as well as the Division of Fire Safety, there was no consensus and only conflicting answers to whether CPVC piping is suitable for the relief valve discharge pipe. The lodging program has researched CPVC as an alternative relief valve discharge pipe material and has reached the conclusion that until there is more definitive proof, the code does not allow CPVC piping to be used in this manner. The use of CPVC for the relief valve discharge pipe doesn't comply with the code and if it has been used in the past, if the water heater is replaced or the relief valve fails or discharges and a repair is needed to the unit the piping shall be replaced.

### Backflow Prevention for Sprinkler Heads over Gas Appliances in Non-Fire Resistant Rooms

After consulting with the Department of Natural Resources (DNR), the following interpretations have been made with regards to backflow prevention devices installed on “limited sprinkler systems” as they relate to private and public water supplies (community and non-community). A “limited sprinkler system” is a partial fire suppression system installed and designated for a specified area. This may be a single sprinkler head over a water heater or multiple sprinkler heads over a water heater and furnace within a designated area, such as, a mechanical room or water closet.

In order to determine what backflow measure is required, the inspector must determine what type of water system serves the facility. A private water system or domestic well is a private water supply well

that is constructed to meet minimum standards and is equipped with a pump that does not have the capacity to produce more than seventy (70) gallons of water per minute and services three (3) or less service connections. A private domestic water supply well that produces less than seventy (70) gallons of water per minute regardless of the use is a domestic well.

A public water system is a system for the provision to the public of piped water for human consumption, if this system has at least fifteen (15) service connections or regularly serves an average of at least twenty-five (25) individuals daily at least sixty (60) days out of the year. This system includes collection, treatment, storage or distribution facilities used in connection with the system. A public water system is either a community water system, transient non-community water system or non-transient non-community water system. Any community or non-community public water supply well must be constructed according to Missouri Public Drinking Water rules.

- Community Water Systems are defined as a public water system, which serves at least fifteen (15) service connections or regularly serves an average of at least twenty-five (25) residents on a year-round basis.
- Transient Non-community Water Systems are defined as a public water system that is not a community water system which has at least fifteen (15) service connections or regularly serves an average of at least twenty-five (25) individuals daily on a year-round basis.
- Non-transient Non-community Water Systems are defined as a public water system that is not a community water system, which has at least fifteen (15) service connections or regularly serves an average of at least twenty-five (25) individuals daily at least sixty (60) days of the year.

#### Private Water Supplies

For a “limited sprinkler systems” or a single sprinkler head over a water heater or furnace, no backflow prevention is required. It may be recommended to the establishment, however, it shall not be required or considered a violation if the establishment chooses not to install a backflow prevention device.

#### Public Water Supplies-Community

The DNR regulates these supplies and is therefore the regulatory authority on community water supply systems. In many cases, a municipality or water district will be the administrative authority with regards to plumbing codes, which may include requirements for backflow prevention. Lodging establishments served by a community water supply shall be in compliance with DNR rules and regulations or local plumbing codes pertaining to backflow prevention. The following bullet points outline the level of backflow protection necessary for various fire suppression systems, as defined in 10 CSR 60-11.010 prevention of Backflow:

- Whole building fire suppression systems containing chemicals require a DNR-approved double check valve assembly.

- Limited area sprinkler systems served by a separate supply line within the domestic plumbing require a DNR-approved double check valve assembly.
- Limited area sprinkler systems with an individual head served from an active internal domestic water line do not require backflow prevention.

While conducting inspections of lodging establishments served by community water supply systems, be mindful of the above requirements. If you determine that the appropriate level of backflow prevention is not installed upon a community water supply systems, notify the DNR or municipality/water district to discuss what actions(s) should be taken.

#### Public Water Supplies-Non-Community (Transient and Non-transient)

For “limited sprinkler systems” or a single sprinkler head over a water heater or furnace, no backflow prevention is required. It may be recommended to the establishment, however, it shall not be required or considered a violation if the establishment chooses not to install a backflow prevention device.

#### Backflow Testing

According to rule all backflow devices used must meet 10 CSR 60-11.010. A requirement in 10 CSR 60-11.010 (6) is for annual testing of the devices used. Therefore the lodging establishment must present documentation that an annual inspection of the backflow device(s) has been done. The inspection must be done by an individual that meets the standards specified in 10 CSR 60-11.010.

### **Heating, Venting & Air Conditioning Equipment**

#### Combustion Air Requirements

The combustion air requirements for mechanical rooms where either gas furnaces or gas water heaters are located can be found in 19 CSR 20-3.050(3) (H) 10. Every room or space containing a fuel-fired appliance shall be provided with combustion air. Some newer gas furnaces and gas water heaters do not draw their combustion air from inside the structure. Although the rule does not specifically discuss these types of appliances or equipment; direct vent fuel-fired appliances or equipment, that do not draw air from within the structure, are not to be considered in the determination of combustion air requirements. The combustion air requirements outlined in this section of the rule are to be used only when the appliance or equipment draws air from within the structure. When installed, a facility must have the installer provide documentation that the direct vent fuel-fired appliances were installed according to manufacturer’s specifications.

#### Unvented Fireplaces

Standards for existing unvented fireplaces are found in 19 CSR 20-3.050(3) (H) 1 and 2. Since the rule affords no provision for plan review, if a new establishment installs an unvented fireplace and the manufacturer will not state in writing that the unit is approved for commercial use, the lodging facility

according to the rule would need to remove the unit or disconnect the gas supply and effectively abandon its use.

The primary concern with these unvented fireplaces is oxygen depletion and carbon monoxide build-up. When considering these appliances in new facilities, if the manufacturer will not state that the unit is approved for commercial use; since the rule allows existing fireplaces to be used if they meet the four (4) criteria in 19 CSR 20-3.050(3) (H) 2, the use of these units will be allowed if the facility can meet these same four (4) criteria.

Whether these units are existing or in new lodging establishments, proper use by patrons should be the facility's priority. The patron should know that the fireplace should not be used for more than six (6) hours. The unit itself should be equipped with an Oxygen Depletion Sensor (ODS). The sensor detects levels of oxygen in the room containing the unvented or ventless fireplace. This sensor will disable the ventless fireplace prior to the room reaching any unhealthy levels of oxygen.

Past technical bulletins or informational releases that were not discussed above or incorporated in the text of this section are no longer relevant. The information provided within this section is current program policy. Any previous guidance documents must not be used as reference.

## **Enforcement Guidelines**

Per section 315.041, RSMo, the Department of Health and Senior Services (DHSS) may refuse, revoke or deny a license any time a lodging establishment fails to comply with any portion of 315.005-315.065 RSMo, 19 CSR 20-3.050, and/or applicable local ordinances. Lodging establishments are subject to inspection at any reasonable time; therefore, it is not necessary to wait for the next annual inspection to conduct an inspection on an establishment with a poor compliance record. Inspections should be performed as necessary to assure compliance.

Enforcement occurs when a facility either fails to obtain a license after having obtained an approved inspection or fails to correct violations noted during an inspection and cannot obtain a license. The process for those two categories is discussed below:

For facilities that are approved but are operating without a current lodging license, (that is: the establishment has not submitted their application for renewal, associated forms, and/or fees) a letter or notice from BEHS will be mailed informing them of this deficiency. If the lodging establishment does not respond by submitting the required information, a letter of “Final Notice” will be sent. If there is still no response from the lodging establishment, the establishment will be referred to the local prosecuting attorney for further enforcement action.

An unapproved lodging establishment, who has received an initial and follow-up inspection and continues to operate without a current lodging license after October 1<sup>st</sup>, will receive a letter or notice of non-compliance from BEHS and may be offered an opportunity to enter into a compliance plan. If there is no attempt made by the owner/ operator of the lodging establishment to enter into a compliance plan or to correct violations marked on the unapproved inspection report, the establishment will be notified again with a letter of “Final Notice” that the issue is going to be referred to the local prosecuting attorney for further enforcement action.

## **Institutional Facilities**

Complaints about, or requests to inspect, various correctional or institutional facilities may be received. These are not regulated facilities and fall outside the authority of the state and most Local Public Health Agencies (LPHA). Routine inspections of these facilities are not conducted by BEHS or LPHA staff. If workloads permit an agency may offer the management of these facilities the benefits of our knowledge and expertise in public health. Field visits can be made and recommendations based on the science of public health found in the food code, lodging rule, onsite wastewater regulations, and the drinking water portion of this manual may be offered to assist these facilities. These field visits should be documented on a Sanitation Observation form (E6.07), not on any type of official inspection report.

It must be perfectly clear that these are recommendations to protect the health and safety of the inhabitants of the facility and not Department regulations. Other agencies may have ordinances or regulations that affect these facilities, and so be clear that these recommendations do not supercede the authority of building departments, housing authorities, fire marshals, or other authorities.

General reference may be made to the following rules: 19 CSR 20-3.050 Sanitation and Safety Standards for Lodging Establishments, 19 CSR 20-3.060 Minimum Construction Standards for On-Site Sewage Disposal Systems, 19 CSR 1.025 Sanitation of Food Establishments and the Drinking Water portion of this manual. These are only guidelines; not requirements.

### **Penal Centers**

- Penal centers are shelters where occupants are confined or housed under some degree of restraint or security.
- State operated penal centers are administered by the Department of Corrections.
- County jails are administered by the county sheriff.
- City jails are administered by the local police department.

### **Inspections**

- State and/or Local Public Health Agencies do not routinely perform inspections of penal centers.
- State and/or Local Public Health Agencies do not have the authority to conduct inspections of penal centers.
- However, state and/or Local Public Health Agencies may act as consultants upon receiving a request from the appropriate authority, such as, the Board of Visitors or a Circuit Judge.

### **Complaints**

- When a complaint is received on a state-operated penal center the complaint shall be forwarded immediately to BEHS. The complaint will then be forwarded to the Department of Corrections.

- When a complaint is received on a city or county jail the complaint shall be forwarded immediately to the City Council/County Commission or the Circuit Court Judge/Board of Visitors.
- The state and/or Local Public Health Agencies may not participate in an investigation without the consent of the local sheriff or police department.

### **Institutional Housing**

General reference may be made to the following rules: 19 CSR 20-3.050 Sanitation and Safety Standards for Lodging Establishments, 19 CSR 20-3.060 Minimum Construction Standards for On-Site Sewage Disposal Systems, 19 CSR 1.025 Sanitation of Food Establishments and the Drinking Water portion of this manual. These are only guidelines; not requirements.

### **Inspections**

- State and/or Local Public Health Agencies do not routinely perform inspections of institutional housing.
- State and/or Local Public Health Agencies do not have the authority to conduct inspections of institutional housing.
- Some local jurisdictions having housing ordinances, which would include this area; however, Local Public Health Agencies do not normally become involved in the inspection process of these facilities.
- In the absence of local housing ordinances, the Local Public Health Agency may act as consultants upon receiving a request from the appropriate authority, such as, the Local Housing or Building Authority or Code Enforcement.

### **Complaints**

When a complaint is received, the complaint shall be forwarded immediately to the local housing or building or code enforcement officials if the facility is located in an area covered by local ordinance.

## Training and Resources

### Websites:

1. Missouri Lodging Statute and Rule <http://health.mo.gov/safety/lodging/pdf/lodgingmanual.pdf>
2. National Swimming Pool Foundation <http://www.nspf.org/en/home.aspx>
3. Professional Pool Operators of America <http://ppoa.org/>
4. Centers for Disease Control and Prevention <http://www.cdc.gov/healthywater/swimming/index.html>
5. Missouri Division of Fire Safety <http://www.dfs.dps.mo.gov/>
6. Missouri Department of Natural Resources <http://www.dnr.mo.gov/>
7. Missouri Food Code <http://health.mo.gov/safety/foodsafety/foodcode.php>
8. Missouri Onsite Wastewater Treatment Program  
<http://health.mo.gov/living/environment/onsite/index.php>
9. Missouri Well Construction Code <http://www.sos.mo.gov/adrules/csr/current/10csr/10c23-3.pdf>
10. Boiler and Pressure Vessel Safety <http://www.sos.mo.gov/adrules/csr/current/11csr/11c40-2.pdf>
11. Americans with Disabilities Act <http://www.ada.gov/>
12. Missouri Hotel and Lodging Association <http://www.lodgingmissouri.com/>
13. Bed and Breakfast Inns of Missouri <http://www.bbim.org/>
14. Professional Association of Innkeepers International <http://www.innkeeping.org/>
15. Bed Bugs <http://www.bedbugcentral.com/bedbugs101/>

### Acronyms:

BEHS:	Bureau of Environmental Health Services
DHSS:	Department of Health and Senior Services
EHOG:	Environmental Health Operational Guidelines
EPHS:	Environmental Public Health Specialist
LPHA:	Local Public Health Agency
ADA:	Americans with Disabilities Act

**Resources:**

1. National Fire Protection Agency
  - Life Safety Code, NFPA 101
  - National Electric Code, NFPA 70
  - National Fuel Gas Code, NFPA 54
  - Standard for Portable Fire Extinguishers, NFPA 10
  
2. Building Officials and Code Administrators International
  - National Building Code
  - National Fire Prevention Code
  - National Plumbing Code
  - National Mechanical Code

## INSPECTION REFERENCE SHEET

### Guest Rooms

Clean (C1 or C2)  
Condition walls, floors, fixtures, furniture, AC, etc. (C1)  
Condition mattresses and box springs (C4)  
Condition bed linens and towels (C3)  
Proper cleaning of whirlpool/Jacuzzi tub (C2)  
Smoke detectors, hardwired and functioning (E7)  
CO detector, hardwired and functioning, if required (D3)  
Coffee maker out of bathroom (C10)  
Ice bucket out of bathroom (C10)  
Ice bucket liner or properly cleaned, sanitized (C10)  
Single-service cups prepackaged (C10)  
Evacuation route posted (E9)  
GFCI installed in bathroom, when applicable (D4)  
Self-closing, 20 minute fire rated door (E6)  
Single-service cups/glasses pre-packaged (C2)  
Empty light sockets (D2)  
Portable space heaters (H1)  
Unvented fireplaces (H1)  
Extension cords <6ft., no more than 2 per room (D2 or D4)  
Mechanical ventilation for restrooms, new facilities (G2)  
Receptacles, wiring (D4)  
Over-rated bulb in fixture (D2)  
Evidence of rodents or insects (C5)  
Electrical switches, receptacles, boxes covered (D4)

### House Keeping Storerooms

Clean (C1 or C2)  
Condition walls, floors, fixtures (C1)  
Evidence of rodents or insects (C5)  
Smoke detectors, hardwired and functioning (E7)  
Linen storage (C2)  
Food/single-service items storage (C10)  
Electrical panels  
    Labeled, good repair, no openings (D7)  
    Unobstructed (D7)  
Chemicals, used, stored and labeled (D1)

### Mechanical Rooms

Smoke detectors, hardwired and functioning (E7)  
CO detectors, hardwired and functioning with gas burning appliances (D3)  
Combustion/make-up air (H4)

Proper storage of combustible/toxics (D1)  
Fire extinguisher, 5 pound, 2A10BC (E4)  
Fire extinguisher charged and inspected (E4)  
Exposed wiring (D2 or D4)  
Condition walls, floors (C1)  
Electrical switches, receptacles, boxes covered (D4)

### Water Heater, Boilers, Storage Tanks

Unit psi adequate with relief valve (G5)  
Unit Btu adequate with relief valve (G5)  
Relief valve discharge pipe (G5)  
Leaks (G1)  
    > 200,000 Btu or 120 Gallons, MDPS inspected (G3)  
    Fire-resistant room/sprinkler head (H2)  
Electrical panels  
    Labeled, good repair, no openings (D7)  
    Unobstructed (D7)  
Extension cords <6ft., no more than 2 per room (D2 or D4)  
Gas shut-off to appliances (H6)

### Laundry Rooms

Clean (C1 or C2)  
Evidence of rodents or insects (C5)  
CO detector with gas dryer (D3)  
Smoke detector (E7)  
Dryer lint screens clean (D2)  
Linen storage (C2)  
Electrical panels  
    Labeled, good repair, no openings (D7)  
    Unobstructed (D7)  
Fire extinguisher, 5 pound, 2A10BC (E4)  
Fire extinguisher charged and inspected (E4)  
Air gap on waste lines of washing machines (G6)  
Laundry chute door, self-closing (E6) or (E5)  
Laundry chute door, 1-hour fire rating (E6)  
Laundry room door, 1-hour fire rating, self-closing (E6)  
Combustion/make-up air (H4)  
Condition walls, floors (C1)  
Electrical switches, receptacles, boxes covered (D4)

### Common Areas

Hallways

- Clean (C1 or C2)
- Emergency lights (D6)
- Exit signs (D5)
- Fire extinguisher, 5 pound, 2A10BC (E4)
- Fire extinguisher charged and inspected (E4)
- Fire extinguisher w/in 75ft of all guest doors (E4)
- Air break on ice machine drains (G6)
- Evidence of rodents or pests (C5)
- Smoke detector (E7)
- Condition walls, floors (C1)
- Electrical switches, receptacles, boxes covered (D4)
- Exterior/premises maintained (C8)
- Garbage, refuse maintained (C7)
- Threaded faucets, backflow prevention (G6)

#### Guest laundry room

- Clean (C2)
- Fire extinguisher (E4)
- Smoke detector (E7)
- GFCI (D4)

#### Egress (Primary)

- Emergency lights (D6)
- Exit signs (D5)
- Stairways in good repair (E10)
- No storage on stairs (E10)
- Stairs, ramps, walkways free of ice and snow (E10)
- Handrail, 34-38 inches (E11)
- Guards/balusters spacing, 4 inch sphere (E11)
- Balcony rail, 42 inches (E11)
- Ramps, 44 inches wide (E11)
- Textiles, hangings, mirrors (E3)

#### Egress (Secondary)

- Window or door, >20 inches wide & >24 inches in height and 5.7ft<sup>2</sup> in area; not more than 44 inches above the floor and w/in 20 feet of grade or opens onto a balcony accessible to Fire Dept. (E11)

#### Doors in egress unlocked (E2)

#### Food Service

- Source, condition (C9)
- Storage, service, temperature (C10)
- Proper place to clean food equipment, 3-vat sink (C11)
- Hand washing facilities (C12)

- Hand washing, bare hand contact (C12)

#### Pools

- Enclosed and self-closing (F1)
- Depth markers on deck and sides of pool (F2)
- Safety rope with floats & boundary line (F2)
- Spa no more that 4ft. deep (F2)
- Reachable shepherd's crook (F3)
- Throwable device, with rope (F3)
- Water Chemistry
  - Free Chlorine 1.0ppm (F4)
  - Bromine at 3-5ppm (F4)
  - pH 7.2-7.8 (F4)
  - Clarity (F4)
  - Spa temperature <104° F (F4)
  - Continuous disinfections (F4)
- Step/ladder provided at deep, shallow end (F5)
- Drain grates in good repair, prevent entrapment (F5)
- Pool equipment in good repair (F5)
- Surface skimmers clean, in good repair (F5)
- Slides and diving boards in good repair (F5)
- Pool deck free of tripping hazards (F5)
- Ventilation, pool and chemical storage to the outside (F6)
- Lights maintained (F7)
- GFCIs >10ft. from pool (F7)
- Signage (F8)
- First aid kit (F8)
- Test kit for free chlorine and pH (F8)
- Daily operating records (F8)

#### Water

- Chlorinator operating properly (A3)
- Non-community water supplies, DNR permit (A1)
- Bacti test satisfactory for private and non-community sources (A2)

#### Wastewater

- Operating properly (B1)
- NPDES permit if installed after 2/2002(B1)

#### Annual or Third Party Certification

- Fire extinguisher (E4)
- Fire alarm system (E8)
- Sprinkler system (E8)
- Boilers, water heaters, storage tanks (G3)
- LP gas system leak test (G1 or H5)
- Backflow test, complies with local codes (G6)

#### New Establishments

Smoke Detectors hardwired  
 Fire alarm system installed See Section (E)3 in the Code for exceptions and additional requirements  
 Sprinkler system installed See Section (E)3 in the Code for exceptions and additional requirements  
 Swimming Pool Certified  
 Building Certified to National Standards or  
 Occupancy Permit

**Number of Guest Rooms to Inspect**

Total Number of Guest Rooms	Percentage/Number of Guest Rooms to Inspect
5-20	50 % of the total number of guest rooms

21-200	10 guest rooms or 15 % of the total number of guest rooms, whichever is greatest
> 200	Minimum of 30 guest rooms, more if deemed necessary during inspection



MISSOURI DEPARTMENT OF HEALTH AND SENIOR SERVICES  
 BUREAU OF ENVIRONMENTAL HEALTH SERVICES  
**CHANGE ORDER**

Print Form  
 Submit by Email

TO: BUREAU OF ENVIRONMENTAL HEALTH SERVICES		DATE:	
FROM:	COUNTY CODE:	TELEPHONE NUMBER:	
<b>TYPE OF ESTABLISHMENT (PLEASE CHECK ONE)</b>			
<input checked="" type="checkbox"/> Lodging Establishment <input type="checkbox"/> Frozen Desert Establishment <input type="checkbox"/> Warehouse		<input type="checkbox"/> Food Processor <input type="checkbox"/> Food Establishment (i.e., restaurant, school, grocery store)	
<b>STATUS CHANGE TO ESTABLISHMENT (PLEASE CHECK ALL THAT APPLY)</b>			
<input type="checkbox"/> Change in name <input type="checkbox"/> Change in ownership <input type="checkbox"/> Change in address <input type="checkbox"/> Change in telephone number <input type="checkbox"/> Change in number of units		<input type="checkbox"/> Change in months of operation <input type="checkbox"/> New Establishment <input type="checkbox"/> Close Establishment <input type="checkbox"/> Reactivate Establishment	
<b>CHANGE IN NAME</b>			
PREVIOUS NAME		NEW NAME	
<b>CHANGE IN OWNERSHIP</b>			
PREVIOUS OWNER		NEW OWNER	
<b>CHANGE IN ADDRESS</b>			
PREVIOUS NUMBER AND STREET		NEW NUMBER AND STREET	
PREVIOUS CITY AND STATE		NEW CITY AND STATE	
PREVIOUS ZIP CODE		NEW ZIP CODE	
<b>CHANGE IN TELEPHONE NUMBER</b>			
PREVIOUS TELEPHONE NUMBER		NEW TELEPHONE NUMBER	
<b>CHANGE IN NUMBER OF UNITS</b>			
PREVIOUS NUMBER OF UNITS		NEW NUMBER OF UNITS	
<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>		<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	
<b>CHANGE IN MONTHS OF OPERATION</b>			
PREVIOUS MONTHS OF OPERATION		NEW MONTHS OF OPERATION	
<b>THROUGH</b>		<b>THROUGH</b>	
OWNER/OWNER'S AGENT SIGNATURE		DATE	
x			
<b>FOR CENTRAL OFFICE STAFF ONLY</b>			
ESTABLISHMENT NUMBER		CHANGED BY (INITIALS)	DATE
<input type="text"/> <input type="text"/> <input type="text"/> - <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>		x	

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**Introduction**  
**Emergency Response**  
**Communication between DHSS and LPHA**

**Emergency Response**

By and far, one of the most important fundamental functions of the Department of Health and Senior Services (DHSS) and Local Public Health Agencies (LPHAs) is to assure expeditious, proper response to environmental health emergencies, particularly those involving distressed foods. Many times our role in urgent situations is to respond to conditions where our food or water supply has been at risk of being compromised. Thus, this response role has priority over routine responsibilities. Response to emergency events, i.e. natural disasters, fires, floods, transportation accidents, involving food/drugs or water supplies is critical to prevent adulterated food, drugs, or water from remaining in commerce. Failure to do so is more likely than other environmental health functions to result in public exposure to contaminants and increases the probability of disease and/or death. The intent of this chapter is to provide guidance when responding to urgent environmental health issues.

**(ERC) and (MIAC)**

The Emergency Response Center (ERC) serves as the coordination point for all DHSS responses to public health related emergencies, as well as, monitoring the day-to-day emergency preparedness of the public health and allied systems. In addition, the ERC can be quickly activated and fully staffed to function as a command and control center in an emergency.

In addition, SEMA's Missouri Information Analysis Center (MIAC) provides a public safety partnership consisting of local, state, and federal agencies, the public sector, and private entities. Together these groups collect, evaluate, analyze, and disseminate information and intelligence to agencies tasked with Homeland Security responsibilities in a timely, effective, and secure manner.

Recently, the ERC and MIAC began working together in an effort to provide a single, seamless resource that collects information and notifies Local Public Health Agencies of an environmental health related emergency. The ERC and MIAC differ only in location and hours of operation; therefore, for the purposes of an EPHS they serve in the same capacity and should be considered one and the same.

It is important that Local Public Health Agencies notify the ERC of changes in staff to ensure they have the most up-to-date contract information. The toll free number, (800) 392-0272, is answered 24 hours a day, seven days a week by the ERC or MIAC.

## **Distressed Foods**

Safe food is a basic necessity of life. Section 196.030, RSMo mandates the Department of Health and Senior Services (DHSS) and its representatives to embargo foods, drugs, cosmetics, or medical devices that are involved in suspected adulteration or misbranding, transportation incidents or other natural/manmade disasters. In these events, it is the responsibility of the environmental health personnel to assess the condition of any food, drug or cosmetic involved in such incidents and to make sound decisions based on public health policies and procedures.

Evaluations should be conducted, as soon as possible, after accidents, truck wrecks, train derailments, fires, floods, back-up of sewage in a facility, or when other natural/manmade disasters occur. Every effort shall be made to limit the amount of product that is destroyed, however; decisions to salvage or destroy must be based on public health food protection policies and procedures, not economic concerns.

### Definitions:

**Adulteration** – Food is adulterated if it:

- Contains any substance harmful to health;
- Contains any diseased, contaminated, filthy, putrid, or decomposed substance;
- Has been produced, prepared, packed or held under unsanitary conditions whereby it may have become contaminated with filth or whereby it may have been rendered diseased, unwholesome, or injurious to health;
- Is missing a valuable constituent;
- Contains any substance that has been substituted in whole or in part; or
- Contains any substance that has been added to increase its bulk or weight or make it appear of better quality or value than it is.

**Misbranding** – Food is misbranded if:

- It has labeling that is false or misleading;
- It is offered for sale under the name of another food;
- The container is so made, formed or filled as to be misleading;
- It does not conform to label declarations for weight, measure or numerical count; or
- It is a food that does not conform to a prescribed definition and standard of identity.

**Embargo** shall be defined as goods held pending the decision whether to condemn the product or release the product to re-enter commerce. Embargo should not be confused with destruction, as the product is only being held temporarily while a determination is being made as to its status.

### Occasions for Issuing an Embargo

- When a transportation incident, fire, flood or other natural/manmade disaster occurs resulting in adulterated food, drugs, or cosmetics;

- When a product is deemed questionable based on observations during a sanitation and safety inspection;
- When a recall notice is received from the DHSS, Food and Drug Administration, Food Safety and Inspection Service of the U.S. Department of Agriculture or other reliable source and is not voluntarily removed from sale; and/or
- When notified of a possible tampering, misbranding or adulteration incident.

**Condemn** shall be defined as goods found to be or believed to be unfit for human consumption which need to be denatured and disposed of or used for non-human product.

**Release** shall be defined as goods allowed to re-enter commerce.

### Notification Process

In most instances, the Local Public Health Agency (LPHA) will be notified of an incident, such as a truck wreck, fire, flood, power outages, or other natural/manmade disaster involving consumable food products in one of two ways:

- The Missouri Highway Patrol, Local 911 Center or Fire Department will notify DHSS Emergency Response Center (ERC) who will in turn notify the LPHA; or
- The Law Enforcement, Local 911 Center or Fire Department will notify the LPHA directly.

Regardless of the method in which the LPHA is notified, the response procedures shall remain the same.

### Response Procedures

1. Upon notification of an incident, complete the Emergency Response Information form. Record the type of food products involved, as well as, the location, date and time the incident occurred. Obtain the name, agency, and phone number of the person who is notifying you of the incident.
2. Be extremely cautious when responding to a transportation incident, fire, flood or other natural/manmade disaster. Extreme hazards can be associated with traffic conditions, structural integrity of the building, wet or slippery conditions and/or toxic chemicals present in the air. Remember that your safety is the primary concern. Each incident is unique, response time may be delayed when site conditions are hazardous or under investigation.
3. In cases involving power outages, a large number of food establishments may simultaneously be impacted. Initially, the LPHA should contact the utility company, county emergency operations center, or other appropriate agency to determine the boundaries of the power outage. Once the boundaries are determined, the next step is to assess the anticipated duration of the outage. This can be accomplished by contacting the power company that covers the affected area. Ameren Missouri and many other electrical cooperatives have a website containing this information. At this point, the LPHA should begin an assessment of each establishment either by telephone calls or site visits. This assessment should confirm whether or not the establishment's electricity has been lost; if they are operating; and their disposition of perishable foods, such as moving food to another location or using back-up generators. Priority should be given to full scale grocery stores, high risk food establishments, and food establishments with poor compliance histories. If

the scale of the event prevents the LPHA from addressing these types of facilities in a timely manner, they should contact their Regional Environmental Public Health Specialist (EPHS) V to request assistance. During site visits, safe food handling guidance should be discussed, a Power Outage Notice provided, and the disposition of food products assessed. Adulterated food products shall be embargoed or voluntarily disposed of appropriately. During telephone calls, safe food handling guidance should be discussed with the owner/operator. As time permits, more thorough follow-up inspections of each food establishment should be conducted and the remainder of the following steps implemented. In addition, power outages may impact the water supply. The water supply may be lost or placed under boil order restrictions when power is lost. Many times you can contact the water supply district, municipal water supply utility or county emergency operations center to determine the status of the water supply serving the area.

4. Upon arrival at the incident site, contact personnel in charge of operations, such as the sheriff, highway patrolman, towing company, or insurance agent.
5. Notify the responsible party in writing that the product involved in the incident is under 'embargo' and is not to be removed or disposed of until the DHSS, LPHA or court gives permission for removal or disposal (Order of Embargo form). The responsible party should sign this document. If the responsible party refuses to sign the form, document the refusal, and contact the Bureau of Environmental Health Services (BEHS) Chief who will notify the DHSS General Counsel.
6. Inform the legal owner or his agent of his legal responsibility to protect the embargoed goods by posting guards or by other means necessary.
7. Conduct a preliminary survey of the food and conditions at the site for environmental contamination factors, such as flood water, smoke, soot, heat, chemical, physical or impact damage. Note the weather conditions (temperature, precipitation) and its potential affect on the food product at the scene.
  - A. If there is generalized damage, such as a fire in a warehouse full of food product, it is not necessary to inventory each item. Instead, note on the Order of Embargo form that all food, drug or cosmetic products are under embargo. If there is a bill of lading, a copy can accompany the embargo form. (This also holds true for subsequent forms, such as the Final Disposition of Embargoed Goods).
  - B. If there is localized damage, such as a pallet of flour infested with bugs, and the rest of the food products appear sound, an exact inventory of the damaged products should be noted on the Order of Embargo form. (This also holds true for subsequent forms, such as Final Disposition of Embargoed Goods).
    - In this case, the embargoed product should be placed in a secured area and a DHSS warning tag and seal placed through the door latch.
    - If it is not possible to move the product to a secured place, then at least, a sufficient number of warning tags and "do not use" tape should be affixed to the embargoed product.

8. Determine whether the food product at the site is salvageable or condemned as unfit for human consumption. This may take some time to occur and should be started as soon as possible.
9. Whenever possible, all salvageable food should be separated at the site from food that is condemned as unfit for human consumption.
10. If, after evaluation of the food, it is determined that the product is in sound condition notify the responsible party in writing that the product is released to re-enter commerce (Final Disposition of Embargoed Goods form). Product may be released from an embargo by environmental health personnel when:
  - A. It has been determined that the product has not been adulterated or misbranded;
  - B. The product has been diverted to non-human food uses and has been denatured or de-characterized; or
  - C. Ordered by the Court.
11. If, after evaluation of the food, it is determined that the product is not in sound condition notify the responsible party in writing that the product is condemned as unfit for human consumption and must be destroyed or denatured. The responsible party must sign that they are willingly surrendering the product for destruction or denaturing.
  - A. If the product is perishable and the responsible party refuses to sign the Final Disposition of Embargoed Goods form, the environmental health personnel shall serve the responsible party a written notice directing him/her to hold the product for a period not to exceed three (3) days. At the end of the three (3) day period either a final disposition agreement needs to be in place or a new notice will be issued.
  - B. If the product is not perishable and the responsible party refuses to sign the Final Disposition of Embargoed Goods form, the environmental health personnel shall serve the responsible party a written notice directing him/her to hold the product for an undetermined period.
  - C. The environmental health personnel shall then notify the BEHS Chief who will notify the DHSS General Counsel.
  - D. The General Counsel may request assistance from the County Prosecuting Attorney if criminal violations might have occurred.
    - The General Counsel will immediately apply to the circuit court, in the jurisdiction in which the product is located, for an order to condemn and destroy the product; and
    - Upon application, the court will hold a summary hearing and decide to uphold or deny the application.
12. Supervise the destruction of all condemned product, observing local ordinances. Do not permit unsalvageable food to be removed from your jurisdiction.
  - A. Destruction and/or denaturing can be accomplished by crushing the product with a compactor truck; crushing the product at a transfer station; burying the product in a landfill; or removing any wrapper/container from the product, disposing of the product in a dumpster and denaturing by pouring bleach or other chemical over the product.

- B. Food declared as unfit for human consumption may be permitted for use in animal food pending approval by the Missouri Department of Agriculture or U.S. Food and Drug Administration. Food intended for industrial use shall be denatured.
  - C. Do not permit condemned food to be taken for personal use by the salvager, his employees or anyone else.
  - D. Section 196.030, RSMo does not grant health department's seizure authority. It is imperative that the health authority never take possession of food products for later disposal. It is, however, very important that the health authority supervise the destruction of all condemned products.
13. If salvaged foods, under embargo, are removed from your jurisdiction promptly notify the health authority in the jurisdiction in which the embargoed foods are being transported, providing all available information. The salvaged food shall move under embargo with the vehicle sealed. The seal must only be removed by the regulatory agency once the vehicle has arrived at its final destination.
  14. Section 196.030, RSMo mandates evaluation of distressed food, drugs, and cosmetics, however; this section does not grant authority over non-food items such as tobacco products, pet foods, cleaning chemicals, paper products or single service utensils. In cases where single service paper products and utensils have become contaminated and are in a foodservice facility (restaurant, tavern) request that these products be disposed. In cases where single service paper products and utensils have become contaminated and are in a retail sales facility (grocery store, convenience store) encourage voluntary disposal of such items.
  15. If you must transfer products to a better/safer location, conduct a preliminary survey and segregate product that is obviously damaged from those products that need further examination. In general, embargoed products should not be allowed to leave the state.
  16. Assure that product is not removed or altered during travel by securing the doors on the trailer or rail car with a DHSS seal. Record the seal number on the Order of Embargo form.

#### Response Procedures Dealing with Other Government Agencies

- When meats and poultry products are involved, they should be evaluated as any other perishable food item. If deemed salvageable, those food items should be released or referred to the U.S. Department of Agriculture (USDA) or the Missouri Department of Agriculture Meat and Poultry Inspection Program (MDA) for reworking or reprocessing when necessary at an approved facility.
- When alcoholic beverages are involved they should be evaluated as any other food item. Additionally, it is recommended that you contact your local liquor control agent at [http://www.atc.dps.mo.gov/about/contact\\_us.asp#d1](http://www.atc.dps.mo.gov/about/contact_us.asp#d1) to notify them of the incident. An agent may or may not be present on site.
- When bulk milk and other dairy products, such as cream being hauled in a tanker truck, are involved in a transportation accident, contact the Missouri Department of Agriculture, [State Milk](#)

[Board](#) as they have regulatory authority. DHSS and LPHA should not respond to incidents involving only bulk milk and other bulk dairy products.

- When drugs are involved, special considerations needs to be made; see subsection: Distressed or Adulterated Drug and Pharmaceuticals in this chapter. Antibiotics subject to salvage shall be referred to the U.S. Food and Drug Administration for review.

### Standards for Determining Food Safety

Regardless of the incident, the following criteria should be used for evaluating foods:

#### 1. Food Temperatures

- Refrigerated or frozen potentially hazardous foods must maintain a temperature of 41°F or below.
- Upon arrival at the scene, record the time and temperature of all perishable food products. Continue to regularly record the time and temperature of these foods until it is declared unfit for human consumption or released back into commerce. Caution should be exercised to minimize opening doors of malfunctioning refrigeration units. Opening refrigeration doors releases cold, conditioned air.
- Product temperatures should be taken randomly from each unit on the scene.
- Temperatures should be taken directly from the product/ package. If the product/ package is thick or large enough to allow for a variation in temperature, temperatures should be taken from an area one-inch below the outside edge of the product/ package.
- Cold-held potentially hazardous foods found to be above 45°F shall be marked for identification as unfit for human consumption. Exceptions may be provided on a limited basis for raw meat products subject to heat treatment and retail facilities that utilize an approved Emergency Action Plan as described in section 4 below.
- Once the truck/trailer is opened, temperatures shall be taken and recorded at the point nearest the entrance.
- Product temperatures should be taken from the outer edge of the load/cooler then progressively toward the center of the load/unit.
- Product temperatures should be taken around any hole or break in the truck.
- Prior to reloading salvageable foods, the ambient air temperature in the receiving trailer shall be 45°F or below. Every effort should be taken to maintain this temperature during loading operations.

#### 2. Unsalvageable Items include:

- Fresh foods, such as produce and exposed foods subjected to floodwater, sewage, fire, smoke, soot, pesticides, fuel or other automotive fluids, or other contaminants.
- Heat-damaged food items regardless of packaging that are noticeable charred or were in the immediate proximity of the fire.
- Products in containers with screw-caps, snap-lids, crimped-caps, twist-caps, flip-top, snap-open, corks and similar types closers (whether plastic, glass, cardboard or other type of packaging)

subjected to floodwater, sewage, fire, smoke, soot, pesticides, fuel or other automotive fluids, or other contaminants.

- Glass containers subjected to impact conditions, such as the result of a truck wreck. The extent of damage to the primary packaging cannot always be easily seen and/or identified. Glass containers are subject to fractures and glass splintering.
- Cardboard packages having the following critical or major defects:
  - Cuts, punctures, rips or any other visible evidence of exposure of the product to contamination. Note that some products may have double packaging. For example, cereal is often packaged in a sealed inner bag within an outer cardboard box. The cereal may be salvaged if the inner bag has not been damaged or subjected to contamination.
  - Exposure to smoke and/or coated with a film of soot or chemicals. Most cardboard packages are permeable to these agents and depending on the condition can allow contaminants to travel through the packaging material. Additionally, these packaging materials can trap contaminants in seams and splits and are virtually impossible to clean.
  - Damaged by or exposed to floodwater, floor drain backup, water or chemicals used in firefighting, precipitation, fuel or other automotive fluids, smoke, pesticides or other contaminants.
  - Damaged by physical means, such as an explosion, severe weather, glass shards, etc.
- Canned foods having the following critical or major defects (with the exception of carbonated beverages and dry foods, such as ground coffee or powdered beverage mixes, provided the container is otherwise intact):
  - Bulges. This may indicate gas formation.
  - Bulging lids due to severe dents or buckles.
  - Holes or any visible evidence of product leakage. Stained labels may indicate leakage.
  - Obvious fractures or dents on the pull-top lid score lines or in the rivet area.
  - Rusting with any pits that show a danger or imminent perforation.
  - Crushed to the point where they cannot be stacked or opened with manual can openers.
  - Dented on the score or at the juncture of the side seam and end seam.
  - Cut or fractured through the metal on the end seam.
  - Flippers, springers, and/or swellers (see diagram at the end of this subsection).
  - Deep body dents where the can may be fractured.
- Flexible packages, such as pouches, bags, pur-paks, tetra-paks and plastic tubs constructed of plastic, cellophane, foil or other flexible materials having the following critical or major defects:
  - Bulges or swelling. This may indicate gas formation.
  - Abrasions, cuts, punctures, cracks, fractures or any other visible evidence of loss of hermetic seal.
  - Obvious fractures or dents on the pull-top lid scores lines or in the rivet area.
  - Exposure to smoke and/or coated with a film of soot or chemicals. Many plastics and cellophanes are partially permeable to these agents and depending on the condition can allow

contaminates to travel through the packaging material. Additionally, these packaging materials can trap contaminants in seams and splits and are virtually impossible to clean.

- Double seam end crushed to the extent the double seam is affected.
- Exposure to non-potable water such as floodwaters, fire extinguishers and rainwater. It is virtually impossible to remove dirt and to properly clean and sanitize these packages. Dirt has a tendency to collect in splits and at the seams.

- Product held under unsecured conditions whereby product integrity may have been compromised by pests, unauthorized persons, or environmental conditions, such as:
  - A breeched or unlocked trailer left unsupervised at the scene of an accident.
  - A storm-damaged food establishment left unsupervised.
  - Uncovered product held overnight in a temporary food event tent.

3. Salvageable Items include:

- Foods in hermetically sealed cans that have been exposed to contamination may be salvageable for human consumption if the owner reconditions and re-labels the product. The labels must first be removed and the containers cleaned with hot soapy water; rinsed with clean water; sanitized by immersing the cans in a solution of an approved sanitizer; and air-dried. In most cases the can will need to be recoated to prevent the container from rusting. Finally, all cans must be re-labeled before entering back into commerce.
- Information labels on all salvaged food containers must be legible and complete prior to entering back into commerce.

4. Emergency Action Plan. During times of disasters/incidents causing an interruption of electrical services, it may be beneficial to have temporary alternative processes in place to protect the public's health. The Conference for Food Protection, in response to growing demands, developed a model [Emergency Action Plan](#) (EAP) to assist retail food establishments in preparing for, responding to, and recovering from an emergency. The model EAP provides information that will help guide establishments with determining if they should remain open as well as what items may be prepared, sold, and salvaged during this time. Although an EAP is not a requirement, establishments can develop their own EAP. During routine inspections the EPHS should discuss what measures, if any the establishment intends to employ during a power outage.

To be recognized, an EAP must be reviewed and approved by DHSS and the administrative authority prior to a disaster/incident and include the following:

- An EAP must be created by the establishment and tailored for their specific operations.
- An EAP must outline the responsibilities of the Person-in-Charge to assure that the proper action is taken when food safety is impacted.
- An EAP must provide comprehensive information for evaluating foods and/or an establishments' operational readiness following an interruption in electrical services; however, the procedures within the EAP does not supersede pre-existing local, state and/or federal regulations or policies.
- An EAP must include a facility-specific assessment of timeframes for the restoration of power, operational procedures, equipment capabilities, time/temperature recordkeeping of product, and science-based documents supporting the plan.

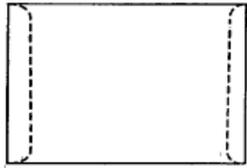
Responsibilities of the Owner/Representative

1. Provide necessary equipment and personnel to protect product from contamination.
2. If needed, provide necessary equipment and personnel to maintain safe product temperatures.
3. If needed, provide necessary equipment and personnel for removal and destruction of product.
4. Dispose of unfit product in a manner approved of by the DHSS and LPHA.

## Can Classifications

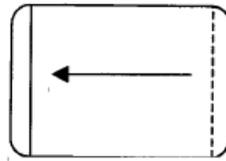
1. **FLAT** – A can with both ends concave; the can remains in this condition even when the can is brought down sharply on its end on a solid flat surface.
2. **FLIPPER** – A can that normally appears flat, but when brought down sharply on its end on a flat surface; one end flips out. When pressure is applied to this end, it flips in again and can appear flat.
3. **SPRINGER** – A can with one end permanently bulged. When sufficient pressure is applied to this end, it will flip in, but the other end will flip out.
4. **SOFT SWELL** – A can bulged at both ends but not so tightly, the ends cannot be pushed in somewhat with thumb pressure.
5. **HARD SWELL** – A can bulged so tightly at both ends that no indentation can be made with thumb pressure. A hard swell will generally “buckle” before the can bursts. Bursting usually occurs at the double seam over the side lap or in the middle of the seam.

## CAN CLASSIFICATIONS

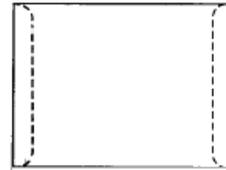


NORMAL CANS

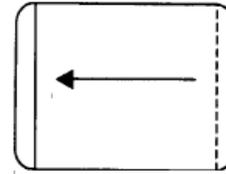
1. ANALYZE ALL FLIPPERS, SPRINGERS AND SWELLS IMMEDIATELY.
2. INCUBATE NORMAL CANS FOURTEEN (14) DAYS AT 35 C.
  - a. ANALYZE CANS CHANGED FROM NORMAL TO ABNORMAL IMMEDIATELY.
  - b. ANALYZE A REPRESENTATIVE NUMBER OF NORMAL CANS AFTER FOURTEEN (14) DAYS INCUBATION.



\*FLIPPER  
PRESSED BY FINGER TO  
NORMAL APPEARANCE

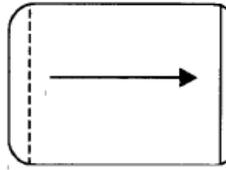


FLIPPER  
PRESSED BY FINGER TO  
NORMAL APPEARANCE



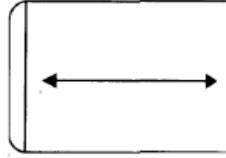
SPRINGER

SPRINGER  
PRESSED BY FINGER CAUSES  
OPPOSITE END TO BULGE



SPRINGER

SWELL  
CAN NOT BE  
PRESSED FLAT



\*NOTE: It is sometimes necessary to strike a normal-appearing can on its end against a solid, flat surface to detect a "flipper".

- a. SOFT SWELL YIELDS SLIGHTLY TO PRESSURE
- b. HARD SWELL DOES NOT YIELD TO FINGER PRESSURE

Warren Landry, Microbiologist, Dallas District Office, U.S. Food & Drug Admin., Dallas, TX

## NOTICE

**TO:** Food service and retail food establishments located in the state of Missouri

**FROM:** The Missouri Department of Health and Senior Services, Bureau of Environmental Health Services

In the event of an extended power outage, the safe storage of potentially hazardous food products requiring refrigeration becomes a serious public health concern. Refrigeration and freezer units without power can only maintain a safe product temperature for a short period of time.

As the owner or operator of a food establishment, you are responsible for maintaining your products in a wholesome condition. **You are also responsible for ensuring that temperature-abused, or otherwise adulterated food products are not passed on (sold, traded or given) to consumers as their consumption can lead to outbreaks of serious foodborne illnesses.**

If electricity has not yet been restored to your establishment and you have been unable to make alternate arrangements for the storage of your refrigerated, potentially hazardous food products, the following guidelines are to be adhered to:

- All refrigerated, non shelf-stable, potentially hazardous food items must be maintained at a temperature of 41° F or below and be protected from physical damage including water, chemicals, unauthorized personnel, etc. ***Potentially hazardous foods are primarily those containing meat, fish, poultry and dairy products.***
- If the temperature of any non shelf-stable, potentially hazardous food item exceeds 45° F for a period exceeding two (2) hours, the product must be discarded.
- If the temperature of any non shelf-stable, potentially hazardous food item exceeds 45° F, and you cannot ascertain how long the product has been above 45° F, the product must be discarded.
- Frozen foods that become thawed, but remain below 45° F pose quality concerns, **NOT** public health concerns. Decisions regarding the use/and or refreezing of these products rest with their owner. If, however, the temperature of the thawed products exceeds 45° F for a period of two (2) hours, they too must be discarded.
- To prevent or discourage pilferage of discarded food products, the food should be denatured by pouring liquid bleach, ammonia, soap or similar products over the discarded food items in the dumpsters or trash cans. Notify your waste hauler to arrange for special pick-ups if necessary.

By adhering to the above stipulations, you can prevent serious illnesses from occurring, as well as protect yourself and your business from potential legal liabilities. You should keep an inventory of all discarded products for insurance purposes. Consult with your insurance carrier regarding specific requirements.

**Remember that this is your responsibility. Health department staff members or our authorized representatives will be conducting checks of establishments to ensure compliance with food code regulations.**

Establishment:

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Received by: \_\_\_\_\_

Printed name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_ Time: \_\_\_\_\_

Health Department Representative:

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## **Distressed or Adulterated Drugs and Pharmaceuticals**

Missouri's laws are based on the federal Food, Drug and Cosmetic Act. Section 196.015, RSMo, prohibits the manufacture, sale or delivery, holding or offering for sale any food, drug, device or cosmetic that is adulterated or misbranded. Like food, drugs involved in fires, floods, transportation accidents or other conditions that could cause them to become adulterated have the potential to harm the public. It is the responsibility of the Department of Health and Senior Services to evaluate these goods for adulteration.

Many of the processes and procedures to evaluate and deal with adulterated drugs and pharmaceuticals are similar to the processes used to handle adulterated food. Similarities and differences are highlighted below.

### **Definitions**

Drugs fall into three classes: over-the-counter (OTC), prescription drugs, or controlled substances. These categories influence how drugs are evaluated and handled.

OTC drugs are purchased directly by the consumer from the store shelves and do not require a prescription. Aspirin, cold remedies, vitamins, etc. are common examples of OTC drugs.

A prescription drug is a medication that can be purchased or given out only with a written instruction from a licensed health care provider. Birth control pills, blood pressure medicines, and antibiotics are common examples of prescription drugs.

A controlled substance is a drug or other substance that comes under the jurisdiction of the Federal Controlled Substances Act of 1970. Narcotics, depressants, stimulants, hallucinogens and anabolic steroids are regulated by the Controlled Substances Act (CSA).

### **Determination of Adulteration:**

Drugs that are exposed to smoke, soot, floodwater, diesel fuel, hazardous chemicals or physical damage should be considered adulterated. Although many prescription drugs must be held in a narrow range of temperature and humidity, our evaluation for adulteration will not include these factors.

Documentation should contain the temperature and humidity conditions at the scene to help the product owner make responsible decisions; however, it should be clearly noted that the products in question were not evaluated for these parameters.

### **Evaluation of Over-the-Counter Drugs:**

Your initial action is to embargo the product until evaluated. Gather pertinent information about the incident and the owner of the product. Taking pictures to document conditions is encouraged. For incidents involving OTC drugs, the evaluation for adulteration should be conducted on scene or at the facility. If the drugs are determined to be adulterated, the owner must determine the disposal

method to be used and arrange for secure holding and transport to the disposal site. If the product leaves your jurisdiction for disposal, a copy of the paperwork needs to accompany the load and notification to the receiving jurisdiction is required.

### **Evaluation of Prescription Drugs and Controlled Substances:**

The first action is to embargo the product either at the scene or in the facility. Gather pertinent information about the incident and the owner of the product. There is a higher level of security when dealing with these substances and for that reason the owner or his representative must be on scene prior to any evaluation of the product. This is a critical procedure to follow; as the owner is responsible for the product. Before any product is moved, environmental conditions that exist at the site of the incident should be documented; this includes factors like spilled diesel fuel, soot or smoke damage, floodwater damage, impact damage, the presence of hazardous chemicals and weather parameters like temperature, humidity or precipitation. Taking pictures to document conditions is encouraged.

In a fixed facility like a pharmacy, these products are behind the counter (in a restricted area not accessible to the general public) and sometimes in locked cabinets or storage. Trucks transporting prescription or controlled substance drugs normally carry these in sealed totes. These totes should not be opened on the scene of a transportation accident as adequate security and control cannot be assured. If conditions at the scene indicate these drugs may have been adulterated; then all of the involved product should be placed under embargo and arrangements made with the owner for you to evaluate the product after it has been moved to a secure site.

It is common for the owner to want to move the product out of the county, or perhaps even the state, where the incident occurred, without the involvement of the health authorities. Our embargo authority gives us the ability to deny these requests until an evaluation is completed. Individual circumstances will dictate the best course of action. If the product is allowed to be transported, it remains the responsibility of the LPHA to assure the product gets evaluated for adulteration by the receiving health authority. This is accomplished by maintaining control of the situation through embargoing the product until an evaluation of the product is made to assure unsafe product is not released.

Companies may wish to have management or senior staff on site during the evaluation and sorting, this should be welcomed. Past experience has shown that companies may decide to dispose of the products without an evaluation to determine if it is adulterated. If so, this decision by the company needs to be adequately documented. Keep in mind; it is still our responsibility to oversee the disposal of the product.

For our purposes, the only difference between narcotics, dangerous drugs, other controlled substances and other prescription drugs is that controlled drugs must have a higher level of security. We should remind the owner of the product of their responsibility for maintaining this security. As always, environmental health professionals should not take possession of any product or accept responsibility for the security of any goods.

**Final Disposition of Adulterated Drugs:**

Our responsibility is to assure that adulterated product is removed from commerce. Often when dealing with adulterated food it is taken to the nearest landfill for disposal. In most instances, this will not be an acceptable alternative for drugs. Many drugs pose a groundwater contamination hazard and should not be put in landfills or flushed into wastewater treatment systems. Often drugs are sent to a “reverse distributor” or company that specializes in drug disposal. It is the responsibility of the owner of the product to assure that proper drug disposal methods are used. This applies to all quantities and all classes of drugs. When a reverse distributor or drug disposal company is used, the product must be transported under embargo and we must be provided with written assurance that all of the drugs were received and disposed of appropriately.

## **Disinfection of Water Supplies**

During emergencies health officials tend to become the first contact regarding the safety of drinking water in the area of the event. Drinking water supplies will become contaminated if any open part of the system is exposed to flood waters or the system loses pressure during the event. Flood waters are contaminated due to the tremendous number of contaminants dissolved in the water, such as livestock manure; washed out septic systems; gas/oil; and flooded municipal wastewater treatment plants. Drinking water supplies exposed to any of these conditions should not be used for human consumptions until properly disinfected or tested and found to be safe.

### **Boil Orders**

In some emergency situations where large geographical areas are impacted, one of the first systems to be evaluated is the drinking water system. The Department of Health and Senior Services (DHSS) depends on the Department of Natural Resources (DNR) to provide information on the condition of public water supplies. Environmental staff should be able to advise the public on the status of their system and precautions to take during a boil order. Additional information on boil orders for regulated facilities can be found in [Chapter 7.0 Drinking Water](#).

Those areas that rely on a private well should be notified by the Local Public Health Agency (LPHA) about the potential for contamination. They should include instructions on disinfection of these private systems at the time of the incident.

### **Making Water Safe for Human Consumption**

In emergency events, regulated facilities and homes served by a private water system may need to disinfect their water before it can be used for human consumption. In cases where the use of bottled water is not readily available, the LPHA should be prepared to instruct individuals on how to properly disinfect their water system.

If it is necessary to use suspect drinking water supplies for drinking, cooking, making prepared drinks, or brushing teeth, it must be properly disinfected in order to minimize microbiological risks. The first step is to examine the water. Cloudy, murky, or colored water is often more difficult to disinfect; and should be filtered through a clean cloth before continuing with the disinfection process. The following guidelines are recommended by the DHSS for disinfecting drinking water:

- Boil the water for three (3) minutes in a clean container. Let cool and store in clean containers. The flat taste can be eliminated by shaking the water in a bottle or by pouring it from one container to another;
- Mix 1/8 teaspoon or eight (8) drops of pure, liquid, unscented household chlorine bleach with one (1) gallon of water and let stand for at least thirty (30) minutes before using. If water is cloudy after thirty (30) minutes, an additional 1/8 teaspoon of bleach may be added to the gallon of water. Let the water stand for an additional thirty (30) minutes. Do not use more than the recommended amount of bleach, as excessive amounts can be poisonous. Store in clean containers.

- An alternative treatment is to add five (5) drops of two (2%) percent United States Pharmacopoeia (U.S.P) tincture of iodine to a quart of clear water. For cloudy water, add ten (10) drops and let stand for at least thirty (30) minutes. Store in clean containers.

## **Disinfection**

There are several commercial products that may be used for disinfecting water. These include dry chlorinated lime, also called bleaching powder; calcium hypochlorite compounds, such as HTH, Perochloron, or B-K Powder; and household bleaches, such as Clorox® or Purex®.

The amount of chlorine compound required to make water safe varies according to both quality and amount of water to be treated. The general rule is to add enough disinfectant to give the water a distinct chlorine odor and taste. Both will disappear within a few days following treatment.

## **General Instructions**

A chlorine concentration of five parts per million (ppm) is sufficient for routine disinfection; a heavily contaminated supply may require up to 50 ppm for complete disinfection. See Table 1 for a listing of various chlorine compounds that shows the amount of material ordinarily required to disinfect 1000 gallons of water.

If a powdered or granular compound is chosen for use, blend the material with water until it becomes a smooth paste. Allow the mixture to settle; then strain the liquid through a finely woven cloth. The disinfectant is then ready to add to the water supply.

If a liquid compound is used the required amount should be mixed in one or two gallons of water and poured into the well or cistern. If possible, the water should be stirred to aid distribution of the disinfectant. This may be accomplished by re-circulating the water back into the well with the use of a garden hose or other method of conveyance.

After the chlorine compound has been added to the well or cistern, open all faucets and flush all toilets until you smell chlorine. This will disinfect the distribution lines. Let chlorine stand in system for at least four (4) hours or preferably overnight. Again, open all faucets and allow the water to run until no chlorine odor is detected. When the chlorine residual is four (4) ppm, the water is safe for consumption.

## **Disinfection of Wells**

When disinfecting a deep well, there is a possibility that liquid or powdered material will not reach the bottom of the well in sufficient quantities to be effective. Calcium hypochlorite in tablet form, which will sink to the bottom of the well before dissolving, is preferable in this case. If the well has been flooded or if tests indicate heavy contamination enough chlorine material should be added to the well water to establish a chlorine concentration of 50 ppm. The well can be pumped to reduce the chlorine content to a level suitable for drinking (5 ppm) after twelve hours.

If surface drainage or shallow underground water can enter the well, disinfection provides only temporary protection. To permanently safeguard the supply, the well should be reconstructed to protect against further contamination.

## **Disinfection of Cisterns**

To disinfect a water supply in a cistern, add enough chlorine material to establish a concentration of 5 ppm. Unless the water is excessively cloudy, this amount should oxidize all the organic matter and leave enough residual chlorine to be detected by taste and odor.

When the exact volume of water to be treated is unknown, the amount of chlorine material needed must be estimated, see Table 2. If the material used has oxidized all the organic matter and a chlorine odor remains after 12 hours, the water is safe for drinking. If no trace of chlorine remains at the end of the disinfection period, it can be assumed that the treatment has been inadequate and more chlorine material should be added.

**Caution**

1. When handling powdered or granular products, use care not to inhale the dust for it is extremely irritating to the lungs.
2. Chlorine-bearing compounds are strong bleach agents and should not come into contact with clothing.
3. Prepare chlorine-bearing compounds in clean containers, for grease or oil in a container may react violently with the chlorine.
4. Wash the skin with water as soon as possible after contact with any chlorine-bearing compounds, for they may cause irritation.
5. Read product labels and strictly observe all statements of caution.

Table 1

Material	% Chlorine in material	Amount to add per 1000 gallons to produce 50 ppm chlorine	Amount to add per 1000 gallons to produce 5 ppm chlorine
Sodium Hypochlorite (Clorox® or Purex®)	5.25	1 gallon	1 1/2 cups
Sodium Hypochlorite (commercial strength)	12	7 cups	3/4 cups
Chlorinated Lime	25	3 1/2 cups	5 Tablespoons
Calcium Hypochlorite (B.K. Powder)	50	1 1/2 cups	2 1/2 Tablespoons
Calcium Hypochlorite (H.T.H., Perchloron)	70	1 1/8 cups	2 Tablespoons

Note: 16 Tablespoons = 1 cup

For materials not listed above, the percent available chlorine will be found on the label under “active ingredients”

Table 2

Circular Well or Cistern	
Diameter of well in Feet	Gallons of Water per foot depth
½	1 ½
1	6
2	24
3	53
4	94
5	147
6	212
7	288
8	376
9	472
10	587
11	710
12	846

Note: Rectangular or Square Cistern: Length x width x water depth x 7 ½ = gallons

### Examples of Calculations

#### Example 1: Circular Well

To disinfect a well that measures one foot across and has 250 feet of water in it. First, find the number of gallons of water in the well from Table 2 above.

$$6 \times 250 = 1500 \text{ gallons}$$

Second, determine the material to be used for disinfection and from Table 1 find the amount of material required for each 1000 gallons of water.

For laundry bleaches 1 gallon is required for each 1000 gallons of water and there are 1 ½ thousand gallons of water in the well, so 1 ½ gallons of laundry bleach is required.

#### Example 2: Circular Cistern

For a cistern 7 feet across that has 10 feet of water the amount of laundry bleach required would be found by:

$$288 \times 10 = 2880 \text{ gallons of water}$$

$$1 \frac{1}{2} \text{ cups} \times 2880/1000 = 4.3 \text{ cups of bleach}$$

### Example 3: Rectangular or Square Cistern

To disinfect a cistern that is 6 feet long, 7 feet wide, and has 12 feet of water in it. First, find the volume of water in the cistern.

$$6 \times 7 \times 12 \times 7 \frac{1}{2} = 3780 \text{ gallons}$$

For B-K powder (50% chlorine),  $2 \frac{1}{2}$  Tablespoons are required for each 1000 gallons of water.

$$3780/1000 \times 2 \frac{1}{2} = 9.5 \text{ Tablespoons of B-K Powder}$$

## **Onsite Wastewater Treatment Systems Before, During, and After Flooding**

Flooding of an onsite wastewater treatment system can lead to a hazardous situation for regulated facilities and homeowners. It may lead to back-up of sewage into the facility/home, contamination of drinking water, and/or lack of sanitation until the system can be repaired. While we cannot control the weather, there are measures that can be taken to ensure the system can better withstand the stresses of heavy rains or flooding.

Failure of an onsite wastewater treatment system can occur during heavy rains or flooding; as the system can no longer function properly once the ground becomes saturated. During this time, most systems will remain inoperable until the flood waters recede and the soil treatment area becomes somewhat dry. Signs that a system is not operating properly include, but are not limited to, sinks and toilets draining slowly; floor drains overflowing; and wastewater overflowing or surfacing outside the residence or regulated establishment.

### **Before an Emergency**

If you are aware that heavy rains or flood waters are in the area, the following steps should be taken by the facility/homeowner to protect the onsite wastewater treatment system:

1. Assure the sewage tank is at least half full to prevent it from collapsing or floating out of the ground;
2. Seal the manhole and/or inspection ports to prevent excess water from entering the sewage tank;
3. Install a septic tank effluent filter to help prevent soil treatment system clogging; and
4. If the onsite wastewater treatment system requires electricity:
  - a. Turn off the electricity at the circuit box before the area floods, and
  - b. Waterproof all electrical connections to avoid electrical shock or damage to wiring, pumps, and the electrical system; and
5. Plug floor drains, if necessary, to minimize sewage backing up into the house.

### **During an Emergency**

Severe flooding can put extreme stress on the onsite wastewater treatment system, as well as, the private drinking water well. Therefore:

1. Discontinue or limit water usage. Limit toilet flushing, dishwashing, washing clothes, and showering/bathing;
2. Discontinue drinking water from a private well. Drink only water from a safe source, such as, bottled water or water that has been appropriately disinfected; and
3. Avoid or minimize contact with standing flood water. Flood waters can be contaminated with bacteria and viruses, hazardous substances, and wastewater.

### **After an Emergency**

Once floodwaters have receded, there are several things facility/homeowners should remember:

1. Continue to avoid or minimize contact with standing flood water;
2. Treat surfacing wastewater with hydrated lime or diluted household bleach. Wear gloves, handle chemicals with care, and follow all listed precautions;
3. Do not drink well water until it has been tested and shown to be safe;
4. Do not use the onsite wastewater treatment system until water in the soil treatment area has receded and the soil no longer appears saturated;
5. Check for missing septic tank or treatment system access covers. Secure openings with temporary covers;
6. Do not enter the sewage tank, as they contain hazardous fumes and gases that are potentially fatal;
7. If you suspect damage to the system, have it professionally inspected and serviced. Signs of damage include settling or inability to accept water. Most tanks are not damaged by flooding since they are below ground and completely covered. However, some septic tanks, pump chambers or absorption lines can become filled with silt and debris, requiring professional cleaning, repair, and/or replacement;
8. Have a septage hauler pump the sewage tank(s) as soon as possible after the flood. Be sure to pump both the tank and lift station if any. This will remove silt and debris that may have washed into the system. Do not pump the tank during flooded or saturated soil conditions, as the tank may become buoyant or mud and silt may enter the tank and end up in the absorption lines.
9. Continue to limit water usage; flush toilets as little as possible or use a temporary toilet;
10. Reduce all nonessential water use (dishwashing, washing clothes, and showering/bathing);
11. Do not compact the soil over the soil treatment area by driving or operating equipment in the area. Saturated soil is especially susceptible to compaction, which can reduce the soil treatment area's ability to treat wastewater and lead to system failure;
12. Once dry, examine all electrical connections for damage before restoring electricity;
13. Assure the sewage tank manhole cover is secure and that inspection ports have not become blocked or damaged;
14. Check the vegetation over the septic tank and soil treatment area. Repair erosion damage and sod or reseed areas as needed;
15. If sewage has entered into the house, clean the area and disinfect with household bleach; and
16. Discard items contaminated with flood water that cannot be adequately cleaned and sanitized.
17. Individual lagoons that have silted in or have been physically damaged should be repaired as soon as possible before long-term use is resumed. Carefully remove debris from the lagoon and repair damaged berms and fences.

### **Wastewater Treatment System Abandonment**

Some onsite wastewater treatment systems will be abandoned after a natural disaster. The following are recommendations to help ensure the former site used for wastewater treatment and dispersal is safe:

1. Disconnect power at the source to all electrical controls and remove controls and panels;

2. Have a septage hauler pump all the tanks within the system to remove wastewater and sludge;
3. Fill tanks with sand or gravel to prevent future collapse, remove the tanks or crush in place. Backfill the excavation to a natural grade and establish a vegetative cover;
4. Remove all parts of the system on the ground surface such as valves, valve boxes, and risers. Backfill the area to a natural grade and establish a vegetative cover;
5. Coat all surface areas exposed to wastewater with hydrated lime and establish a vegetation cover; and
6. Wait at least eighteen (18) months before using the soil treatment area for gardening or construction.

## **Emergency Shelters and Mass Feeding Centers**

A disaster can strike practically anytime, anywhere- a storm, plane crash, flood, chemical spill, terrorist attack. Although these emergencies are different, they all have one crucial element in common: large numbers of people could be forced from their homes with little to no warning.

During or following a disaster, homes and businesses may be inaccessible, destroyed or uninhabitable. Individuals forced to evacuate need a place to go until it is safe to return home. They may need to stay away for hours, days, or weeks. Under such stressful conditions, it is essential to maintain basic human survival needs such as shelter, safe food, and potable water. While this is a simple concept, providing a consistent and ample supply of safe food and water in a safe environment can be a major challenge full of potential problems.

While there will always be countless variables for which pre-planning is impossible, there are crucial elements that can be addressed that remain constant regardless of the emergency or community. Because disasters affect communities, they require a community response. Emergency shelters and mass feeding sites provided during a disaster are often operated by private organizations. When planning an emergency shelter, contact should be made with the Emergency Management Director of the local jurisdiction, as well as fire and rescue, law and code enforcement, hospitals, American Red Cross, Salvation Army, local churches, health care providers, and service/civic groups. Partnering with these organizations provides vital insight in choosing a shelter site that meets the needs from their perspective, as well as, including public health, security, and life safety.

Additionally, the Missouri Department of Health and Senior Services has created a guide to introduce and discuss some of the many aspects of planning for and opening an emergency shelter. This guide is an excellent tool to provide to Shelter Coordinators and staff. This guide can be found at the following web site: <http://health.mo.gov/emergencies/ert/pdf/emergencyshtelterguide.pdf>

Finally, the Centers for Disease Control and Prevention has also developed an Environmental Health Shelter Assessment Tool located at the following web site: <http://www.bt.cdc.gov/shelterassessment/> to be used by Environmental Public Health Specialist in conducting a rapid assessment of shelter conditions during emergencies and disasters. The tool is an assessment form that covers 14 general areas of environmental health, ranging from basic food safety and water quality to pet/companion animal wellness, and allows for the documentation of immediate needs in shelters. It can be easily modified to meet local needs.

### **Emergency Shelters**

Generally, sites such as churches, schools, hotels, arenas, and community building, are preferred as these facilities normally contain the right mix of amenities to make them ideal for emergency shelters. However, the site is only a portion of the equation; properly trained staff is also critical.

In regard to life safety, the emergency shelter site should provide:

- Accessibility to persons with disabilities;
- Enough sleeping space with provisions to provide separate spaces for families, single men, and single women;
- A main entrance with several remote emergency exits;
- Exits signs and emergency lighting;
- Fire detection;
- Accessible grounded outlets;
- Emergency electrical generator(s) or transfer switch hook-up;
- Ample parking;
- Compliance with applicable fire and safety codes; and
- Personal safety and security from on-site law enforcement.

While the shelter may not provide medical service to shelter residents, it is possible that some of the people who come to the shelter will be sick when they arrive. There could be illnesses ranging from a common cold or stomach virus to more serious diseases such as hepatitis or even tuberculosis. At a minimum the following should be considered:

1. Adequate hand-sink facilities with warm running water, and ample supplies of soap and paper towels. Proper hand washing is critical to lowering the risk of disease transmission.
2. Ensure the site is well stocked with cleaning/disinfecting supplies.
3. Provide training for volunteers in proper cleaning and disinfection methods.
4. Provide separate, approved receptacles for medical waste, such as, sharps containers for syringes, and red trash bags for medical waste.

Of course, in addition to a safe place to stay, two of the most basic human survival needs are food and water. There are many considerations that must be addressed when providing emergency mass feeding services.

### **Mass Feeding Centers**

#### **Location**

The ideal site for a mass feeding operation is a building already equipped with suitable food service equipment. Satisfactory sites include a school lunchroom, a church, or a club facility where meals for large numbers of people can be safely prepared and served. Temporary structures, such as mess tents and mobile food units, may be an acceptable alternative when a permanent facility cannot be acquired.

The site should include adequate storage, adequate refrigeration equipment, equipment capable of maintaining hot foods hot and cold foods cold, hot and cold running water, large ranges, sufficient work surfaces, adequate dish washing areas, hand washing facilities, and staff/volunteers trained in safe food handling techniques.

Hand washing facilities shall be provided in food preparation areas and in restrooms. Hand washing facilities shall be provided with clean hot and cold running water, soap, paper towels (hand drying device) and trash can. If plumbed hand washing facilities are not feasible, a temporary hand washing station may be provided.

## **Facility-Water**

Safe drinking water is the most critical necessity to human survival, and one that is often directly affected by disasters. A safe water supply shall be provided. If the center's water source is a private or non-community water supply, the Environmental Public Health Specialist (EPHS) should test the water for safety just prior to the site beginning operations.

In situations where the water supply has been compromised, the center shall:

1. Provide bottled water;
2. Use a safe, approved alternative water supply; or
3. Boil/disinfect water in accordance with Chapter 7.0 Drinking Water in this manual.

## **Facility-Waste**

One of the many unavoidable realities of life is that wherever there are people there will be waste. It is a fact that the basic processes of living create waste, including paper, plastic, food refuse, as well as human waste. Because waste is also a reality of shelter living, a plan must be in place to effectively handle facility waste, while the shelter and/or mass feeding site is operating.

If the site is not served by a public wastewater system, one or more of the following shall be provided:

1. An onsite wastewater treatment system operating in accordance with Missouri's laws and regulations, or applicable local ordinance. The EPHS should evaluate the system prior to the site beginning operations;
2. In cases where no system is available, a properly functioning and maintained temporary holding tank may be a suitable alternative; and/or
3. In cases where the system's capacity is limited, portable toilets or mobile bathrooms may be appropriate.

For other solid waste (trash/garbage), an adequate number and size of garbage bins, trash cans, and trash bags must be provided. Trash and other solid waste shall be stored in a location away from food preparation, storage and service areas until trash collection service resumes.

## **Personnel**

All persons volunteering to work at the center should be properly oriented before they begin work.

Personal hygiene for food service workers includes:

1. Frequent hand washing – particularly after using the toilet and after handling materials or equipment that may be contaminated.
2. No bare hand contact with ready-to-eat foods.
3. Clean hands, body, hair and clothing.
4. Excluding people that are ill from working in a food service capacity.

## **Supervision**

If possible, a mass feeding operation should be supervised by someone with substantial experience in food service operations. At a minimum, a person in charge should be designated.

## **Food**

Added to issues of adequate food quality, quantity, and variety are the potentially serious risks of food-borne illness. Even for a temporary center, the following should be implemented:

1. All foods shall come from an approved source, in sound condition (No home canned or prepared goods; with the exception of baked cookies and cakes, etc).
2. All potentially hazardous foods must be cooked, held, reheated, and stored at temperatures in accordance with the Food Code requirements or applicable local ordinance. Centers shall have adequate refrigeration and hot/cold holding equipment.
3. Foods shall be stored to prevent contamination (Stored six inches off floor, away from toxic chemicals/substances, raw meats below ready-to-eat foods and fresh fruits and vegetables).
4. Regular cleaning of the food preparation area and feeding area. This includes washing, rinsing, sanitizing and air-drying food equipment and utensils.

## **Sanitation Guidelines for Child Care Providers in Power Outages or Natural Disasters**

Sanitation issues often arise as a result of a seasonal storm such as a tornado or flood, or can even occur from maintenance work on electric lines. In addition to existing requirements, the following sanitation considerations apply to child care providers experiencing a power outage or natural disaster:

### **Cleaning/Personal Hygiene Recommendations**

Water Supply: Providers must have hot and cold running water under pressure in order to maintain good hygienic practices.

- Providers without running water under pressure and/or those with a water heater with no power source must cease operations until the hot/cold water supply is restored.
- Properly-sized generators may be used to power well pumps and water heaters if the generators are operated in accordance with the Department of Public Safety's recommended procedures.
- Providers operating under a boil order must follow the Missouri Department of Health and Senior Services' "Guidelines for Food Establishments during a Boil Water Order."
- Should a well head or well pump be immersed by flood waters, the facility must find an approved alternate source of potable water. If this is not possible, the child care facility must close.
- Once waters recede, the well water must be sampled and treated as necessary to ensure a safe water supply.

Cleaning: Providers should maintain proper cleaning procedures during a power outage. Natural lighting or alternative artificial lighting must be provided to ensure proper cleaning.

### **Facility Operations**

Wastewater Treatment: Some onsite wastewater treatment systems and community wastewater systems rely on pumps that require electricity to operate.

- Providers should identify their onsite system's electrical needs prior to a power outage in order to prevent potential sewage backup into the facility.
- If an onsite wastewater treatment system is partly or completely immersed by water, it may not function as required. The child care facility must close until the waters have receded.
- Once re-opened, children may have no contact with wet soil around the onsite wastewater treatment system; and
- It may be necessary to pump the tank.

Structural Damage: Structural damage to a facility from a natural disaster shall be evaluated on a case-by-case basis.

- Facilities with extensive damage that directly affects the well-being of children in care should cease operations until repairs are made and approval to reopen is given by the Missouri Department of Health and Senior Services (DHSS) Section for Child Care Regulation.

## **Food Safety Recommendations**

Use a Thermometer: Keep a thermometer in the refrigerator at all times to see if food is being stored at a safe temperature of forty-one degrees Fahrenheit (41 °F) or colder.

- The key to determining the safety of refrigerated and frozen foods is temperature.
- Most foodborne illnesses are caused by bacteria that multiply rapidly at temperatures above forty-five degrees Fahrenheit (45 °F).

Leave the Freezer Door Closed:

- A full freezer should keep food safe for about two days; a half-full freezer, about a day.
- Add bags of ice or dry ice to the freezer if it appears the power will be off for an extended time. You can safely refreeze thawed foods that still contain ice crystals.

Refrigerated Items: These foods should be safe as long as the power is out no more than about four (4) to six (6) hours.

- Discard any potentially hazardous (perishable) food that has been above forty-five degrees Fahrenheit (45 °F) for a period exceeding two (2) hours or more.
- Discard any food that has an unusual odor, color or texture.
- Leave the door closed. Every time you open the door, needed cold air escapes, causing the foods inside to reach unsafe temperatures.
- If it appears the power will be off more than six (6) hours, transfer refrigerated potentially hazardous (perishable) foods to an insulated cooler filled with ice or frozen gel packs.
- Keep a thermometer in the cooler to be sure the food stays at forty-one degrees Fahrenheit (41 °F) or below.
- Food items that have been transported to an uninspected location for storage such as an employee's home should not be reintroduced into child care.

Never Taste Food to determine its Safety: Some foods may look and smell fine, but if they've been at room temperature longer than two (2) hours, bacteria able to cause foodborne illness can begin to multiply very rapidly. Some types will produce toxins, which are not destroyed by cooking and can possibly cause illness.

Equipment Considerations:

- Small providers such as Family Homes and Group Homes temporarily without mechanical refrigeration can maintain foods below forty-one degrees Fahrenheit (41 °F) by utilizing ice chests.
- Ice levels must be carefully monitored and drained to prevent immersion of food items.
- Raw meats must be stored to prevent cross contamination, and should not be stored in the same ice chest as ready-to-eat foods.
- Larger providers such as Centers that handle larger volumes of food should not prepare foods without mechanical refrigeration. Mechanical refrigeration units can be powered by generators that are operated in accordance with the Department of Public Safety's recommended procedures.
- Providers with limited or no power are encouraged to prepare meals that require a minimum amount of preparation and cooking, such as fresh fruits, sandwiches, and prepackaged items. Having foods catered from an approved source is an acceptable alternative to meal

preparation. Check with your Local Public Health Agency to ensure your caterer is an approved source.

## **Sanitation Guidelines for Lodging Establishments in Power Outages or Natural Disasters**

Disruptions following a natural disaster can create potential health concerns. It is essential to prioritize your time, resources, and the impact to public health and safety. The Environmental Public Health Specialist involved in assessing lodging establishments in an emergency situation should provide the following guidance to the facility owner/operator.

### **Physical Facilities**

- During a power outage, assure back-up electricity is provided for smoke detectors, fire alarms, sprinkler systems, and emergency lighting.
- The extent of damage to a facility from a natural disaster shall be evaluated on a case-by-case basis. If the administrative authority suspects that integrity of the structure and/or its electrical wiring has been compromised, the services of a professional engineer shall be required to certify the building's safety.
- Items in contact with flood waters must be washed, rinsed, and sanitized before re-use. If carpeting, furniture, bedding, linens, etc are too damaged to be properly cleaned, they must be discarded appropriately.

### **Food Service**

- Discard any potentially hazardous (perishable) food that has been above forty-five degrees Fahrenheit (45 °F) for a period exceeding two (2) hours or more.
- Discard any food that has an unusual odor, color or texture.
- Discard any foods affected by flood waters.
- Wash, rinse, and sanitize all food contact surfaces prior to use.

### **Water Supply**

- Establishments must have hot and cold running water under pressure in order to maintain good hygienic practices.
- Establishments operating under a boil order must follow the Missouri Department of Health and Senior Services' "Guidelines for Food Establishments during a Boil Water Order."
- Should a well head or well pump be immersed by flood waters, the facility must find an approved alternate source of potable water.
- Once waters recede, the well water must be sampled and treated as necessary to ensure a safe water supply.

### **Wastewater**

See subsection 4.5 [Onsite Wastewater Treatment Systems Affected by Floods](#) within this chapter.

## Guidelines for Long-Term Storage of Water

Circumstances may occur where households or organizations may wish to store drinking water for long periods of time in preparation for a future emergency. Studies by the U.S. Environmental Protection Agency indicate that potable water stored for several years in clean 55-gallon drums in civil defense shelters can become contaminated over time. Sterility of water cannot be maintained when a container is filled. Initially insignificant populations of microorganisms in the water, can over time, grow on the minute nutrients in the water to the point of degrading the water quality.

Below are three options for the safe long-term storage of water in containers. Regardless of the options used, containers of water are best stored in cool areas away from sunlight.

**Bottled Water** – Commercially bottled water comes from regulated and inspected sources. Standards for purity must be satisfied, including sample analysis, in order for the source to be licensed. The water is usually disinfected with ozone, and can remain safe for an extended time, provided the container remains intact. Follow the manufacturer’s expiration date in determining the usable life span of water.

**Fill Jugs**– The homeowner can fill clean containers with water for extended storage. The following steps should be used to help assure suitable quality of water.

1. Containers should be clean and sanitary. Often the homeowner will use plastic jugs that previously held milk. Because of the high nutrient content of milk and difficulty of cleaning milk residue from the hollow of the jug handle, special care must be taken to assure the jug has been thoroughly cleaned and sanitized. Jugs that are new and empty or jugs that previously held water are preferred to jugs that previously held milk.

Plastic “jerry cans” or other containers, specifically designed for water or beverage storage, may also be considered. Metal containers are discouraged due to the corrosive effect of chlorine.

- Jugs should be cleaned in a manual wash-rinse-sanitize procedure in a three-vat sink operation. A mechanical dishwashing machine will not adequately clean the jugs due to the small openings of the jugs and the tendency of the pressure from the water jets to bounce the jugs round in the dishwasher.
- Wash water should have hot water with soap or detergent;
- Rinse in clear water;
- Sanitize by immersion for one (1) minute in a sanitizing solution containing fifty – two hundred parts per million (50-200 ppm) available chlorine as hypochlorite at a temperature  $\geq 75$  °F; which is roughly equivalent to 1-4 teaspoons of unscented, household bleach per gallon of water; or other effective sanitizer as recognized by the administrative authority and used in accordance with labeling instructions; and
- Inverted, allowed to drain, and air-dry.

2. Once jugs are cleaned and sanitized, several options exist for filling the jugs.

- Disinfect the water before filling the jugs. See subsection 4.4 Disinfection of Water Supplies, portion titled “Making water safe for human consumption” for methods to disinfect water. Generally, this water may be stored up to six (6) months. After that time, the jugs should be emptied, washed, rinsed, sanitized, air dried and refilled with treated water; or
- Use clean water, without added disinfectants. Prior to using the water for potable uses, the water must be disinfected as described in the Drinking Water chapter of this manual; or
- The filled jugs may be stored in the home freezer. Care should be taken to not completely fill the jugs, to allow headroom for expansion as the water freezes. The advantage to this option is that in the event of an electrical outage, the jugs of ice can be placed in ice chests to keep perishable foods cold. As the ice in the jug melts, the water can then be disinfected as described in Chapter 7.0 Drinking Water of this manual, and used. The disadvantage is that water that has been frozen is not immediately available for use for drinking or cooking.

## **Guidelines for Hauling Bulk Drinking Water**

These guidelines are for water system utilities, companies, individuals, or associations that need to deliver potable water to the public during emergencies. Although the Missouri Department of Health and Senior Services (DHSS) does not encourage this method of supplying water, trucked water may be the only viable alternative in some situations.

When trucking water, there are important considerations for protection of public health. Water transported following these guidelines should be considered safe for human use and consumption.

DHSS recommends that someone with water treatment expertise be responsible for the operation and management of trucked potable water. Usually this expertise is found in municipal water utilities, or in companies in the business of transporting liquid foods, such as milk.

### **Source of Water**

The source for emergency trucked water must come from an approved public water supply. Another source of water (i.e., private well) can be used only with a formal written agreement between DHSS or the local health department and the hauler. The unapproved source must be shown to be safe to use through bacteriological, and possibly chemical and radiological testing.

Every precaution should be taken to ensure that the water remains potable once it is collected and transported. The receiving water system should check that the truck hauler is familiar with proper handling procedures at the source and during transport.

### **Truck Container**

The truck container must be contaminant-free, watertight, made of a food-grade approved material that can be easily cleaned and disinfected. The container must also be capable of being maintained so that water contamination is prevented. The tank truck or trailer used for transport shall be labeled "Drinking Water." In most cases this can be accomplished by means of a tag affixed to the outlet. Tanks, which have been previously used to transport chemicals, petroleum derivatives, etc., shall not be used for hauling drinking water. Appropriate trucks include milk trucks, military-style water trucks, or others approved by DHSS, Missouri Department of Natural Resources (MDNR) public water drinking program or Local Public Health Agencies.

All truck containers must be filled and emptied through sanitary methods (preferably valve to valve though air gaps may be employed). Connections for filling and emptying the tank shall be properly protected to prevent the possible entrance of contamination. A drain shall be provided which will completely empty the tank for cleaning or repairs. All containers must be completely enclosed. The cover shall be kept sealed, or locked, to protect the water from tampering. The tank shall have a manhole and a manhole cover that overlaps the raised manhole opening to a minimal height acceptable for sanitary protection and terminates in a downward direction. Containers that are open

to the atmosphere during hauling, unless the opening or vent is located to minimize the possibility of drawing contaminants into the water and sanitarly screened, are not acceptable for use.

### **Initial Truck or Tank Disinfection**

To ensure that water-hauling equipment is adequately disinfected before using, the tank or truck container, along with all hoses, pumps, and other equipment, must be cleaned and then sanitized by a sanitizer listed in 21 CFR 178.1010. These sanitizing solutions shall be used in accordance with the Environmental Protection Agency (EPA)-approved manufacturer's label use instructions. The most common sanitizers are chlorine, iodine, quaternary ammonium, or acid-based aqueous solutions. Contact DHSS or a Local Public Health Agency if further assistance is needed in disinfecting the container.

### **Handling**

All hoses and other handling equipment used in the operation must be stored off the ground at all times. They must be thoroughly flushed, disinfected, and then flushed again with the source water prior to use. Hoses should be capped at each end, or connected together, when they are not in use. The sanitizing solution should be the same as that used for disinfecting the truck container. Hoses must be food grade.

All equipment surfaces that contact the potable water, including fill-point equipment, containers, caps, valves, filters, fittings, pumps and other plumbing attachments should be regularly inspected and either disinfected or replaced as needed.

All equipment associated with water collection, transport, and delivery should be designed specifically for potable water, (i.e., safe, durable, corrosion-resistant, nonabsorbent, and finished to have a smooth, easily cleanable surface) used only for that purpose, and labeled for drinking water only. While equipment used for food purposes may be sanitized and put into use, in no case should equipment, including pumps, be used that have previously been used for wastes or chemicals.

Water to be transported by tank trucks should contain a free chlorine residual of about one part per million (1 ppm) and not more than 4 ppm at the beginning of the haul. This is achieved by adding 5-6 tablespoons (2.5 – 3 ounces) of unscented household chlorine bleach to each 1,000 gallons. The bleach should be 5.25-6 percent strength.

It should be added in proportion to the quantity of water during filling to ensure uniform distribution.

### **Receiving Tank or Water System**

If the receiving system or tank is part of an approved public water system then the managers of that system, or the DNR PWDP, should have ensured that the system is safe to be filled from the transporting tank or truck. In such cases valve to valve distribution into the receiving system is permissible. In some cases smaller distributing tanks may need to be filled. These tanks or containers should meet the same criteria for materials and sanitization as the transporting truck or tank, and may be filled in an approved sanitary method (i.e., valve to valve or air gap) using proper handling equipment as previously described. In emergency cases where individual distribution to

the public-at-large is required from the transporting container, a system using sanitized and approved water-handling apparatus, including spigots, should be designed for the filling of individual containers.

### **Documentation and Record-Keeping**

The receiving water system is responsible for documenting and keeping proper records of the emergency trucked water operation. Proper documentation can be obtained through a bill of lading for each load, which is to include:

- Written records of the names and contact numbers of the hauler(s),
- Quantity delivered,
- Approved water source(s) used,
- Dates and times of delivery, free chlorine residual at point of delivery,
- Assurance by the hauler (or a representative of the receiving system at the fill site) that proper disinfection was performed for each trip, and
- Chlorine dose at the fill point and the free chlorine residual, if taken, after filling.

These records should be retained in a log for at least six months for review upon request by health agencies, haulers, or the supplying water system.

## **Disaster Recovery**

The following is guidance that the Local Public Health Agency can provide to citizens during and after a disaster event.

### **Water Quality**

Except for the air we breathe, water is the most basic necessity for survival. Some disasters pose serious threats to public and private water supplies. Listen for public announcements on the safety of your community's water supply. Water from flooded or damaged private water wells should be considered unsafe and must be tested for purity. It may be necessary to disinfect the water after flood waters recede. Cloudiness or changes in taste or smell are signs of possible contamination. If there is any indication that the water supply has been compromised, even without noticeable changes in taste or smell, a test kit from the State Public Health Laboratory should be obtained and the supply tested.

When the water supply is suspect, drink only boiled, commercially bottled or properly treated water until the supply is tested and found to be safe. Water contamination may reoccur after a disaster, so another test should be conducted a few weeks later. Special precautions, such as using bottled water, should be taken for infants and immune-compromised individuals.

The following are some general guidelines concerning water for drinking and cooking:

- Do not use contaminated water to wash dishes, brush teeth, wash and prepare food, or make ice.
- Boiling water at a rolling boil for at least three (3) minutes will kill most harmful bacteria and organisms.
- Rinse containers used to store water with a bleach solution before use. Always use caution with temporary containers since some may have residual chemicals that may further contaminate the water.
- Clear water may be treated by mixing 1/8 teaspoon of unscented household bleach into one (1) gallon of water. Mix the solution thoroughly, and let stand for at least thirty (30) minutes.
- Very cloudy water may be strained through a clean cloth before disinfecting or boiling, but the disinfectant should be doubled.
- Store disinfected water in clean, covered containers. A distinct chlorine taste will be noticeable after treatment; this taste is harmless, but indicates enough disinfectant has been used to treat the water.

If a private well has tested positive for coliform or other bacterial contamination, a simple and relatively inexpensive procedure known as "shock chlorination" can be performed. Shock chlorination involves placing a strong chlorine solution into the complete water source and distribution system to kill any harmful bacteria and disease-producing organisms.

Always remember to wear gloves and protective clothing when disinfecting a well. In addition, it is important to inform everyone who may use the water supply system that it is being disinfected, and

that it is not safe to drink during this time. The water supply must be retested after shock chlorination prior to using for drinking and cooking purposes.

### **Sewage Tanks and Flooding**

Sewage tanks should not be pumped during periods of high water tables or flooding. If a tank is pumped, it may “float” due to water pressure from groundwater damaging the onsite system pipe connections. If the system is not functioning properly, using a portable toilet or if available public facilities is recommended. The system’s soil treatment area must be given time to dry out to become functional again.

### **Food Safety**

Discard any foods that may have been touched by flood waters, except for commercially canned items. Undamaged, commercially canned foods can be saved if you remove the can’s label, thoroughly wash the can and then disinfect with a solution of one (1) cup bleach per five (5) gallons water. These cans can be relabeled by reattaching the original label. Foods with twist caps and pop caps should be discarded, because these seals do not keep out flood waters.

If the refrigerator or freezer were not exposed to flood waters, it may be possible to salvage part or all of its contents. Most refrigerators will keep food cold safely for about four (4) to six (6) hours if left unopened. Food in a fairly full freezer can be kept safe for up to two (2) days without power if the door is unopened. Check carefully for any signs of spoilage. If meat, poultry, fish or shellfish have been partially or completely thawed, they should not be refrozen. Fruits and vegetables that are still firm to the touch can be refrozen. Any foods that exceed forty-five degrees Fahrenheit (45 °F), have been at room temperature for more than two (2) hours, or any foods that have an unusual odor, color, or texture should be discarded.

If your refrigerator or freezer has been without power:

- Utilize freezer space with friends or family that have electrical power;
- Use dry-ice. Twenty five (25) pounds of dry ice will keep an average-sized freezer below freezing for three to four days. Use caution when handling dry ice, because it can damage your skin. Wear dry, heavy gloves to avoid injury. Dry ice may also be used to keep refrigerators cold;
- Thawed food can usually be eaten or refrozen if it is still “refrigerator cold,” or if it still contains ice crystals.
- If you are uncertain of a product’s temperature and time without refrigeration it should be discarded. A rule of thumb is “When in Doubt, Throw it Out.”

### **Re-Entering a Disaster Area**

Wait until authorities have declared a disaster area safe before re-entering it. Wear thick, high rubber boots with no cracks or holes, rubber or dry leather gloves and a hard hat when entering a flood area. Watch for debris, such as broken glass, metal, and wood and downed electrical wires that are touching water and other electrical devices that may still be energized. They are extremely dangerous and you should stay at least fifty (50’) feet away from them. Keep a minimum distance of

ten (10') feet away from utility wires and poles that are not broken or underwater. Never smoke in a flooded area; standing water may contain flammable chemicals.

Houses and other buildings still holding flood waters are very dangerous and extreme caution should be used when entering them. Before entering, the following should be considered:

- Check with electric and gas companies to see if utilities have been turned off to prevent electrical shock, fire, or explosions.
- If you smell gas, turn off the main gas valve, open the window, and immediately exit the building. Notify the local gas company, police or fire department and do not re-enter the building until they say it is safe to do so.
- If necessary, use battery powered flashlights and lanterns, rather than candles, gas lanterns, or torches.
- Walk around the building's perimeter, watching for signs of cave-ins, shifting, or collapse. Do not enter the building if it does not appear to be structurally sound. Once inside, signs of structural damage include, but are not limited to, loose or buckled floor boards; holes in flooring; floors or ceilings sagging; or shifted stairs, slanting floors, or walls.

### **Electrocution**

After a flood, the building electrical system may be damaged. If there is frayed wiring or sparks visible, or a burning odor but no visible fire, immediately turn off the power off at the circuit breaker if possible. Do not do this if wet or while standing in water. Electrical current can travel through water, so be careful to avoid downed power lines or wading in standing water.

It is advisable to consult with the utility company about using electrical equipment, including power generators. Do not connect generators to the building's electrical circuits without the proper automatic interrupt devices. If a generator is on line with the power is turned back on, it could represent a major fire hazard.

All electrical equipment and appliances should be completely dry before returning them to service. If possible, have a qualified electrician check them before using. Do not operate gas-powered equipment indoors or near outdoor air intakes to avoid carbon monoxide exhaust. Camp stoves and charcoal and gas grills also produce dangerous fumes.

Even if there is no apparent electrical damage, use extreme caution. Do not enter rooms where outlets are underwater or loose wires are touching the water. Under flood conditions, mud deposits and other debris in the water can allow electricity to continue running through the system, even if the main circuit breaker is turned off.

### **Pumping Water Out of Basements**

If the basement of a building is flooded, make absolutely sure that the power is shut off before entering. Do not try to remove all of the water at one time. If the water is pumped out too quickly, the walls may be pushed in or floors pushed up by the sudden release of pressure. Try to remove approximately one third of the water each day. After the water has been removed, any dirt deposited

by the flood should be shoveled or swept up. The walls and floors should be hosed down with water and then washed with a solution of one-third cup of bleach per gallon of water. Open the basement windows to allow ample air circulation.

### **General Clean-up**

Walls, hard-surfaced floors, and many other household surfaces should be cleaned with soap and water and disinfected with a solution of one (1) cup of bleach to five (5) gallons of water. Be careful to thoroughly disinfect surfaces that may touch food, such as counter tops, pantry shelves, and refrigerators, as well as areas where small children play. Wash all linens and clothing in hot water or dry-clean them. Items that cannot be washed or dry-cleaned should be discarded.

If there has been a backflow of sewage into the building, wear rubber boots and waterproof gloves during clean up. Remove and discard contaminated materials that cannot be disinfected, such as wall coverings, cloth upholstered furniture, rugs and drywall.

### **Mold Cleanup**

If mold is present, use these techniques for cleanup:

- Scrub mold from hard surfaces with detergent and water, then dry completely.
- If the water damage is from sewage backup or floodwater, disinfect by spraying or wiping the area with a diluted bleach solution (one part bleach to ten parts water). Avoid breathing bleach fumes or getting bleach on skin or in your eyes.
- Note: Do not mix bleach with other cleaners!
- Mold can grow on or fill in the empty spaces and crevices of porous materials, so the mold may be difficult or impossible to remove completely. Absorbent or porous materials, such as ceiling tiles, carpet, drywall, and bare wood may have to be removed if mold growth is extensive.
- Avoid exposing yourself or others to mold by wearing protection, such as long-sleeved shirts and long pants, as well as a face mask and eye goggles.
- Do not paint or caulk moldy surfaces. Clean off the mold and dry the surfaces before painting.

### **General Sanitation and Hygiene**

One result of a disaster may be a lapse in basic hygiene during the emergency period. It is critical for everyone to practice basic hygiene. Wash hands with soap using water that has been boiled or disinfected:

- Before preparing or eating food;
- After toilet use;
- After participating in flood cleanup activities; and
- After handling articles contaminated with flood water or sewage.

### **Garbage Disposal**

A disaster will no doubt tax refuse removal efforts in the affected area. Discard food and other items that could spoil. Do not allow garbage to build up; garbage piles will cause yet another health hazard by attracting animals and insects. Contact your local refuse removal company for information about special pick-up times, locations and other related details.

### **Dangers of Swiftly Flowing Waters**

If you enter swiftly flowing water, you risk drowning regardless of your ability to swim. Swiftly moving shallow water can be deadly, and even shallow standing water can be dangerous for small children. Cars or other vehicles do not provide adequate protection from flood waters. Cars can be swept away in as little as six (6") inches of swiftly moving water or may break down in moving water. Do not drive through flooded areas, around road barriers, or traffic barriers-more people drown in their cars than anywhere else.

## Training and Resources

### Websites:

#### **Missouri Local Public Health Agencies**

<http://health.mo.gov/living/lpha/index.php>

#### **Missouri Department of Health and Senior Services**

Division of Community and Public Health

(573) 751-6161

<http://health.mo.gov/index.php>

Center for Emergency Response and Terrorism

(573) 526-4768 or (800) 392-0272

<http://health.mo.gov/emergencies/ert/response.php>

#### **Section for Disease Control and Environmental Epidemiology**

(573) 751-6141 or (866) 628-9891

#### **Disaster Preparedness Toolkit**

<http://health.mo.gov/emergencies/ert/pdf/DisasterToolkitDescription.pdf>

#### **Ready in 3**

<http://health.mo.gov/emergencies/readyin3/>

#### **State Public Health Laboratory**

(573) 751-3334

<http://health.mo.gov/lab/>

#### **Missouri Department of Social Services**

Division of Financial and Administrative Services

Emergency Management Section

(573) 751-3870 or (800) 347-8898

#### **Missouri Department of Social Services Local Offices**

[www.dss.mo.gov/offices.htm](http://www.dss.mo.gov/offices.htm)

#### **Missouri Division of Fire Safety**

(573) 751-2930

[www.dfs.dps.mo.gov](http://www.dfs.dps.mo.gov)

#### **Missouri Department of Natural Resources**

Division of Environmental Quality

(800) 361-4827

[www.dnr.mo.gov/disaster.htm](http://www.dnr.mo.gov/disaster.htm)

#### **State Emergency Management Agency (SEMA)**

(573) 526-9100

<http://www.sema.dps.mo.gov/>

**Centers for Disease Control and Prevention**

National Center for Environmental Health

Natural Disasters and Severe Weather

<http://www.cdc.gov/nceh/hsb/disaster/default.htm>

**U.S. Department of Agriculture Food Safety Hotline**

(800) 535-4555

<http://www.foodsafety.gov/>

**American Red Cross**

[www.redcross.org](http://www.redcross.org)

**The Salvation Army**

[www.usc.salvationarmy.org](http://www.usc.salvationarmy.org)

**Humane Society of Missouri**

[www.hsmo.org](http://www.hsmo.org)

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## **Introduction**

The purpose of the Onsite Wastewater Treatment Program (Onsite Program) is to implement Missouri Onsite Wastewater Laws and Rules to minimize the threat to the health and safety of Missouri's citizens and visitors due to improper treatment and dispersal of onsite wastewater.

Onsite systems are common in Missouri; roughly 25 percent of households use onsite wastewater treatment systems (OWTS), also known as septic systems, or use cluster systems (shared onsite systems). Onsite systems usually treat the wastewater from one residence or business on the site. Cluster systems serve more than one residence and/or business. Like individual systems, cluster systems use technology and soil to treat and disperse wastewater onsite. As many as twelve (12) single-family residences can be served by a single cluster system so long as estimated flows do not exceed 3,000 gallons per day.

Conventional OWTS consist of a septic tank that retains wastewater solids and a soil treatment area (absorption field) where septic tank effluent is distributed. In the soil treatment area, natural physical, chemical and biological processes purify the wastewater as it moves through the soil. Conventional systems are most efficient on medium to large lots with deep, permeable soils. Lagoon systems may be an option on larger lots with slowly permeable soils. A variety of alternative OWTS designs are available to accommodate a range of difficult site and soil conditions. The most appropriate system depends on factors such as the permeability of the soil and the depth to the water table or bedrock.

Domestic wastewater must be properly managed to avoid public health problems. Poorly sited, designed, installed, or maintained systems can result in surfacing effluent or bacterial and viral contamination of the soil surface, surface waters or groundwater. Surfacing effluent and contamination of surface waters or groundwater is considered a health hazard and requires corrective action. A program of outreach and education can help ensure homeowners are properly informed to appropriately operate and maintain their onsite system.

### **Jurisdiction**

Jurisdiction over wastewater treatment systems in Missouri is divided between the Department of Health and Senior Services (DHSS) and the Missouri Department of Natural Resources (DNR). Conventional and alternative soil based treatment systems that treat up to 3,000 gallons per day of domestic wastewater are within the scope of DHSS laws and rules governing onsite systems as are lagoons serving single-family residences.

All other lagoons, systems with permitted discharges, soil treatment systems with actual or design daily flows of more than 3,000 gallons per day, and systems treating non-domestic wastewater are under the authority of DNR. In addition, approval of the method of wastewater treatment in residential housing developments is under DNR jurisdiction. Developers must obtain approval from DNR for the use of onsite systems in new developments with 7 or more units or 3 additional units in existing developments. DNR regulations require existing developments to have been exempted or

approved for the use of onsite systems before the developer or lot owner begins construction or applies for an OWTS construction permit. Commercial and industrial facilities and developers should be referred to DNR; the Minimum Construction Standards require these facilities and developers to contact DNR concerning compliance with the Missouri Clean Water Law and Regulations before applying for a DHSS OWTS construction permit. Authority for DNR regulations is provided by Chapter 644, RSMo, also known as the Missouri Clean Water Law.

DNR is also responsible for the federal Underground Injection Control (UIC) Program in Missouri and maintains an inventory of underground injection wells. By definition, any soil treatment system that serves multiple residences or any non-residence establishment with the capacity to serve 20 or more people per day is a large-capacity septic system and is considered a Class V underground injection well. The owner or operator of a large-capacity septic system is responsible for providing inventory information to the state UIC Program.

### **Authority**

Authority to regulate OWTS comes from the Revised Statutes of Missouri 701.025 to 701.059, and the Code of State Regulations 19 CSR 20-3.060, 3.070, and 3.080. Together these can be found in the reference manual at: [http://health.mo.gov/living/environment/onsite/pdf/onsite\\_ref\\_book.pdf](http://health.mo.gov/living/environment/onsite/pdf/onsite_ref_book.pdf).

Local OWTS permitting authority can take one of three forms:

1. **Local ordinance.** Many counties and some municipalities have their own ordinance. Under local ordinances, the administrative authority is often the county health department, but may be a building department, planning and zoning commission or other agency. Regulation under a local ordinance must be as stringent as, but may be more stringent than, state minimum regulations.
2. **Participation Agreements.** DHSS offers Participation Agreements to Local Public Health Agencies (LPHA).

Where there is no local ordinance or in a few counties where the ordinance does not cover all areas of the county, the DHSS and LPHAs may enter into a 3 year Onsite Construction Review Participation Agreement (PA). Some multi-county PA's are executed.

The PA establishes basic terms and conditions between DHSS and the local agency. A current copy can be viewed at <http://dhssnet/appsforms/doc/E3-70.doc>. LPHAs must comply with the terms of the PA. DHSS provides funding, technical support, training, forms (see subsection 5.11 of this chapter) and regulations for LPHA inspectors reviewing construction permit applications, issuing construction permits and conducting inspections of OWTSs. In addition, DHSS reviews documentation submitted to ensure the terms of the PA are met.

For reimbursement, the LPHA is to use form DH 38 and submit an invoice quarterly no later than the last business day of the month following the quarter in which review/inspections were completed. Documentation for each permit to be reimbursed must include: a completed and signed copy of the construction permit/final inspection form and, if applicable, a completed and signed copy of the certification without onsite inspection form; or, for installations that cannot be brought into compliance, a copy of the violation notice must be submitted. The LPHA may request reimbursement for permitted projects that are incomplete by providing documentation that the project has been abandoned or the construction permit has expired.

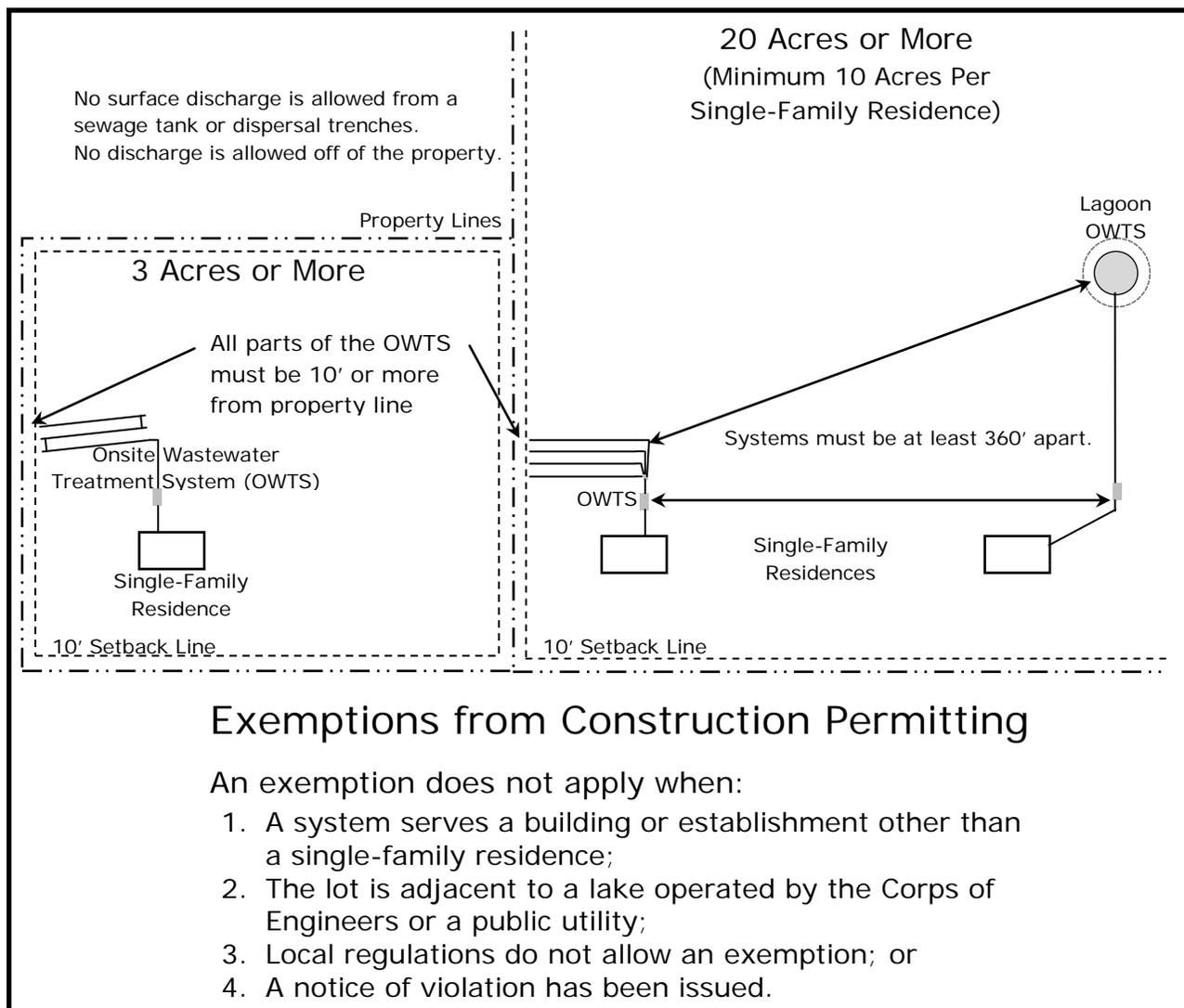
3. **Neither.** Where neither an ordinance nor Participation Agreement is in place, **DHSS staff permits OWTS.**

A Missouri map showing the type of onsite permitting authority by county is available at: <http://health.mo.gov/living/environment/onsite/pdf/onsiteauthoritymap.pdf>.

### Applicability

Property owners of all buildings where people live, work or assemble shall provide for the sanitary disposal of all domestic waste. Sewage and waste from such buildings shall be disposed of by discharging into a sewer system regulated under Chapter 644 RSMo, or shall be disposed of by discharging into an OWTS operated as defined by rule promulgated under sections 701.025 to 701.059 RSMo.

The owner of a single family residence lot consisting of three acres or more, or the owner of a residential lot consisting of twenty acres or more with no single-family residence onsite system located within three hundred sixty feet of any other onsite system and no more than one single-family residence per each ten acres in the aggregate are excluded from Missouri regulations unless the lot is adjacent to a lake operated by the Corps of Engineers or by a public utility.



To be exempt, these property owners cannot contaminate surface waters or groundwater, create a nuisance or public health hazard, install any part of the system closer than 10 feet from their property line, or discharge wastewater off of their property.

Owners of non-residential establishments, regardless of acreage, and multi-family residential lots not excluded as noted in the paragraph above, must comply with all provisions of section 701.025 to 701.059 RSMo and all rules promulgated thereunder, or the more stringent local regulations if applicable.

Under 701.033.1. (4), DHSS may authorize the trial or experimental use of innovative OWTS. LPHAs are encouraged to refer innovative product/system representatives to DHSS for review of any proposed experimental use program or protocol.

## **Application Review and Permitting Process**

This section covers guidelines for processing an onsite wastewater treatment system (OWTS) construction permit application under DHSS authority. Forms and processes will differ in areas under the authority of local ordinances. As part of the application process to obtain a permit to install or make a major modification to an OWTS, the property owner, or often their registered installer, should take the following general steps (property owners may need more information about the application process):

1. Obtain a construction permit application & fee form from the Onsite Wastewater Treatment Program (Onsite Program), DHSS District EPHS V's, Local Public Health Agency (LPHA) or other local permitting agency, or the Onsite Website;
2. Obtain a site/soil evaluation from a registered onsite soil evaluator or registered percolation tester;
3. Submit the fee slip and \$90.00 to DHSS fee receipts section;
4. Submit the completed application with soil information and design plan to the administrative authority for review. Where appropriate, due to the type of soil, or where an alternative type of system is proposed, the property owner should submit an engineered plan with detailed drawings, supporting calculations, and any other information necessary to determine compliance; and
5. Mark the system layout on the site to demonstrate the proposed system will fit.

The permit fee should be paid and the application and plans reviewed and approved prior to a pre-construction site inspection. Provided the application, design plans, site/soil evaluation, and system layout are in compliance with the Minimum Construction Standards and laws, a permit should be issued. After a permit has been issued, work may begin on the system construction. Permits will expire one year after the date of issue. Installers must make timely notification before completion as covered in [Final Inspections](#).

### **Issuing and Tracking Applications**

Property owners or installers wanting to construct an OWTS should request a permit application from the LPHA, the Onsite Program in Jefferson City or other DHSS staff, whichever is administering the program where the proposed system is located. In addition to the application form, other forms and information are needed to complete the process including: a list of Registered Onsite Soil Evaluators, a list of Registered Installers, a permit fee form, and instructions about where to send the permit application fee, etc. A packet should be sent to the person making the request. This may be the homeowner, or an agent for the homeowner, such as an installer. Generally, do not issue an application or accept a completed application by fax, as facsimile copies are often unclear. Original signatures are preferred on the completed document.

For counties permitting under DHSS authority, construction permit application forms can be accessed on the internet by selecting the county at: <http://health.mo.gov/living/environment/onsite/permitprocess.php>. Contact information for the county authorities is provided through the link.

The local administrative authority or the Onsite Program will assign an application number when an application is issued or when first contacted regarding a downloaded application. The application number will consist of a 10 character alphanumeric number, for example D-###-15-0001 or L-###-15-0001

- The first character is the letter D or L where D is DHSS, and L is the local agency, issued number;
- The next three characters are the county number where the system will be installed, for example 073 is Gasconade County;
- The next two characters indicate the year the application was issued;
- The last four characters are a consecutive sequence, which starts over January 1 of each year at 0001, 0002, 0003, and so forth.

Remember the application number **IS NOT** the same as the permit number. The Onsite Program support staff provides the permit number to the local authority only after verification of receipt of the permit application fee. Also, the permit number **IS NOT** a permit. A permit is issued to the property owner only after completion of the application and plan review process and a pre-construction site inspection if the proposed system complies with minimum standards.

A log should be maintained to keep track of the applications and the status of each permit application processed. The information in the log should include the application number, name and address of the property owner, name and address the application was issued to, if different, address and directions to the construction site, date the application was sent and returned, the date the permit was issued, the permit number and any pertinent notes to allow quick reference if questions arise. A computer database is recommended for quick searches. The Onsite Program has an Access computer database available to use as an application log.

The application must be returned completed to the same office that issued it. The fee and permit application fee form should be sent to DHSS Fee Receipts separately. Advise the property owner not to send the application and fee to the same place. The contract LPHA should not collect the permit fee; the property owner or agent must send it to DHSS Fee Receipts. A copy of the fee form may be retained or given as a receipt; note that occasionally an applicant confuses this receipt with a permit and it may be necessary to clarify this with persons unfamiliar with the process.

Applications should be tracked as closely as possible to assure timely return and to avoid long delays in system planning and construction. Construction permits should be dated to expire one year from the date issued. If someone requests an application and does not return it in a reasonable amount of time or if a permit has been issued and the expiration date is close at hand, it would be good to contact the property owner to check on the status of the project. Below is a suggested time line to check the status of an installation. The time line may vary with workload and individual situations.

- 3 months to return an application;
- 1 month to return a plan if revisions were needed;
- 3 months without notification after a permit has been issued.

Examples of letters that may be used to contact homeowners are located in subsection 5.11 of this chapter. The Onsite Wastewater Treatment System Application Form, numbers E3.05 and E3.05B, and the Permit Fee Form, number E3.01, are available from Onsite Program staff as well as the internet at <http://health.mo.gov/living/environment/onsite/permitappforms.php>. These forms are only for use in areas where OWTSs are permitted by DHSS or by local agencies that have an Onsite System Construction Review Participation Agreement with DHSS.

### **Onsite Wastewater Treatment System Application Review**

It is important to log the receipt of an application, and then review it as soon as possible. A file folder should be used to keep all information related to an application together. It is recommended that an Application Process Form (see 5.12.1) be attached to each file. This process form provides a way to consistently document the review process, record notes regarding the plan, document telephone calls and other conversations regarding the application, and provide a time line of activities leading to issuing a permit and approving construction. It is important to keep the process well documented to show your actions are within rules and operational guidelines.

The plan review includes reviewing the application for completeness and appropriate information. Correct addresses and telephone numbers are essential in the event the owner or agent needs to be contacted. If there is missing information, contact the applicant to obtain the missing information. If the information can be obtained over the telephone, document the call and proceed with the review. Otherwise, the missing information must be submitted by the homeowner or agent before the review can proceed. If a new plan needs to be drawn, the new drawing should be signed or initialed by the homeowner or agent. The EPHS should never draw plans on the submitted application.

As you begin a review, assure that the file contains:

1. The permit application;
2. A soil morphology report or percolation test;
3. An engineer's report, if applicable;
4. A variance request, if applicable; and
5. A copy of the paid permit application Fee Receipt Form.

See subsection 5.3 of this chapter for information on interpreting soil reports. An engineered design is required for alternative onsite systems described in Section (6) of the Minimum Construction Standards, except for lagoons, holding tanks, and privies. See subsection 5.4 of this chapter for variance guidelines. Following the OWTS Application Checklist ([E3.05B](#)) can help to ensure all areas of the application are completed as required.

Check that Section 13 of the application, site diagram, is complete including all that apply:

- Slope diagram;
- Location of any lakes, pond, streams, rock outcrops, and sinkholes;
- Setbacks to water supplies, property lines, etc.;
- Easements and underground utilities;

- Area for a replacement field when required;
- Location of home site or dwelling;
- Cultural features such as roads, streets and surfaces that influence water runoff;
- Location of sewage and pump tanks;
- Trench length;
- Trench depth and width; and
- Curtain drain and water control structures.

**NOTE:** If an engineered plan is submitted, it can replace Section 13 of the application but the engineered plan must be checked for the above items.

### **Plan Review**

The purpose of an application and plan review is to assure that the system, as designed, does not violate onsite wastewater laws or rules. When reviewing, the Minimum Construction Standards are used to determine compliance. Adequate information must be provided in the plans and application to make this determination. When a permit is issued, it should confirm that the system design and site layout are in compliance with Missouri law and rules. No additional requirements may be placed on a system after the permit is issued.

When reviewing a plan, an application review sheet (<http://dhssnet/appsforms/doc/Reviewform.doc>) and the following can be used as a guide:

1. A site/soil evaluation can be either an onsite soil morphology evaluation or a percolation test. The administrative authority will determine which method is to be used. For more soil interpretations see subsection 5.3 of this chapter.
  - All site evaluations
    - Confirm the proposed system is in the area evaluated by the soil evaluator or percolation tester;
    - Consider whether groundwater contamination potential is an issue;
    - Check that relevant cultural features have been noted;
    - Check the location of easements and underground utilities for future references;
  - Percolation (perc) test reports;
    - Check that the perc test procedure was followed correctly;
    - Check calculations;
    - Confirm proposed trench depth is the depth of percolation test holes;
    - Check that the perc tester has given depth(s) to restrictive layer or ground water;
  - Onsite soil morphology evaluation reports, note limiting features and suitability for;
    - Topography and landscape position (slopes, existence of lowlands, local surface depressions, rock out crops, sink holes, etc);
    - Texture (presence and depth of high shrink/swell clay or high percentages of coarse fragments);
    - Structure (presence and depth of platy, massive structure, or weak structure);
    - Drainage classification (surface water issues, presence and depth of perched or apparent water tables; is control of surface/subsurface water movement needed?);
    - Soil thickness (depth to bedrock if observed);

- Restrictive horizons (depth and thickness if present);
  - Available space (confirm the proposed system is in the area represented by the soil evaluation report);
  - Overall suitability (based on most limiting site feature);
  - Confirm proposed trench/absorption system depth complies with vertical separation requirements (see discussion and table in subsection 5.3 of this chapter);
2. Daily flow (note proposed design flow and confirm compliance based on the number of bedrooms or appropriate calculations using Table 2A, Quantities of Domestic Sewage Flows from the Minimum Construction Standards);
  3. Treatment size (note size and type of primary tank, lagoon, and/or advanced pretreatment system proposed and confirm compliance);
  4. Loading rate (note the design loading rate or percolation rate and check that it is consistent with the site/soil report);
  5. Field size (note proposed absorption field size and confirm it meets or exceeds requirements);
  6. Elevations/contours (check relative elevations to confirm gravity flow or to confirm pump calculations);
  7. Tank/field or lagoon setbacks (confirm setbacks shown on the application and plan comply with requirements or have been addressed by variance request noted below);
  8. Variances requested (note written variance requests; see discussion of variances in EHOG Subsection 5.4);
  9. Notes (note any site limitations that have not been addressed by the system design, check calculations including the appropriate equivalency for gravelless systems and note any that are incorrect, note any items from the application or design that are not in compliance with the minimum standards, and note any issues that need to be checked during the pre-construction site inspection).

Document all discrepancies in the plan as submitted. Contact the applicant to inform them of the discrepancies and discuss options to correct the problems. They should resubmit a plan with the discrepancies corrected. For minor changes, a revised application is not necessary. The new plan should be signed or initialed, dated and labeled as a revised plan to assure the corrected plan is permitted and followed during installation. Faxed revisions may be accepted, if clear, to shorten the time lag.

Alternative or engineered systems are often more involved than conventional systems reviews. When reviewing engineered systems such as low pressure pipe (LPP), drip irrigation, sand filters, etc., the general guidelines are the same. Use the Minimum Construction Standards section 6 (C), 6(H), 6(G), etc. and any manufacturer's requirements, to determine if the engineer has used the correct parameters to design the system.

1. Note the site and soil suitability;
2. Confirm that the design considered site/soil limitations and overcomes provisionally suitable or unsuitable classifications;

3. Check absorption system depth (vertical separation to restrictive layers-see table in EHOOG Subsection 5.3);
4. Check engineer's calculations for use of appropriate loading rate;
5. Check the LPP systems for gravel specifications, hole size and spacing, dose volume and pump calculations showing flow capacity and total dynamic head capacity requirements;
6. Check drip systems for emitter rates, dose volume and pump calculations showing flow capacity and total dynamic head capacity requirements for normal operations and for system flushing.

### **Pre-Construction Site Inspection**

Before a permit is issued there must be a pre-construction site review. When the application and plan review is completed, and the paper work appears to be in compliance with the rule, contact the homeowner and/or the installer to arrange a site review. The installer is the most appropriate person to attend this review; however, the homeowner, engineer, or other agent may also attend.

The system layout must be marked on the site, according to the approved application and design plans, to indicate the location of tanks, dispersal trenches and other components of the system.

Usually the installer or the system designer would layout the system. The site review is to determine whether the approved plans as shown on paper will actually fit the site location. The inspector will check for all required setback distances, elevations shown on the system design, and any cultural or landscape features that may not have been identified on the plans.

Check the site for the following:

1. Site elevations: there is adequate fall for a gravity system or the rise in a pumped system is consistent with the static head used in calculations of the pump capacity;
2. Setbacks: the staked system meets the setbacks as shown in the plan;
3. Obstacles or site conditions that require special treatment: are there trees, piles of trash or other debris, or stockpiled soil, which could be detrimental to the soil in the proposed soil treatment area. If conditions require removal, it must be done carefully with minimal traffic on the soil treatment area;
4. Check for other environmentally sensitive features or areas that were not identified by the plan, such as a neighbor's well, sink holes, streams, road ditches, surface runoff that may affect the system etc.;
5. Look for existing utilities and check that the system does not interfere with a power line, gas line, waterline, etc.

Provided the site inspection finds the system and layout comply with the approved application, issue the permit on the combined OWTS Construction Permit/Final Inspection form E3.05A (available from Onsite Program staff or the DHSS Intranet). Most information on the form can be taken from the approved permit application. Complete the site information and the left side of the form under the construction permit heading (include the site latitude and longitude if it is available).

Fill in all boxes that apply to the system. A few items are explained here. The box for system repair should be marked if construction would expand a system or reuse a significant part of a previous

system. Mark the box for replacement system if a new system is substituted for the former one. Note if the proposed system is related to a Section 701 Notice of Violation. Note if the system serves more than one residence or one business (a cluster system). Under business, the number/units generally will be from Table 2A; for example, 15 employees (at 25 gallons per employee), or 120 seats (at 5 gallons per seat). Enter the 5 digit soil tester and installer ID numbers. The form should make clear exactly what system is permitted. It is also important for the form to be as complete as possible to allow DHSS to better track systems and components.

When you have made the pre-construction site inspection and are ready to issue the permit, fill in the permit and expiration dates and sign the form. One copy (the back page) of this permit is given to the installer or property owner, and should be posted or available on the site during construction of the OWTS. The back of this form has information, including the homeowner's responsibilities and the installer's notification requirements, which should be brought to their attention. The installer notification and final inspection sections on the right side of the form will be blank on this copy. Retain the other three copies until the system is completed.

Changes in the plans may be necessary as an installer proceeds with the construction. However, if a change is necessary, the installer must notify the administrative authority before the change is made to assure that the minimum standards are not violated. If the change is in an engineered system, the engineer must also be notified of the need to make a change and be allowed to adjust the system design.

### **Final Inspection**

Registered installers must notify the administrative authority no later than 9:00 a.m. one day prior to completion of the system, and must leave the system in a condition that allows for inspection until 3:00 p.m. the next day following notification. Unregistered homeowner-installers must notify the administrative authority no later than 9:00 a.m. two days prior to completion of the system and must leave the system uncovered until 3:00 p.m. on the second day following notification. If the installer fails to notify the administrative authority prior to completion of the system, you may attempt to gain the installer's cooperation after the first instance. The installer should expose enough of the system to allow for final inspection and verification of compliance with the standards. If the system cannot be brought into compliance, or for persistent failure to notify, document the case and refer it to Onsite Program staff and the prosecuting attorney. Refer to subsection 5.7 of this chapter for more information.

All systems must be inspected or have a Certification of System without Onsite Inspection form completed (certification is not allowed for unregistered homeowner installers). After notification, when a system installed by a registered installer will not be inspected, send a certification form. An example of this form and cover letter is available in subsection 5.11 of this chapter. Send the form with appropriate application and permit numbers entered. Do not sign the certification prior to sending it to the installer. The installer must sign the form to certify that they followed the permitted plans and return it to the administrative authority that issued it (the LPHA, Onsite Program or other DHSS staff). After receiving the completed certification from the installer, the EPHS should sign

the form unless the installer documented that the system did not comply with the permit conditions. If a certification form is accepted from a registered installer, mark the Final Inspection approved “yes” box, mark the check-box directly above it to show that installer certification was accepted, and attach copies of the certification form to the final inspection forms.

When the system is inspected, the administrative authority determines at what stage(s) of construction to make the inspection(s). However, you must be able to determine that in your judgment the system was installed according to the permitted plan. When making a final inspection, fill out the right side of the remaining copies of the Permit/Final Inspection form to document the final inspection results. During a final inspection, use the check boxes and spaces to the right of each system component. Mark the box if the component is installed as permitted. If the system is not installed as permitted, list any deficiencies in the space provided or on additional pages and mark the “no” box under final inspection approved. Refer to EHOOG Subsection 5.6. When required corrections are made, a re-inspection must be conducted.

After the installation is approved by final inspection or by accepting a certification form, sign the completed copies of the permit/final inspection form. One copy must be sent to the owner to meet the requirements of 701.050 RSMO; one copy is for LPHA records; and one copy should be attached to a form [DH-38](#) and sent to DHSS quarterly. Photocopies may be made if additional copies are needed. If additional copies are distributed, the notices on the back of the form should be copied as well.

### **Sewage Tank-Only Replacement**

Sewage tank replacement is considered a major repair or modification of an existing system. Therefore, under normal conditions, a permit is required before construction can begin. Permits may be issued for the tank replacement provided construction will not include any work on the absorption system and there are no signs of discharge or absorption system malfunction. However, the approval of the tank installation does not include approval of the existing absorption field. This must be made clear to the property owner. If the field should malfunction in the future, a new permit will be needed to repair or replace that portion of the system, and there is no assurance that soil and space limitations would not require higher pretreatment than a septic tank. Following is a summary of the tank-only process.

1. Issue application as previously discussed in this section of the EHOOG;
2. Receipt of a permit number from Onsite Program staff will confirm the application fee has been paid;
3. Require the completed application to include a diagram showing the location of the old and the new sewage tank and relevant setback distances;
4. Review to verify the replacement sewage tank’s size, construction, and setbacks comply with minimum standards;
5. A soil report is not necessary except as noted in the next item;
6. Make a pre-construction site inspection. Do not issue a permit if the site review observes evidence that effluent is surfacing over the existing field, the absorption system presents a nuisance or health hazard, or if you determine there is a surface discharge pipe. If there is

evidence of any soil treatment system malfunction, require a site/soil evaluation and an application to repair or replace the entire system;

7. If the site review is acceptable, write 'TANK-ONLY' on the permit;
8. Make a final inspection of the installation or require a Certification of System without Onsite Inspection Form as discussed previously in this section.

When an emergency modification or repair is made to relieve an imminent health hazard, such as immediately replacing a collapsed tank, a construction permit is not required before construction can begin. However, an application must be submitted to the administrative authority indicating the type, size, and location of the tank installed. Ensure that the owner or their agent, normally the installer, signs the application. It is the administrative authority that determines whether an emergency existed. Requirements are detailed in 701.052.7 RSMo.

### **Holding Tanks**

Permits for installation of holding tanks are generally limited to temporary use situations where a public sewer will be available or where an approved onsite system will be installed within one year. The long-term use of a holding tank should only be considered and approved as a system of last resort. Thorough review of an application and specific site conditions must be made prior to permit approval. Before permitting a holding tank, other alternative solutions must be considered. Generally the best solution would be connection to a Department of Natural Resources (DNR) regulated community sewer, where one is available, or where it would be possible to obtain permits to construct and operate a centralized system or a decentralized cluster system. If those are not practical options, all possible onsite options should be considered, including advanced treatment systems and systems requiring site modifications or variances.

Management is critical for these systems because treatment and disposal do not actually take place on site. There is a potential for tanks to leak or overflow, for spills during pumping and hauling operations, and for illicit discharge or disposal of untreated waste at sites other than a (DNR) permitted treatment facility. For these reasons approval of a permit for a holding tank should not be routine.

If poor soil conditions seem to indicate an onsite system is not an option for a site, this must be verified by a soil morphology evaluation. Consideration should be given to nearby areas, which might be suitable for a soil treatment system and for which an easement may be obtained or which may be purchased. The use of gray water systems with a holding tank for black water only or with waterless toilets would qualify for a reduced absorption field area. Use of a holding tank may be considered temporary when a system design including site modifications, such as the placement and stabilization of suitable fill, could overcome limitations and eventually allow construction of an acceptable OWTS. Where these other options are not practical, the administrative authority may approve the installation of a holding tank on a case-by case basis and require stipulations in a signed agreement regarding its use and the length of time for its use.

If a holding tank system is to be approved, it must be predicated on compliance with all requirements of 19 CSR 20-3.060(6) (F). The potential for holding tank floatation must be considered, and after the tank is placed onsite, it should be watertight tested. A high water level indicator or alarm system should be required when piped water is available. The administrative authority must have the ability to monitor system operation and management to ensure compliance and protect public health. Unless the required setback distances for a sewage tank cannot be met, variances will not be required.

Subsection 5.7 includes a Holding Tank Agreement (5.7.3), which specifies conditions to help ensure compliance. Other conditions may be added if necessary for a specific site or local situation (e.g. water conservation measures or limit water used for laundry etc). The proposal for a holding tank must comply with the standards and the property owner must agree to the written stipulations before a permit is issued. Renewal of an agreement would depend on the particular situation and upon compliance with standards then in effect. Non compliance with the stipulations of a signed agreement, for the use of a holding tank according to 19 CSR 20-3.060, would be considered a violation of 701.029 and 701.031, in addition to any other violations that may be substantiated during a complaint investigation.

## Interpreting Site/Soil Evaluation Reports

Proper selection, design and installation of an onsite wastewater treatment system (OWTS) require an accurate site/soil evaluation. DHSS rules mandate that a site/soil evaluation be conducted for every permitted OWTS. There are currently two types of soil evaluations allowed: soil morphology evaluations and percolation tests. Both evaluations must be done by registered individuals. These evaluations are site specific. This section will present these site/soil evaluation methods and provide guidance for interpretation of the information included in the reports.

### Soil Morphology Reports

Only registered persons may perform soil morphology evaluations for the purpose of design and construction of an OWTS. A list of Registered Onsite Soil Evaluators (OSE) is available at <http://health.mo.gov/living/environment/onsite/ose/index.php>. If the OSE is not on the list available online, contact the Onsite Wastewater Treatment Program (Onsite Program) to verify their status. **The soil evaluator must be registered or the report cannot be accepted. An evaluator cannot allow another individual to do a site evaluation and sign-off on the project as if they did the work themselves.**

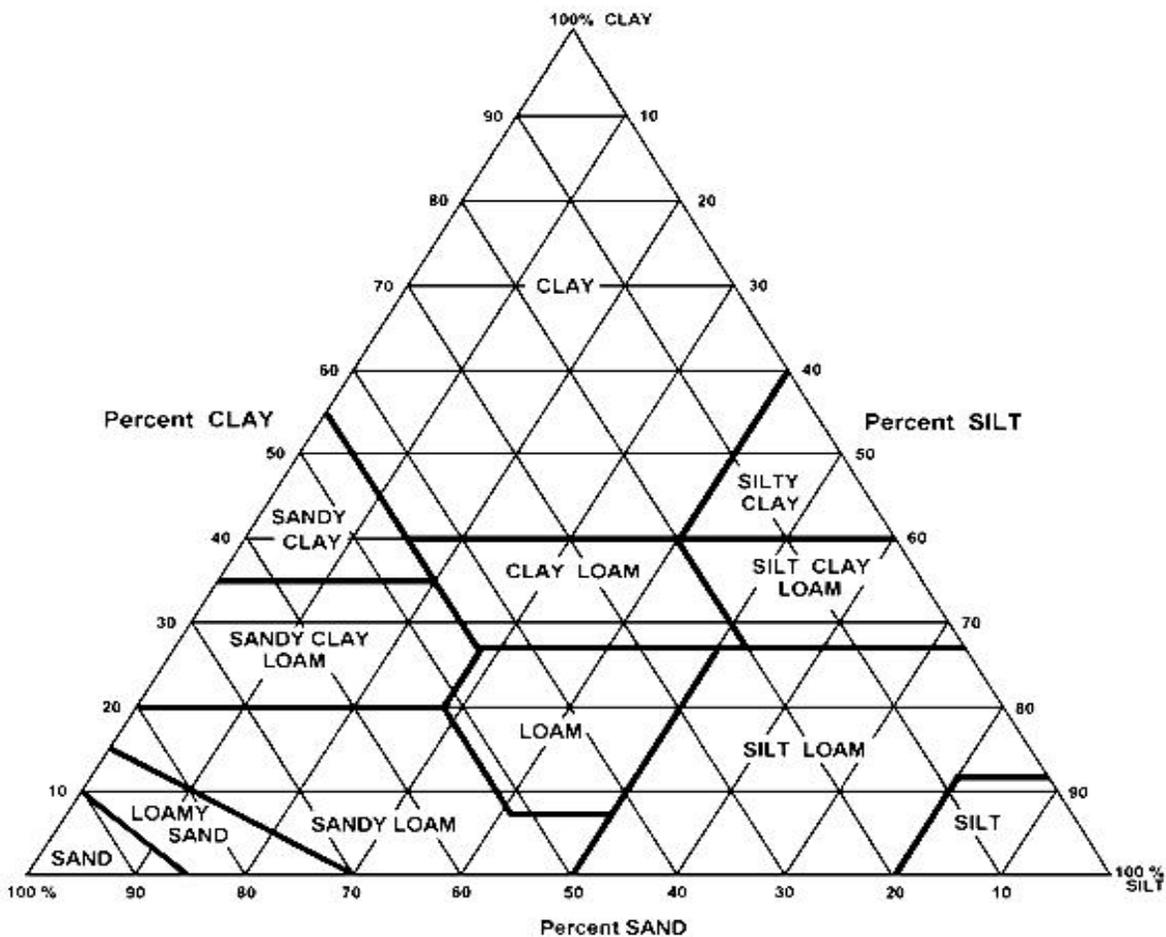
A standard soil morphology evaluation report is available at: <http://health.mo.gov/living/environment/onsite/pdf/SiteEval.pdf>. Although a standard report is available, the rule does not require its use. It only requires certain information be provided. The evaluation report consists of a site diagram, one or more profile descriptions, the site classification and general comments or recommendations. The site diagram should depict the lot or parcel of land and include setback distances, slope, location of dwelling or buildings, utility easements, rock outcrops, and sinkholes. There are nine (9) items detailed in 19 CSR 20-3.060(2)(A) 2 - 10, that the OSE needs to evaluate and include on the site diagram or in the report. On the profile description the OSE describes various physical properties that will be presented later in this section and assigns a loading rate for each horizon that is not classified as unsuitable. The six factors detailed in 19 CSR 20-3.060(7)(C) are rated by the OSE and presented on the site classification page. Each of the six factors from subsection (7)(C) must be classified *as suitable, provisionally suitable, or unsuitable* for a conventional system. The parameters for these ratings are prescribed in section (7). If any required information, IS NOT provided with the site/soil evaluation and is needed to determine whether a proposed system complies with the Minimum Construction Standards; the report SHOULD NOT BE ACCEPTED until a complete report is provided.

### Profile Descriptions

The profile description part of a soil morphology evaluation report describes the physical properties present in the soil. Because the report contains important information about the site and soil suitability for OWTS, it is important to have an understanding of the terminology used. When reviewing an application that is based on a soil morphology evaluation, the Environmental Public Health Specialist (EPHS) must be able to read and interpret the report to determine if the system design, as proposed by the installer or engineer, complies with the rule.

The following properties are described by the OSE and need to be understood by the EPHS: texture, structure, porosity, soil color, drainage, restrictive horizon, and soil depth. **Soil texture** is a term used to represent the percentages of sand, silt and clay soil material. It is determined by estimating these fractions in a field test where a sample of the soil material is moistened and then rubbed. There are 12 soil textures in the textural classification system used. Soil texture may be a “pure” clay, silt or sand. Or, it may be a combination of these and may include the term loam; for example: silty clay loam, silt loam, or sandy loam. Loam is a combination of the three particle sizes where each has equal influence. It is important to understand the influence that texture has with respect to wastewater movement and treatment. In general terms, wastewater moves quickly through sandy soils and slowly in clayey soils. When wastewater moves quickly, it receives little treatment from the soil and could pose a threat to public health and the environment. In clayey soils, there is more surface area on the soil particles for better treatment, unfortunately the better treatment could be negatively impacted by the slower movement of the wastewater. If wastewater cannot move either laterally or downward, it is possible for an OWTS to overload the site resulting in surfacing wastewater. Since loamy soils have equal influence of the three particle sizes, it is reasonable to expect that loamy soils would have better properties for both wastewater movement and treatment. The textural triangle shown graphically represents the 12 soils texture classes.

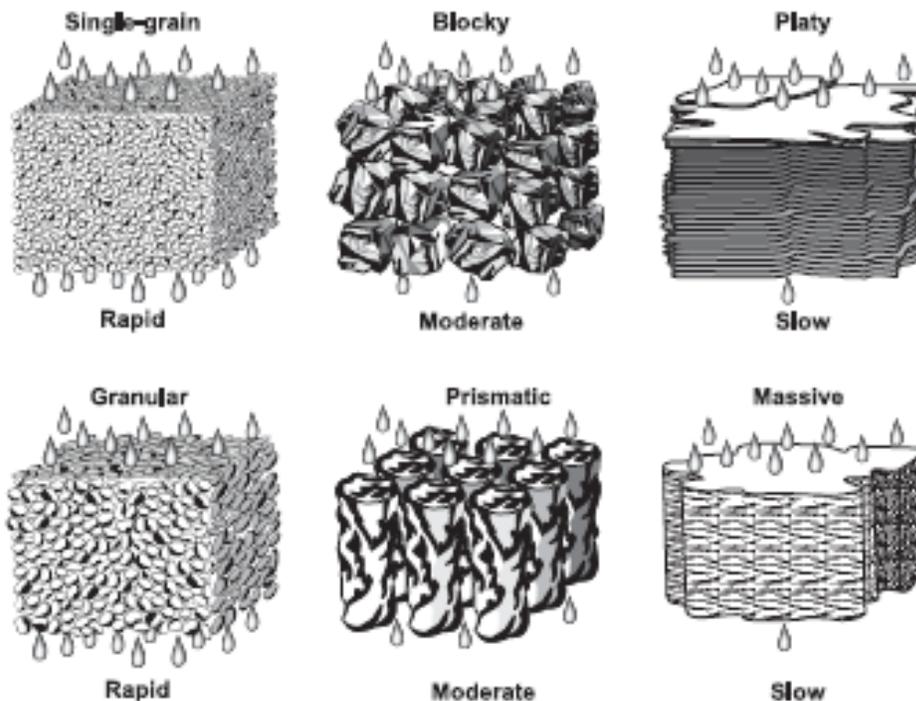
### Soil Textural Triangle



The Munsell Soil Color Charts are the standard system used to describe **soil color**. An OSE uses Munsell notation to describe the dominant matrix color as well as mottle colors and redoximorphic features. The Munsell notation includes a hue, value and chroma. An example of a soil color is 10YR 5/2. In this example 10YR is the hue, 5 is the value and 2 is the chroma. The chroma is an important quality to recognize and interpret. Generally, when the chroma is 2 or less, it indicates the presence of moisture and lack of oxygen for extended periods of time. These conditions result in dull, grayish colors. The soil may be saturated seasonally resulting in a seasonal high water table or it may be wet throughout the year. The presence of water results in an absence of air and poor wastewater treatment. For ideal wastewater treatment, bright soil colors are important. These colors will have high values and high chromas. When the soil chroma is low (less than or equal to 2), values may be low as well, since dark soil colors often mask wet conditions. However, be careful in assuming that all soils with low values are wet soils, some low value colors may also be associated with more organic matter, especially when the color is described near the surface of the soil profile. Soil color should be discussed with the OSE if it appears to indicate that wastewater treatment could be impacted.

The shape that the aggregation of sand, silt and clay particles forms is known as **structure**. As these particles stick together they form specific shapes, and between and within these shapes there are voids or pores. This pore space is described as **porosity** and is where air and water move. Three properties are used to describe structure: grade, class and type. Grade, describes how easily the pieces of soil break out into the structural elements. Commonly used terms for grade include: structureless (single-grained or massive), weak, moderate and strong. Class, describes the size of the structure and common terms are: very fine, fine, medium, coarse, and very coarse. Type, is the most important structural property described. Prismatic, columnar, granular, platy and blocky are structural types. The type determines the size and the amount of pore space and ultimately how water moves. The graphic below shows some of the structural types and depicts water movement with rain drops on the surface and drops below the structure. The relationship between the number of drops on the surface to the number below represents how effectively the water moves through the soil.

## Types of Soil Structure



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Structure is not the only characteristic affecting water movement. Porosity also affects the amount of water a soil will hold and how rapidly the water moves. Careless use of equipment, compaction caused by traffic or working with the soil when wet or too moist will negatively affect wastewater movement and treatment. Remember that porosity and soil structure are easily destroyed. In clayey soils, a backhoe bucket can easily smear the trench sidewalls resulting in damage to both soil structure and porosity.

The OSE will use the texture and soil structure to determine the soil group and what loading or application rate to assign to each horizon. Tables 13 and 14 in 19 CSR 20-3.060 (7) are used to assign the loading rate based on soil group. There are five (5) **soil groups** which are noted with roman numerals. General remarks about the groups are as follows: soil groups I and II are sandy soils; soil group III are fine loamy soils that include silt loam, clay loam, sandy clay loam and silty clay loam textures; soil group IV is predominantly clayey textured soils and is divided into two subgroups, IVa and IVb (this subclass recognizes the high shrink-swell clayey soils); and soil group V which can be any texture when the soil also contains more than 35 percent coarse/rock fragments. Rapid movement of wastewater can increase with increasing coarse fragment content and there is a corresponding reduction in treatment with this increase. The OSE must report a **loading rate** within the ranges provided for the soil groups. Note that soil groups II, III, and IVa are further divided and different load rate ranges are specified based on the soil structure type and size. The soil loading rate represents the amount of effluent in gallons per day per square foot that can be applied to the soil. Use the tables to confirm the reported rate is within the range specified. A more conservative

rate, based on the OSE's observations would be allowable. However, a more liberal rate (outside the range) must have adequate justification. Because wastewater movement and treatment are strongly influenced by texture, it is possible to make quick assumptions about soil groups, but it is important not to "stereotype" soils based on the soil group alone. There are other properties such as restrictive horizons and soil depth that will strongly influence system selection and design that are not recognized as part of the soil group designation.

### **Site Evaluation and Classification**

The six factors detailed in 19 CSR 20-3.060(7)(C) are rated by the OSE and reported as the site evaluation or classification. Each of the six factors from subsection (7)(C) must be classified as suitable, provisionally suitable, or unsuitable for a conventional system. Having an understanding of what these features represent with respect to an OWTS is important.

The OSE will rate soil texture/soil group and structure. The importance of these characteristics was discussed earlier. They will also rate soil drainage, thickness and restrictive horizons. The emphasis being on the depth to these characteristics since vertical separation is essential to achieve adequate wastewater treatment. Vertical separation or the distance between the dispersal trench bottom or the drip emitters and a seasonal high water table, bedrock or a restrictive horizon, is important to the proper functioning of an OWTS. Provided sufficient vertical separation is maintained with suitable or provisionally suitable unsaturated soil, the effluent will be adequately treated before it is recycled to ground or surface waters. The specific vertical separation requirements for all OWTS are summarized in a table later in this section.

**Soil drainage** is rated on the depth to a water table. The range is as follows: 24 inches or less – unsuitable; between 24 and 48 inches – provisionally suitable; and suitable when greater than 48 inches to the water table. Drainage problems can be a result of internal causes including the amount of clay, the structure and porosity, or a restrictive horizon. External drainage issues can be related to **topography**. Topographic positions that will negatively impact an OWTS's function are a floodplain, depression, and foot slope or toe slope.

**Soil thickness** is the depth of soil material above bedrock. When the soil material is 36 inches or less thick, the soil is rated as unsuitable. If between 36 and 48 inches the soil is provisionally suitable and when bedrock is deeper than 48 inches the rating is suitable.

**Restrictive horizons** can be recognized by their apparent resistance to excavation. There are two restrictive horizons recognized in rule: fragipan and claypan. A fragipan is a genetic soil horizon that perches water and limits root penetration. It is brittle and has a high bulk density. On the profile description it is noted in the horizon designation column with a lowercase 'x'. A claypan is a horizon that has a minimum of 25 percent more clay than the horizon above. It often has a high shrink-swell potential and tends to perch water at its boundary and may be related to a somewhat poorly or poorly drained soil. The depth ranges and suitability ratings are the same as those for soil drainage.

## Site Suitability

The above features must be classified as suitable, provisionally suitable, or unsuitable. If all criteria are classified the same, that classification prevails; however where there is variation in the classifications, the lowest uncorrectable characteristic will determine the overall site classification. Conditions described in 19 CSR 20-3.060 (7)(K) can be used to reclassify a site to a more useable level. Overall site classification is further described below:

**Suitable:** There are only slight limitations. A well designed and installed conventional OWTS would be expected to function properly.

**Provisionally Suitable:** There are moderate limitations. The characteristics that are rated as provisionally suitable must be considered when designing the OWTS. Careful planning, design, and installation are necessary for a soil treatment system to function. Some site or system design modifications or an alternative system may be required to overcome limitations.

**Unsuitable:** There are considerable limitations and a conventional OWTS generally can't be installed. The site must be reclassified as provisionally suitable before approving an OWTS design. Reclassification may be based on site modifications such as terracing, curtain drains to improve vertical separation, or surface water diversion; or it may be based on an engineered design of a shallow alternative OWTS. If an engineered design, soil study and/or hydrogeologic study provide adequate substantiating data and reasonable assurance of the performance of a system, the site may be reclassified provisionally suitable on the basis of 19 CSR 20-3.060 subsection (6) (K).

## Percolation Tests

Only registered persons may perform percolation (perc) tests for the purpose of designing and construction of an OWTS. A list of Registered Percolation Testers is available by contacting the Onsite Program. Subsection 19 CSR 20-3.060(2)(D) allows the administrative authority to determine which method of site evaluation is used. Compared to a soil morphology evaluation, which can provide superior information for system design on any type of soil, a perc test has some inherent limitations. A critical limitation of a perc test is its inability to detect a seasonal high water table. This can result in an indication that a soil is better suited to a soil treatment system than it actually is. Since perc tests have limits, the use of a soil morphology evaluation should be advocated as it can provide more detailed information. However, if a perc test is submitted, it must be determined whether it can be used as the site/soil evaluation for the proposed OWTS. The reviewing EPHS should look up the site in the Natural Resource Conservation Service county soil survey report or online at: <http://websoilsurvey.nrcs.usda.gov/app/>. If the sanitary facilities or engineering interpretation tables indicate that the site would have moderate or severe limitations or has a provisionally suitable or unsuitable rating, a soil morphology evaluation should be required.

A standard perc test report form is available at: <http://health.mo.gov/living/environment/onsite/appsforms.php>. Although a standard report is available for use, the rule does not require its use; it only requires specific information be provided. The perc test consists of a site diagram, the test results and calculations for four test holes, and

remarks about the depth to bedrock or restrictive layers when known to occur at depths less than ten (10) feet. The perc test should also evaluate the nine site conditions detailed in 19 CSR 20-3.060 (2)(A). **The perc test must be conducted by a registered individual, not an “apprentice” or the report cannot be accepted.**

### Test Procedure

The most important factor in obtaining accurate perc test results is following the proper procedure. This procedure is detailed in 19 CSR 20-3.060(2)(D). A perc test review must verify that the test results and information provided meet the rule requirements. The steps to verify include:

- ✓ Four (4) holes that were either six (6) or eight (8) inches in diameter were evaluated;
- ✓ Holes were dug 18 to 30 inches deep and to the depth of the proposed trenches;
- ✓ The proper 24 hours soak and swell process was used;
- ✓ The test was conducted so that the water level was measured from a fixed reference point and the hole was refilled between measurements;
- ✓ Measurements were recorded to the nearest one-eighth (1/8) inch and readings were taken at about 30 minute intervals;
- ✓ The test continued until a stabilized rate was reached. That is the test continued until three (3) consecutive percolation rate measurements varied by a range of no more than ten (10) percent;

It is important to check the math on a perc test report. To determine the perc rate, divide the time interval in minutes by the drop in water level in inches. This yields the perc rate in minutes per inch. To check that the perc rate for each hole has stabilized, divide one perc rate by another (for example divide the second rate by the fourth rate if four measurements were made). The result for any two of the last three rates must be between 0.90 and 1.10, to assure the measurements did not vary by more than 10%. If your review of the math finds errors, inform the perc tester and require a corrected report or a new test.

By rule the slowest perc rate is used to size the system. Where the slowest perc rate varies by more than 20 minutes per inch from the other rates and an average of the perc rates is proposed as the basis for a system design, a detailed soil morphology evaluation must be conducted. If a soil morphology evaluation is conducted, the EPHS should require the size of the system be based upon the soils evaluation that produces the most conservative system design. Once verified the perc rate can then be used to calculate the size of the soil treatment area, by using Table 5 or 7 in 19 CSR 20-3.060(5)(A) and (6)(C). These tables also contain footnotes that require additional information or special design criteria for certain conditions.

### **System Selection**

Probably the most difficult aspect in interpreting the soil site information is how the information relates to system selection for the site. The DHSS rules separate OWTS into two categories: basic or conventional systems which rely on limited pretreatment with a septic tank and gravity distribution in the soil treatment system; and advanced or alternative systems that involve highly treated effluent and/or pressure distribution in the soil treatment system. The rule provides limited guidance for determining which system to install given specific site or soil conditions. So how should one choose the best system for a site? The installer and the EPHS need to know what the

perc rate implies and the soil group, soil suitability, and soil loading rate mean, as well as have an understanding of OWTS specifications and functions.

One piece of site information to consider when using either a perc test or soil morphology is vertical separation. **Vertical separation** is defined as the distance between the dispersal trench bottom and a limiting condition, such as a seasonal high water table, bedrock or a restrictive horizon. Vertical separation requirements are in place to assure a zone of unsaturated soils that can adequately treat the applied wastewater before it is recycled into groundwater or surface waters. Both site/soil evaluation methods must report the depth to the limiting conditions, if they are present. The following table shows the minimum vertical separation distances required.

TYPE of SYSTEM	SITE/SOIL LIMITATION or CHARACTERISTIC	VERTICAL SEPARATION (FEET)
<b>CONVENTIONAL</b>		2
	Rapid percolation	4
	Cherty clays in areas of concern for groundwater	4
Serial		3
Dosed D-box		2
Shallow placement		2
<b>LPP</b>		1
	Areas of concern for groundwater	4
<b>DRIP</b>		1
<b>SAND MOUND</b>		2
	Groundwater contamination potential	4
<b>LAGOON</b>	Crevised bedrock	3
	Or a minimum clay liner thickness of:	1

The minimum vertical separation required for a conventional OWTS is two (2) feet, although there are several site conditions or systems where the rule specifically requires two (2), three (3) or four (4) feet of vertical separation. In two sections of the rule, one (1) foot of vertical separation is mentioned. Subsection (5) (A) Absorption Systems, states in paragraph 2: “The vertical separation between the bottom of the absorption trench and limiting layer or seasonal high water table shall be no less than one foot (1’).” This paragraph also states “The absorption trench shall be located on the property to maximize the vertical separation....,” and “Greater vertical separation may be required where water-bearing formations are in danger of contamination.” And in subsection 7(G) Soil Drainage, the rule states: “soils with a seasonally high water table less than forty-eight inches (48”) and more than twenty-four inches (24”) below the naturally occurring surface shall be considered provisionally suitable for soil drainage, provided there remains at least twelve inches (12”) of soil between the proposed trench bottom and the seasonally high water table. With these two sections in mind, one (1) foot should be considered the absolute minimum vertical separation for conventional OWTS, not the standard. Variances may be considered to reduce the vertical separation below the two (2) to four (4) feet shown in the table above. If vertical separation is reduced, and there is a concern for groundwater contamination, the site should be investigated by a registered geologist to determine if the site has severe geologic limitations. The Onsite Program may be contacted for assistance.

Subsection 7(G) refers to seasonal high water, not bedrock or either type of restrictive horizon. If a typical twenty-four inch depth dispersal trench were assumed, the requirement of forty-eight inches between the soil surface and a seasonal high water table for a suitable classification would provide at least two-feet of vertical separation. Site conditions where the vertical separation would be between two-feet, which is suitable; the one-foot minimum would result in a provisionally suitable classification. When a factor is classified as provisionally suitable, then site or system design modifications must overcome the limitations or a variance may be considered.

The most common site modification used to lower a seasonal high water table and increase vertical separation is a curtain drain. When the OSE indicates that a seasonal high water table is caused by lateral movement of water through the soil profile or from surface run-on to the area, a properly designed curtain drain is appropriate. This is most often on a sideslope and can be a significant distance from the top (summit) or break of the slope. Occasionally plans propose using a curtain drain on level sites or near the top of a slope. In these cases the seasonal high water table may be caused by poor surface drainage or ponding of water on a restrictive horizon, and not by lateral movement of water. A curtain drain would not adequately lower the water table in these cases.

The depth of a curtain drain is another issue. It cannot be assumed that the water table will be lowered to the bottom of the curtain drain trench and maintained at that depth under the soil treatment system, especially as the number of trenches placed on a slope increases. Water mounding under the distribution system can reduce the vertical separation gains expected from the installation of a curtain drain. When there is a restrictive horizon or other slowly permeable horizon, the curtain drain bottom should be keyed into it at least four (4) to six (6) inches. If no such horizon is present, an experienced OSE, designer or EPHS may be consulted.

If site modifications cannot maintain the minimum required vertical separation it may be possible to overcome limitations with system modifications, such as shallow placement, sand lined trenches or through the use of an alternative system design. Shallow placement modifications and sand lined trenches are detailed in 19 CSR 20-3.060(5)(B). If the minimum vertical separation requirements cannot be met it may be possible to reduce the vertical separation through the variance process, discussed in this subsection 5.4. System design modifications may include higher pretreatment, dosing or other requirements and at a minimum, one foot of vertical separation must be maintained between the soil treatment system and the seasonal high water table.

### **Conventional Soil Treatment Systems**

A common **conventional soil treatment system** consists of a system of trenches separated from each other and each containing a distribution pipe. Distribution is generally by gravity. Historically, this type of system consisted of trenches with rock and perforated pipe backfilled with native soils. Now various gravelless systems are also common. Gravelless systems are considered conventional and can generally be used only where a gravel and pipe system could be used. A conventional system should be used wherever practical. Conventional soil treatment systems are described in detail in 19 CSR 20-2.060 (5).

A conventional system can generally be installed when perc rates are less (faster) than 60 minutes per inch. If there is a restrictive horizon noted on the perc test report, minimum vertical separation must be maintained between the trench bottom and the restrictive horizon. The slowest perc rate for the four test holes is used to design the system. Soils with a perc rate of 31 to 45 minutes per inch are considered ideal for a conventional OWTS. When perc rates are less than 10 minutes per inch, effective treatment becomes a concern because the wastewater moves through the soil too quickly. With faster perc rates, dosing the system may be a design modification that allows the soil to work more effectively.

Additional points to note about perc tests, system selection and design involve trench depth and width. The trench can be no deeper than the depth of the perc test holes. When perc rates are greater than 45 minutes per inch, trenches 36 inches wide should not be used. (This design requirement has been interpreted to also prohibit the 36 inch wide trench when the soil loading rate is less than 0.45 gallons per day per square foot.) Footnotes to Table 5 of the minimum standards detail additional limitations based on perc rates above 45 minutes per inch.

When a soil morphology evaluation is used, the OSE indicates potential limitations by classifying site factors as suitable, provisionally suitable, or unsuitable. A suitable overall site classification generally indicates a conventional soil treatment system can be installed. Suitable ratings can be noted in soil groups I, II, and V. Many sites with soil groups III and IVa which are provisionally suitable, can be used for conventional systems. Landscape position, topography, drainage, thickness and restrictive horizons could impose different system design requirements if not rated as suitable.

Requirements for **lagoons** are detailed in 19 CSR 20-3.060 (6) (D), Alternative Systems. Although lagoons are discussed in that section of the minimum standards, they are considered basic OWTs. Lagoons are best suited to soils with slow perc rates, such as greater than 120 minutes per inch and groups IVa and IVb. Provided the lagoon is properly constructed and is not allowed to dry out and crack, expansive clay soils make a good seal against leaking. Lagoons may be constructed in soils with perc rates between 61 to 120 minutes per inch or in group IVa soils provided the clay material is well worked and sealed. If an artificial liner or bentonite is used, a lagoon can be constructed in any soil group. However, it is important to note that other physical restrictions may limit the use of lagoons. These limitations include: topography/ landscape position, drainage, restrictive horizons, soil depth, and slope. Sites rated as unsuitable for conventional systems are not always well suited for lagoons. Highly permeable or gravelly soils are generally not suited for lagoon construction, slopes steeper than 8% to 12% make lagoon construction a challenge, expensive, or impractical and sites with shallow bedrock are generally not suited for lagoon construction. Severe geologic limitations and setback requirements must be considered for sites where a lagoon is proposed. (Note, the setback requirements to residences specified in subsection (6) (D) of the minimum standards take precedence over setback distances listed in Table 1 for a building foundation or basement.)

### **Alternative Soil Treatment Systems**

When a conventional soil treatment system or a lagoon cannot be installed or is not the most suitable method of treatment due to limiting soil conditions, an alternative (advanced) system should be considered. The term “alternative” does not imply the system design is untested or experimental. These systems involve alternative components to a septic tank and gravity dispersal trenches including more advanced pretreatment and/or a pressurized distribution network. Requirements for alternative systems are detailed in 19 CSR 20-3.060(6).

The soils on site might affect the selection of pretreatment components if rocky soils or seasonal saturation, etc. limit effective soil treatment. In addition, extremely rocky soils, a high water table, steep slopes, and shallow bedrock may affect the selection of the material: i.e. fiberglass or polyethylene or concrete and how the tank is installed. There is one instance below where perc tests are mentioned in alternative system design standards, otherwise perc tests cannot be used to design an alternative system. The paragraphs below discuss alternative distribution methods and soil limitations that need to be considered.

**Low Pressure Pipe (LPP)** systems are described in 19 CSR 20-3.060(6) (C). Site limitations, such as steep slopes, slowly permeable soil conditions, shallow soils, or inadequate vertical separation, may be overcome by an LPP system. An LPP system can be designed to accomplish uniform distribution on sites with steep slopes, although construction difficulties may be more challenging than the soil. LPP systems use dosing and resting cycles to maintain aerobic conditions and shallow placement of dispersal trenches to utilize the more permeable upper horizons.

A perc test, if used to size an LPP system, must comply with the requirements in the Minimum Standards and Table 7. An LPP system can be installed in all soil groups except soil group IVb.

When a soil morphology evaluation is used, the LPP loading rates that are reported by the OSE are from Table 14 in the rule. If an OSE only provides the loading rate from Table 13 for conventional systems, it is possible to compare the two tables and select a corresponding loading rate; however, it is often best to contact the OSE and have them provide the loading rate.

There are some minimum site requirements to remember when considering an LPP system. Two (2) feet of suitable or provisionally suitable soil is needed above the limiting condition and a minimum of one (1) foot of vertical separation is required. Where highly permeable, cherty clay soils or severe geologic limitations are present; four (4) feet of vertical separation is needed.

A **drip irrigation** soil dispersal system design can overcome limitations similar to or more severe than an LPP system. Drip irrigation systems may be installed on sites with high shrink/swell, IVb clay soils. Drip irrigation lines are also the only dispersal system that DHSS permits in unstabilized fill material.

Requirements for drip irrigation systems are detailed in 19 CSR 20-3.060 (6)(H) and the installer manual. The soil treatment area for a drip system is based on the same loading rate as an LPP system, except that a maximum rate of 0.05 to 0.1 gallons per day per square foot is allowed for IVb soils. A minimum vertical separation distance of one (1) foot is also required. One difference between the LPP and drip system is that drip lines are typically installed at six (6) to ten (10) inches deep.

The **sand mound** is both a treatment component as well as a distribution component. It consists of layered sand and gravel materials that are raised above the natural soil surface. Final dispersal occurs as the effluent moves through the gravel and sand layers into the native soil below. Requirements are described in 19 CSR 20-3.060(6)(E). A sand mound can be installed in all soil groups except soil group IVb. There must be at least two (2) feet of vertical separation between the bottom of the mound (the native soil surface) and the limiting condition. Sites with high water table limitations in permeable soils would be better suited for mounds than sites with underlying slowly permeable soil horizons. In areas where there is a significant groundwater contamination potential, there must be four (4) feet of soil over bedrock. In addition, down slope setback requirements are increased for mound systems.

### **Advanced Pretreatment Systems**

Other alternative treatment systems are the **constructed wetland** and the **sand filter**. The requirements for these systems design are in 19 CSR 20-3.060 (6)(I) and (6)(G) respectively. New technology has introduced various **bio-filters** with different filter media such as foam, textile, and peat that treat the effluent to qualities that are similar to the sand filter. All of these pretreatment devices must be followed by a soil treatment system. Typically when one of the alternative treatment devices is needed because of poor soils, an alternative method of distribution is also required. The design of these and other systems not specifically included in the minimum standards must comply with the requirements of 19 CSR 20-3.060 (6)(K).

## **System Sizing**

The OSE should report a conventional system soil loading rate obtained from the ranges provided in Table 13, of the Minimum Standards. This rate is used to calculate the minimum conventional soil treatment system trench bottom area. Usually the lowest reported loading rate between the soil surface and one foot below the trench bottom is used, because hydraulically overloading the soil has the potential for creating saturated conditions and reducing the soil's treatment capacity. Trench bottom area in square feet is calculated as the design daily flow in gallons divided by the soil loading rate in gallons per day per square foot. If using a perc test and Table 5, the size is determined by the number of bedrooms multiplied by the appropriate value based on the perc rate in the column labeled "Absorption Loading Area" or the method described for soil morphology evaluations can be used where the daily flow is divided by the corresponding loading rate found in Table 5.

The minimum trench length is determined by dividing the required trench bottom area by the proposed trench width. The length of gravelless systems is determined by dividing the required trench bottom area by the equivalent widths detailed in 19 CSR 20-3.060(5)(A) 15A or E. The equivalent width for expanded polystyrene bundles is not currently in rule and has been addressed in an Onsite Program informational release. In the case of chamber systems, an additional reduction of not more than 25 percent may be allowed, provided a soil morphology evaluation indicates good soil with no limiting conditions. To use Table 6, the soil group and loading rate must be known. The loading rate at the installation depth must be within the ranges given in Table 6 of the DHSS rules. Many Missouri soils will not support this reduction and it is not available for systems designed from a perc test.

When a soil evaluation classifies a site characteristic as provisionally suitable or unsuitable, a site or system design modification or a variance may be employed to reclassify the site, overcome the limitations or use the site for system installation. A curtain drain is the most common site modification used to lower a seasonal high water table and increase vertical separation.

Most onsite soil treatment systems are sized based on septic tank quality effluent. Since highly treated effluent does not promote the development of a biomat as septic tank quality effluent does, soils may have a higher long-term acceptance rate when receiving effluent produced by an alternative treatment system. In addition, if a system which provides higher treatment is installed and maintained the soil is not required to provide as much treatment. When higher pretreatment is proposed, higher proposed loading rates – still within the ranges given by Tables 13 and 14 for a soil's texture and structure – may be accepted with caution. Proper operation and maintenance are essential to the long-term performance of a system. Also, reduced soil treatment areas may be considered following alternative pretreatment systems. Except for a one-third (1/3) reduction for soil treatment areas following sand filters, which is allowed by the rule, variances are required for a reduction for other higher pretreatment systems.

## Variance Guidelines

Variances may be considered when either the system being repaired existed prior to January 1, 1996 or the property it is to serve was platted prior to January 1, 1996. As specified in 19 CSR 20-3.060(6)(L), variances may be allowed for the following three types of requirements: minimum horizontal setback distances; vertical separation distances; and minimum areas for infiltrative surfaces. Where OWTS construction is permitted under a Participation Agreement, the Onsite Program or district EPHS Vs will review variance requests. The local agency will submit a copy of the construction permit application, site/soil evaluation, OWTS design, and other pertinent information with any recommendations for Onsite Program staff to review.

### Variances

Minimum horizontal setback distances and minimum absorption areas are clearly stated in the construction standards, while the requirements for vertical separation are not as clear. The minimum standards require absorption trenches to be located to maximize the vertical separation distance to the seasonal high groundwater table, bedrock or other limiting layer. Provided a site is otherwise classified as suitable or provisionally suitable for the type of system proposed, the table in subsection 5.3 of this chapter may be used to determine the minimum vertical separation required. The vertical separation requirements are generally to any limiting condition. However, where there is significant potential for groundwater contamination the required vertical separation to bedrock may be greater than to seasonal perched groundwater, restrictive horizons or slowly permeable layers.

Except for lagoons, most horizontal setback requirements are based on septic tank effluent and conventional soil treatment systems. Requirements for vertical separation distances and minimum dispersal areas are generally based on the type of system.

Variances are considered on a case-by-case basis, and not routinely granted. A variance may be granted based on the site/soil conditions together with the proposed use of filters, higher pretreatment, alternative distribution systems, reduced loading rates, or other system improvements or a combination of improvements. When it is determined that the system would adequately protect surface and ground waters and prevent nuisance conditions or negative impacts on public health, a variance may be granted. Any necessary variance(s) for a simpler system should be considered against the increased operation and maintenance requirements for an alternative system design that might not require a variance.

Provided a site is eligible for variances, a written variance request will be considered if it is submitted with all required information. See <http://health.mo.gov/living/environment/onsite/permitappforms.php> for a variance request form (see also <http://health.mo.gov/living/environment/onsite/permitprocess.php>) to be used to submit a request and to review whether all necessary information has been submitted with the construction permit application and variance request.

## Variance Guidance

Although variances are granted on a case-by-case basis, following is some general guidance:

- A sewage tank must be proven watertight as a condition of granting a variance to the tank's setback requirements;
- Variances must not be granted based solely on the lack of space or the site/soil limitations;
- Higher pretreatment should be required for approval of a reduction in infiltrative area;
- A variance should not be granted to reduce the infiltrative area unless the design provides for as much absorption area as practically possible;
- Higher pretreatment, pressure distribution, and/or more than the minimum area should be required for approval of a reduction in vertical separation;
- Restrictive horizons and slowly permeable clay horizons of sufficient thickness below the soil dispersal system may be considered as protective of groundwater and of wells that are located upslope from the absorption field;
- Caution should be used when considering variances to well setbacks. If there are concerns about significant groundwater contamination potential, such as in karst areas, an evaluation by a registered geologist may be needed;
- Seldom should variances be granted for a combination of horizontal setbacks, vertical separation and minimum infiltrative area. If a combination of variances is to be considered, a high level of pretreatment should be required;
- When granting a variance is based in part on the higher pretreatment provided by a maintenance intensive treatment component, the variance should be conditioned on the property owner keeping a maintenance contract in force as long as the system is in use;
- Timer dosing controls may be required for pressured dosed systems to equalize flows over time, to improve distribution and to allow better flow management; and
- A septic tank should be required to precede a lagoon as a condition for approval of any lagoon setback variance.

## **Innovative and Experimental (I & E) Systems**

Missouri law, 701.037.1.(4) RSMo., established the power and duty of the Department of Health and Senior Services (DHSS) to authorize the trial or experimental use of innovative systems for onsite wastewater treatment systems (OWTS) upon such conditions as the department may set.

An experimental OWTS is any system that uses components, processes, or sizing different than described in the Minimum Construction Standards, which cannot be approved under an innovative system protocol. Construction permits for experimental systems may be approved as a part of an approved experimental protocol, research, or testing program. An approved experimental system protocol must be designed to yield data and experience about system performance. While an OWTS is experimental, the system owners must be informed of the experimental status and should be involved in the selection of their system. Under an experimental approval, at least 25 OWTS must be installed and a maximum of 50 systems may be installed prior to submittal of the third party system/product evaluation for a minimum period of two years.

An innovative OWTS protocol trial may be proposed for any conventional or alternative system or any system with components not specifically described in the Minimum Construction Standards and for which performance data has been submitted. The data and innovative system protocol must be designed to demonstrate the innovative treatment and dispersal system would perform equal to or superior to a system described in the minimum standards. When reduced sizing is proposed for an innovative OWTS protocol trial, prior successful completion of an approved experimental protocol is required with at least 50 experimental OWTS installed in Missouri. Construction permits for innovative systems may be approved as a part of an approved innovative system protocol trial program. An approved innovative system protocol must be designed to yield data and experience about system performance. System owners must be informed of the innovative demonstration status of the system and should be involved in the selection of their system. Under an innovative OWTS approval, at least 200 systems must be installed and a maximum of 500 systems may be installed over two to five years prior to submittal of the third party system/product evaluation.

A manufacturer or a design engineer may seek general acceptance of an innovative OWTS or component after successful completion of an approved innovative system protocol with at least 200 systems installed in Missouri. It is not necessary for an engineer to follow this process for a site specific OWTS design and application in accordance with subsection 19 CSR 20-3.060(6) (K).

### **Application**

For experimental or innovative system approval or for general acceptance, the manufacturer or engineer should submit a complete application. A complete application must provide all information required by DHSS and administrative authority including, but not limited to:

1. Type of approval requested, experimental, innovative or general;
2. Product name;
3. Name of manufacturer/designer;
4. Contact person and information;
5. Proprietary, trade-secret, patent, and/or copyright information and any restrictions placed on the use of this technology by the manufacturer;

6. Summary of any pertinent literature, previous research or testing, and field performance experience in Missouri or other states;
7. Proposed experimental protocol or innovative protocol objectives, methods and duration;
8. Identity and qualifications of proposed third-party research or testing organization;
9. A detailed description and design of the system or component including:
  - a. Applicable standards and any lab testing of components/materials;
  - b. How the proposed system or component functions; and
  - c. The expected performance of the system;
10. Proposed siting criteria, soil requirements and limitations, slope limitations, etc.;
  - a. For conventional systems on suitable sites, only a general engineered system or component design is necessary; and
  - b. For unsuitable sites requiring engineered designs or alternative systems, site-specific engineered designs are required;
11. Installation procedures and training requirements for installers;
12. Inspection criteria that should be used to assure proper installation;
13. Operation and maintenance requirements and procedures
14. Expected design life of system or component;
15. Procedures for malfunctioning system repair, replacement and possible termination of the protocol; and
16. Warranty information.

### **Experimental System Protocol**

Approval of an experimental or innovative protocol by the DHSS Onsite Program will include:

1. Site selection criteria and permit conditions;
  - a. The limit on the number of systems to be permitted in Missouri;
  - b. Site/soil requirements and limitations;
  - c. Requirement for engineered design if applicable; and
  - d. Property owner notification;
2. Setback guidelines;
3. Minimum system sizing requirements;
4. System operation and maintenance requirements;
5. Third party protocol monitoring and evaluation requirements; and
6. Malfunctioning system repairs or replacement.

Any proposed modifications to the experimental or innovative system design or sizing of the protocol must be reviewed and receive approval before being implemented. Failure of an experimental system may require the manufacturer, supplier, designer, and/or installer to repair the system or install a backup replacement system.

### **General Acceptance**

After verification of the successful completion of an approved innovative system protocol with at least 200 systems installed in Missouri and upon request by the manufacturer or design engineer responsible for the protocol, the DHSS Onsite Program will review the innovative system for general acceptance.

When evaluation of an innovative system protocol and data demonstrate the performance of the system is equal to or superior to a system described in the Minimum Construction Standards,

guidelines for general approval of the systems will be developed. Guidelines will include, but are not limited to:

1. Site selection criteria and permit conditions;
  - a. Site/soil requirements and limitations; and
  - b. Requirements for engineered design if applicable;
2. Setback guidelines;
3. Minimum system sizing requirements; and
4. System operation and maintenance requirements.

An experimental or an innovative system protocol may be terminated early or general acceptance may be withdrawn, if justified by system malfunctions or other unsatisfactory field performance.

## **Complaints and Malfunctioning Systems**

Complaints and investigations of malfunctioning wastewater treatment systems are either governed by local ordinances or by state laws and rules. Where a jurisdiction has established a system for regulating onsite systems that is at least equal to state regulations the local ordinance will apply. Where a local ordinance has not been established and where an ordinance does not address complaints, 701.025 to 701.059 RSMo and the rules of the Department of Health and Senior Services (DHSS) will apply.

Below are guidelines for handling complaints and investigations relating to existing onsite wastewater treatment systems (OWTS) under Missouri laws and rules. Agencies working under a local ordinance must look closely at the wording of their ordinance; many ordinances give the agency the authority to issue violation notices. If that is the case, the agency should have, or should develop, operational guidelines for investigating complaints, issuing violation notices, and an appeals process. In these jurisdictions, DHSS would not be involved with hearings, appeals, or enforcement. Use of this guideline is appropriate if the agency officially adopts it as their ordinance/standard operating procedures.

Complaints do not have to be in writing and the complainant does not have to identify themselves. However, the investigator must determine that an adjoining property owner or an aggrieved party made the complaint or otherwise determine probable cause. For example, a party may be aggrieved by the presence of a health hazard, such as surfacing effluent accessible to children and/or pets; a nuisance, such as odors or the potential for breeding of flies and mosquitoes; or possible economic impact, such as difficulty selling property as a result of effluent flowing into an adjacent stream or lake.

Whenever a complaint is received it is the responsibility of the administrative authority to establish the facts relating to the complaint and to take appropriate action. After receipt of a complaint, the investigation process includes documenting the complaint interview, determining whether the complaint is from an aggrieved party or adjoining property owner, conducting any other interviews, and conducting a site investigation. Through each step the investigator should gather evidence and document all facts to determine whether the investigation should continue. Generally, facts gathered and interviews conducted should systematically answer questions of who, what, when, where, and how they relate to the possible violation. When the investigation is completed, if the evidence shows reasonable grounds to believe there is a violation of law, a Violation Notice, also known as a Notice of Violation (NOV) form [E3.10](#), should be issued. If compliance cannot be obtained within a reasonable time of thirty (30) to sixty (60) days, the case should be referred to the county prosecuting attorney and must include a statement of probable cause (See guidance regarding Compliance/Non-Compliance found in this subsection).

### **Investigating Malfunctioning OWTS**

Onsite system complaints can be received in person or by phone, email or mail. It is necessary to record all complaints and include the details that are provided about the situation. A Complaint Investigation Record, form E15.12, or other standard format should be used for recording the complainant's information as well as the system owner's information. The form used for this information should also provide room for recording the investigation findings, action taken, follow-up with the complainant and final disposition of the complaint.

### **Assess Information**

1. Upon receipt of a complaint regarding a possible malfunctioning OWTS or other wastewater nuisance, record information on a complaint form. If provided, include name, address and phone number of complainant. In addition, obtain information including:
  - a. The property owner(s) name and site address;
  - b. The owner's mailing address if different;
  - c. The occupant's name if different;
  - d. Approximate date the nuisance or problem began. The length of time the problem has existed could assist you in determining whether the complaint should be handled as an emergency; and
  - e. A description of the problem with as much detail as possible about the location, extent, and frequency; and
2. Explain to the complainant the investigation process and that information relating to an investigation of a malfunctioning OWTS may reveal who the complainant is and any information provided will become public record;
3. If you become aware of a possible malfunctioning OWTS or nuisance violation without a complaint, record all information on a Sanitation Observation form E6.07; and
4. If the complainant is not an adjoining property owner or, in your judgment, an aggrieved party, then the complaint is not considered valid. Other probable cause must be established before you proceed with a site investigation.

It is important to be consistent in determining whether a complaint is valid. When the complaint is received from an adjoining property owner, generally there is not a problem in determining ownership of adjoining property based on the county assessor's records. Whether a party is aggrieved can be more difficult to determine. Using your professional judgment, you might determine that a parent is aggrieved if his or her child must wait at a bus stop near wastewater ponded in the road ditch, whereas you might determine that someone driving past the same site is not aggrieved.

It is also important to be consistent in determining whether you have probable cause before making an investigation without a valid complaint. If the results of an investigation by another agency or department alleging a violation of 701.025 to 701.059 RSMo are referred to you, that may be considered probable cause, whereas you may consider a complaint that is referred by another agency with no investigation and no information showing an aggrieved party to be insufficient probable cause. Consult with DHSS field staff regarding probable cause questions in unusual circumstances.

### **Complaints Not Related to Onsite Systems**

Occasionally complaints allege problems in areas served by public or private sewer systems that are regulated by the Department of Natural Resources (DNR). Complaints regarding nuisance

conditions created by these treatment or sewer collection systems should be referred, with a description of the public health concerns, to the operator of the system, local community authorities and the DNR Regional Office. There is no authority under 710.025 through 701.059 RSMo regarding operation of systems under DNR authority.

Complaints regarding surfacing sewage at an individual facility or residence that is connected to a system regulated by DNR should also be referred to the system operator, community and DNR. However, if the nuisance and health concerns are not addressed, the facility/building owner could be in violation of 701.031 RSMo, which requires that “Owners of all buildings where people live, work or assemble shall provide for the sanitary disposal of all domestic sewage.” The required remedial action should be to connect, repair the connection, or maintain the connection, to the available sewer service to abate the nuisance or health hazard. If the sewer service provider disconnected the service in an attempt to collect sewer fees, the sewer service provider and owner should cooperate to solve the issues and to reconnect the building to abate the nuisance; a Violation Notice would not be effective and should not be used as a bill collection tool.

### **Conducting an Investigation**

After receiving a legitimate complaint and/or otherwise determining probable cause, an investigation should be conducted to determine whether the allegations can be substantiated and whether there are reasonable grounds to believe a violation of the onsite systems law exists. Once you enter the property of concern, the investigation should proceed until it is completed. Withdrawal of the complaint or finding that the degree of nuisance is not the same as reported should have no effect on the investigation or determination of whether a violation notice will be issued.

If possible, investigate when weather conditions are favorable and will not interfere with your findings. Follow any recommendations provided by the County Prosecuting Attorney as to what evidence should be gathered and use the appropriate steps below when investigating an alleged malfunctioning OWTS.

1. It may be possible to complete the investigation without entering the property where the alleged malfunctioning system is located. Contact the complainant, if an adjoining property owner, to inform them of your intent to conduct an investigation. Ask for permission to enter their property to conduct the investigation. The complainant should be able to indicate where the nuisance or problem is located.
2. If necessary, call the property owner prior to investigating the property where the violation is alleged. Visit the residence or establishment and identify yourself to the property owner before walking around on the property. Your official identification card will be adequate; however, you may also wear identifying clothing such as a department hat or jacket. Again, explain that you have received a complaint that their OWTS is potentially in violation of the law and ask for their cooperation and permission to investigate. If the property owner is uncooperative and refuses to allow access for investigation, leave the property. If you are unable to complete the investigation without entering the property, contact the local law enforcement office for assistance. After you have contacted the authorities return to the site with them and conduct the investigation. Refer to 701.033.1.(3) RSMo, which allows entry for investigation.

3. If contact with the property owner cannot be made, either by phone or during the initial site visit, notify the property owner in writing stating that you have received a complaint regarding their onsite system, it is potentially in violation of the law, and it may be necessary to enter the property when conducting the investigation. Inform the owner of the date and approximate time you will investigate the site and ask for their cooperation with the investigation and in remedying the situation, if necessary.
4. Interview the owner or occupant; document any statements related to the operation and function of their system, the cause(s) and extent of a malfunction and potential ways to abate and correct the problem(s).
5. Use visual observation and smell in determining if a sewage tank, soil treatment system, or lagoon is malfunctioning. Document what is observed at the site.

Evidence of a violation related to a sewage tank and soil treatment system may include:

- a. Surfacing effluent, wastewater discharge pipe or relief line;
- b. Tall weeds or areas of bare soil crusted with a black mat; and/or
- c. The presence of septic odors near a soil treatment area.

Evidence of a violation related to a lagoon may include:

- a. The presence of bad septic odors from a lagoon. (Occasional odors may be expected from a properly functioning lagoon. However, continuous bad odors in addition to other observations may be indications of a malfunction);
- b. Dark colored water;
- c. Inadequate water depth;
- d. Leaking berm (might be damaged by animals, roots, erosion, etc.); and/or
- e. Effluent discharging from the property.

The addition of water and/or water tracing dye may provide evidence confirming the source of a wastewater nuisance. Refer to Investigation/Dye Testing at the end of this section for considerations regarding water tracing methods.

6. Look for other possible sources or causes of discharging or surfacing water including, but not limited to, roof gutters, foundation drains, or curtain drains.
7. If possible, take photographs of visual observations of the site to document any evidence of violation (see the photo documentation template under OWTS Forms and References).
  - a. Ensure that pictures are taken using the standard picture format;
  - b. Capture the same angles at various distances. (Use of the zoom or other enhancing features may create distortion);
  - c. Use the date/time feature, if possible, to label pictures; and
  - d. Describe what each photograph represents.
8. Draw a diagram of the site indicating:
  - a. The location of evidence of malfunction or nuisance conditions observed;
  - b. The direction North;
  - c. GPS coordinates, if available; and
  - d. Distances from buildings, property lines, and other features.
9. Maintain control and accountability of all records and evidence collected. Store in a place suitable for case files.

### Evaluation of Evidence

An existing system would not be considered in violation based solely on a finding that it does not meet the size, setbacks, or other requirements of the current construction standards. Alleged violations of the law would include:

- Conditions that present a nuisance or health hazard;
  - Contamination of surface waters; or
  - Contamination of groundwater.
1. If there is not enough evidence to substantiate a violation, document the investigation and conclusion(s) for the file. Inform the complainant and end the investigation. An investigation may be reopened only if additional information is provided.
  2. If evidence supports reasonable grounds to believe that one or more violations exist, summarize the facts for the file and issue a violation notice, form [E3.10](#) (or local form when authority is under a local ordinance), to the property owner and/or other persons implicated. An example of a completed Violation Notice is included in subsection Training and Resources within this chapter. The form is an example only; when completing a notice, check the violations that apply and complete the Remedial Action(s) Indicated and Compliance Schedule sections as appropriate based on your investigation of the alleged violation(s). Based on 701.037 RSMO, Notice of Violations shall:
    - a. Be in writing;
    - b. Include a statement of the reasons for issuance of the notice;
    - c. Allow a reasonable time for correction;
    - d. Be served to the owner of the property, and/or operator of the system, by certified mail or in person; and
    - e. Contain an outline of remedial action necessary to effect compliance.

It is important for the local administrative authority handling complaints under Missouri laws and rules, to send a copy of the notice of violation to the DHSS Onsite Program as soon as possible in case the individual receiving the notice requests a hearing.

### **Attaining Compliance**

Often, the remedial action required to attain compliance is for the property owner to complete the application process for a permit to repair or replace the onsite system. When this action is appropriate, write a compliance schedule requiring the property owner to contact the OWTS administrative authority, obtain a construction permit, and repair or replace the system within thirty (30) days.

It may be apparent that lack of maintenance or neglect of proper operation created the problems. Sometimes maintenance or repairs can be made without a permit; these may include, but are not limited to, cleaning filters, replacing a pump, or performing service that has been neglected.

If a public sewer system is available, connection to the sewer could abate the nuisance and achieve compliance.

In some situations it may be appropriate for the compliance schedule to require more immediate remedial action, such as reduce water use or pumping waste from the system and hauling it to a

DNR permitted treatment facility, to abate the nuisance while additional time is allowed for completing needed repairs.

Within the allotted time, the property owner may make a written proposal of an alternate method to abate the nuisance and bring their system into compliance. If the property owner is unable to obtain repair service, an extension may be granted to repair the system and abate the nuisance. Any request(s) for extensions must be in writing prior to the deadline and include adequate justification.

### **Request for a Hearing**

Within ten (10) days of the date of receipt of a Violation Notice, the aggrieved person (property owner and/or occupant/renter who received the NOV) may submit a request for a hearing in writing to the DHSS Onsite Program in Jefferson City. When a timely request for a hearing is received, the time frame for compliance with the requirements of the notice will be suspended until the decision of the hearing officer is rendered. A hearing is for the purpose of reviewing the appropriateness of the remedial action. A hearing will be held within twenty (20) days from the date the property owner received the notice of violation, if possible. The hearing officer will notify the property owner by certified mail of the date, time, and location of the hearing. A copy of the letter will be sent to the LPHA that issued the Violation Notice and to the Onsite Program. The investigator must be available during the time of the hearing if they are required to testify.

### **Compliance/Non-Compliance**

To comply, the property owner or operator must carry out the actions outlined in the notice of violation. Once the remedial action has been completed, and the nuisance is abated, finalize records for the file and retain for ten (10) years. Send a letter to the complainant stating that the onsite system is no longer in violation with a copy of the letter to the Onsite Program.

If the owner or operator does not comply within the allotted time (including extensions if allowed) and every feasible option to gain compliance was offered, it may be necessary to work with the county prosecutor to enforce compliance. Copies of documentation and evidence of a violation should be referred to the prosecutor and must be attached to a statement of probable cause. The prosecutor in a county may suggest a format, or have a form, for your use when submitting a probable cause statement. A statement of probable cause must be in writing and must:

1. State the name of the accused or, if not known, designate the accused by any name or description by which the accused can be identified with reasonable certainty;
2. State the date and place of the crime as definitely as can be done;
3. State the facts that support a finding of probable cause to believe a crime was committed and that the accused committed it;
4. State that the facts contained therein are true; and
5. Be signed and on a form bearing notice that false statements made therein are punishable by law.

If prosecution is necessary, it should compel the owner or operator to abate the nuisance and bring the system into compliance.

### **Emergency Guidelines**

When it is determined that an emergency exists, as detailed in 701.037.6 RSMo, a Violation Notice, [E3.10](#), should be issued as in other situations. However, the required remedial action should include measures to abate the health hazards without delay, such as pumping out sewage tanks or installing a holding tank, and the reasonable time for correction can be significantly reduced.

If the property owner does not abate the conditions as required or as soon as practical, prepare a summary of the case in chronological order, describing the conditions that warrant immediate actions to protect the health and welfare of the public. Forward the summary and other pertinent material, to the District EPHS V and Onsite Program staff. If DHSS supports the emergency status, DHSS will request that the county prosecutor file a restraining order and temporary injunction. When hazardous conditions are corrected and the imminent health hazard no longer exists, then a request must be made to dissolve the temporary restraining order and injunction. Once the order is dissolved, continue with the normal process to attain compliance.

### **Investigation/Dye Testing**

Any person engaged in groundwater or surface water tracing, for any purpose, must register with the Missouri Department of Natural Resources, Geological Survey Program and comply with any applicable requirements.

With the property owner's permission, an investigation may include a procedure where water is added and/or a water tracing dye is introduced into the OWTS in question. Note that 19 CSR 20-3.015(6) states "All owners and operators of on-site sewage disposal systems shall permit department staff and staff of the Missouri Department of Natural Resources to inject dyes or other tracers into their on-site sewage disposal systems during normal business hours for the purpose of tracing the discharge."

During the investigation/dye test, the investigator should be able to examine the plumbing configuration in a home and have access to all fixtures that use water. An increase in surfacing water flow or dye observed after adding a limited volume of water to the system would be evidence that the soil absorption system is malfunctioning as well as evidence of the source. The purpose of this procedure is to establish a hydraulic connection between the OWTS and surfacing water, not to determine whether the system can handle a certain water volume. Use only as much water as necessary for the investigation.

For a gravity distribution system, dye may be introduced with a minimal water volume. However, with normal water usage, more time will be necessary for dye to be recovered. Revisit the site as necessary.

Access to the septic tank may not be available and cannot be required as part of the investigation. However, if access is available, it may be helpful in determining the effect of water usage on the tank and whether the tank is leaking or otherwise malfunctioning.

For dosed alternative treatment and alternative soil absorption systems, a smaller water volume should be used. Generally the volume should be limited to one dose cycle. If a dosed absorption field is believed to be malfunctioning and dye is introduced, it should be introduced into the dosing tank to reduce the time needed for recovery.

From the time dye is introduced, it may take a few hours to a day or two before dye is recovered. The method of dye testing relies on visual observation of the dye, so if the dye is diluted and never surfaces the test may result in an erroneous assumption. For a majority of investigations, the use of dye is not necessary. Therefore, carefully consider the use of dye.

## **Illegal and Non-compliant Installations**

Unless a property is exempt, any construction of a new onsite wastewater treatment system (OWTS) or major modification or repair to an existing onsite system without a permit is considered an illegal installation. An investigation into an illegal installation may begin after excavation of an area is observed or an EPHS receives information or a complaint about an illegal OWTS installation from another contractor, a neighbor, a property owner, or other concerned person. It is not necessary to receive a complaint; however, the EPHS must determine probable cause to investigate an illegal installation. It is vitally important to document the reason(s) for initiating an investigation.

Construction permits are issued in property owner's name(s) and they are ultimately responsible for the system. However, the registered installer is responsible for insuring the installation of the system is in compliance with Chapter 701.025 through 701.059 RSMo, and 19 CSR 20-3.060, Minimum Construction Standards. The installation of the system must be in accordance with the approved application and permit. The installer must notify the administrative authority before construction on a system is completed and then maintain the system in a condition, which allows for inspection as detailed in 701.050 RSMo.

If the homeowner is installing the system, they are responsible for insuring the system installation is in compliance with Chapter 701, RSMo and 19 CSR 20-3.060.

### **Investigating Illegal Installations**

An investigation is the systematic collection and examination of relevant facts. It is the responsibility of the investigator to determine whether the information supports the issuance of a Notice of Violation. If, after evaluating the facts, a violation can be substantiated, the investigator must be confident that a probable cause statement can be submitted to the county prosecuting attorney for enforcement if necessary. Following are guidelines for investigating a possible illegal installation or a major modification or repair of an OWTS.

#### Assess Information

1. Upon receipt of information regarding a possible unpermitted/illegal installation or repair, record the name; address; and telephone number of the individual calling on a complaint form. In addition, obtain information regarding the onsite system in question:
  - a. The name of the property owner,
  - b. Location of the system,
  - c. The actual or approximate date of the installation or repair,
  - d. The name of the contractor involved, and
  - e. Whether witness(s) saw the installation or repair or saw evidence of work on the system.
2. Investigators that become aware of a possible illegal installation without a complaint should record all available information on a Sanitation Observation form E6.07, including but not limited to, date, location, and site conditions.

3. After documenting the basics, determine whether the property owner was exempt from obtaining a permit. If the property owner is not exempt (see exemptions under Applicability in subsection 5.1) based on the lot/parcel acreage for a single family residence(s) or because the owner was under a notice of violation for a malfunctioning system, continue the investigation. Non-residential establishments are not exempt regardless of acreage.

### Conducting an Investigation

The law provides right of entry onto the property for the investigation of a possible illegal installation or repair when probable cause is determined. However, it is advisable to contact the property owner prior to visiting the site or to view the property from the roadway, driveway or walkway to the front door, or from adjacent property. Document information obtained and observations at the site:

1. Contact and interview the owner and document any statements about the installation or repair.
2. Observe original documents and request copies of these documents from the property owner as evidence. This would include such items as, invoices; bids; and cancelled checks.
3. Interview the installer implicated, inquiring of their involvement and what they know of the site and the system. Determine if the installer is registered with DHSS. Document all responses given by the installer.
4. Gather statements from witnesses, if any, of the installation/repair. Witness statements should be taken as soon as possible to ensure details are reported as accurately as possible.
5. If possible, take photographs to document evidence of violations (see the photo documentation template under OWTS Forms and References).
  - a. Photograph recently disturbed soil and other supporting evidence;
  - b. Ensure that pictures are taken using the standard picture format;
  - c. Capture the same angles at various distances (use of the zoom or other enhancing features may create distortion); and
  - d. Describe what each photograph represents.
6. Draw a diagram of the site indicating:
  - a. The location and layout of all parts of the system;
  - b. The direction North;
  - c. GPS coordinates, if available; and
  - d. Distances from buildings, property lines, and other features.
7. Maintain control and accountability of all records and evidence collected. Store in a place suitable for case files.

### Evaluation of Evidence

Does the evidence show that an OWTS was installed and that a permit was not obtained when one was required? Remember, a permit is required for new system construction and major modifications or repairs unless the owner is exempt base on their parcel size, and a permit may be required regardless of the parcel size if the owner was issued a notice of violation for a malfunctioning system.

1. If you are unable to substantiate that an illegal installation occurred, do not issue a violation notice. The investigation may be reopened if additional information becomes available.
2. If evidence supports reasonable grounds to believe that an illegal installation, modification, or repair has occurred, issue a violation notice, form [E3.10](#) (or local form when authority is under a local ordinance), to the property owner. Notice of Violations shall:
  - a. Be in writing;
  - b. Include a statement of the reasons for issuance of notice;
  - c. Allow a reasonable amount of time for compliance;
  - d. Be served to the property owner by certified mail, in person, or as allowed by 701.037, RSMo;
  - e. Contain an outline of action necessary to effect compliance.
3. If the investigation resulted in a violation notice to the property owner and evidence implicates an installer, issue a notice of violation to the installer using the same form.

It is important for local authorities that handle complaints under Missouri Laws and rules, to send a copy of the notice(s) of violation to the DHSS Onsite Program as soon as possible in case the individual receiving the notice requests a hearing.

#### Attaining Compliance

1. To attain compliance, the property owner must carry out the actions outlined in the notice of violation, and typically should be required to work with a registered installer to:
  - a. Obtain an application,
  - b. Submit the permit application fee,
  - c. Submit the completed application with a site/soil evaluation, and
  - d. Cooperate with the administrative authority to obtain a permit and bring the system into compliance with minimum standards.

Note that portions of an illegally installed system may need to be uncovered to confirm whether it was installed in accordance with the minimum standards, application, and a permit if one can be issued. If the illegally installed system cannot be brought into compliance, a replacement system may need to be designed and installed.

2. If the property owner, and/or installer if applicable, does not comply within the allotted time, it may be necessary to refer the case to the county prosecutor to gain compliance. However, the investigator may use judgment in determining whether to refer the owner to the prosecutor for enforcement. Conditions necessary to forego prosecution include but are not limited to:
  - a. An application has been submitted with as-built system specifications;
  - b. The system is not creating a nuisance or health hazard;
  - c. There is minimal risk of contaminating groundwater or nearby surface water bodies; and
  - d. There are no other illegal installations on record.

Also, note that if the evidence shows that the installation occurred more than twelve months before a notice of violation was issued, a prosecutor is less likely to act on the case. Any decision not to refer

a case to the prosecutor cannot be considered as approval of the system. Noncompliance must be documented in the OWTS application file and in written form to the owner by denying the permit application or documenting that the construction was not approved. This must be a matter of record in the event of future malfunction or that may be disclosed during a property transfer.

3. If referred to the county prosecutor, he or she may send a warning letter and/or file charges. The statement of probable cause included with forms in subsection 5.11 of this chapter may be modified to correspond to the facts in the case. Submit the case file including the notice of violation, all relevant documentation, photographs of the site, diagrams, and descriptive notes to the county prosecuting attorney.
4. If prosecution is necessary, it should seek to compel the owner and/or installer to bring the system into compliance. If found guilty, an installer would be required to post a performance bond or letter of credit as detailed 701.052 RSMo.

Whenever evidence of an illegal installation implicates an installer, submit a professional complaint record, <http://dhssnet/appsforms/doc/profcomplaintrec.doc>, to the Onsite Program. Attach copies of the notice of violation and other documentation for consideration of administrative action against the installer's registration or for the Onsite Program to also refer an unregistered installer for prosecution.

It is important to provide the Onsite Program with any information relating to court actions taken by the county prosecutor and any findings of guilt. An installer who is found guilty or who pleaded guilty can be required to provide a performance bond.

### **Non-compliant Installations**

During any site visit and inspection, including the final inspection, it may be determined that the OWTS is not being installed as approved. Remember, the installer is required to comply with minimum standards and the approved application and plans for the permitted system. The installer or designer must submit any proposed changes in the approved plans for review by the administrative authority before making the changes. If the system was designed by an engineer, the engineer must first specify any proposed changes to the plans, before the administrative authority can approve them. If the OWTS is not installed as approved, post a Notice (OWTS Construction Stop Order), form E3.04, prominently on the site and deliver a copy in person or by certified mail to the property owner and installer.

Indicate the problems with the installation on the form, and make clear what is necessary to bring the system into compliance. Any changes must be submitted for approval as noted above. If the installed portion of the system cannot be brought into compliance with minimum standards, the installer should submit a modified design that will comply. Once the design changes are approved, the permit should be amended if needed, the Notice should be removed, and construction may continue. Construction of the onsite system should be disapproved if compliance is not achieved.

If the installer is uncooperative in correcting a non-compliant installation or if in the judgment of the EPHS, the non-compliance issues are egregious or persistent, a notice of violation should be issued to the installer. In other cases of non-compliance – failure to provide notice of system completion, misrepresentation as a registered installer, and failure to file a performance bond or letter of credit when required – a notice of violation letter should be issued to the installer. List the specific sections of 701.025 to 701.059 RSMo that have been violated. Refer the case to the county prosecutor and work with the prosecutor to file charges against the installer, if necessary to gain compliance. As with illegal installations, send a copy of the notice of violation to the Onsite Program with a professional complaint record and copies of all documentation.

Generally, legal action is focused on the OWTS installer or other professional. However, construction permits are issued in a property owner's name. It is ultimately the owner's responsibility to have the system constructed in compliance with the minimum standards before it is placed in operation. Rarely, it may be necessary to issue a violation notice, E3.10 to the property owner and refer the violation to the county prosecutor to attain compliance.

A range of administrative actions are available to DHSS. These options are discussed in subsection, 5.8 of the EHOg.

## **Registration/Licensing of Onsite Wastewater Treatment Industry Professionals**

DHSS has the responsibility to register or license private individuals as **Registered Basic Installers** or **Registered Advanced Installers** of onsite wastewater treatment systems (OWTS), **Registered Onsite Soil Evaluators**, **Registered Percolation Testers**, and **Licensed OWTS Inspectors**. The responsibility includes administering or monitoring training and testing of these professionals, publishing lists of active as well as suspended or revoked individuals, monitoring their activities, and taking appropriate administrative action, when necessary, up to and including suspension or revocation of their registration or license. DHSS may audit the work of registered or licensed individuals.

### **Registered Installers**

Contractors who install OWTS must be registered with DHSS as Registered Basic Installers or Registered Advanced Installers. Basic OWTS Installers are required to attend a course and pass an examination provided by, or approved by, DHSS. This course covers the basic concepts of the law and rules governing onsite sewage, basic soil science, health and safety precautions, applying for permits, and technical information on the components of onsite wastewater treatment systems. Advanced OWTS Installers are required to attend an additional course and pass an examination provided by, or approved by, DHSS. The advanced course covers, soil water movement, use of soil fill material, advanced pretreatment systems, pressure distribution, low-pressure pipe distribution systems, and drip irrigation dispersal systems. Upon successful completion of the class(es), individual's names are placed on a list that is published on the Internet and distributed in paper form upon request. 19 CSR 20-3.080 details the requirements and responsibilities of registered installers.

### **Registered Percolation Testers**

This registration allows individuals to perform percolation tests to determine soil permeability and sizing for OWTS. Individuals allowed to perform this test include: 1) soil scientists, 2) registered geologists or licensed engineers that have completed the DHSS registration process and 3) other individuals that have been registered through completion of an approved training course and passing an examination. Successful applicants are then placed on a list of Registered Percolation Testers to be distributed upon request.

Persons registered as Percolation Testers are required to prepare reports that meet the OWTS construction standards and that are specific for the proposed site. 19 CSR 20-3.080 details the qualifications, duties, and responsibilities of percolation testers.

### **Registered Onsite Soil Evaluators**

This registration allows individuals to perform onsite soil morphology evaluations, to determine the suitability of a site and the sizing for an OWTS. To qualify to perform soil morphology evaluations, first individuals must either 1) have completed fifteen college credit hours of soils science course work, three (3) of which are in soil morphology and interpretations or 2) be a registered geologist or licensed engineer with ten college credit hours of soils science coursework, three (3) of which are in

soil morphology and interpretations. Individuals must then successfully pass a written and a field exam. Successful applicant's names are placed on a list that is published on the Internet and distributed in paper form upon request.

Persons registered as Onsite Soil Evaluators are required to prepare reports that meet the OWTS construction standards and that are specific for the proposed site. 19 CSR 20-3.080 details the qualifications and responsibilities of onsite soil evaluators.

### **Licensed Onsite Wastewater Treatment System Inspectors (real estate transaction related OWTS inspections)**

DHSS, certain local governmental agencies, and licensed private individuals may inspect or evaluate existing OWTS upon a request from a lending institution, realtor, real estate broker, property owner and/or potential buyer. Inspections and evaluations make identical inspections of the private water supply if applicable. While both inspections and evaluations are conducted to determine if an OWTS is malfunctioning or otherwise meeting minimum standards, they differ in respect to their thoroughness. Inspections identify both the components and functionality of a system. Inspections are valuable to consumers wanting to receive a more complete assessment of the current condition of the onsite system. Evaluations solely determine if the onsite system shows signs of malfunctioning. More detail about inspections and evaluations is available at <http://health.mo.gov/living/environment/onsite/pdf/InspEvalfactsheet.pdf>.

DHSS has chosen not to have staff inspect or evaluate systems, and instead licenses private individuals to conduct the assessments. City or county governmental agencies may inspect or evaluate onsite systems related to real estate transactions provided staff have completed the training course discussed below and maintain a license from DHSS. Fees for inspections or evaluations conducted by local agencies must be established by local ordinance.

The license allows an individual to conduct real estate related inspections or evaluations. Applicants are required to successfully complete the registered basic OWTS installer course as a prerequisite, attend a training course and pass an examination provided by or approved by DHSS. Upon successful completion of the course and examination, individual's names are placed on a list that is published on the Internet and distributed in paper form upon request.

Persons licensed as OWTS Inspectors are required to prepare reports that comply with the OWTS inspection criteria. 19 CSR 20-3.070 details the requirements and responsibilities of licensed inspectors. Private licensed inspectors cannot state in their inspection or evaluation report that a system is in violation of law. Regulatory or complaint investigations and the issuance of notices of violation of Chapter 701.025 to 701.059, RSMo, can only be made by DHSS or a local administrative authority, independently or jointly with the Department of Natural Resources.

Onsite Program Administrative Action Regarding an OWTS Professional's Registration or License  
Because an individual may violate standards in more than one local jurisdiction, it is important for jurisdictions to report non-compliance to the Onsite Program. A professional complaint record,

<http://dhssnet/appsforms/doc/profcomplaintrec.doc>, should be used and copies of any available evidence and documentation should be attached. A thorough investigation and documentation of any violation is essential to support administrative action. The Onsite Program will review all professional complaint records and documentation submitted and search records for any previous documentation of non-compliance or administrative actions regarding the professional. More information or further investigation may be needed and the Onsite Program may conduct an audit of the professional.

A range of administrative actions may be taken based on the seriousness of the violation, the strength of the evidence and documentation, and any previous records and actions. NOTE: administrative actions involve an individual's registration or license and are not a substitute for issuing an NOV or referring the case to the county prosecutor for enforcement when appropriate as discussed in subsection 5.7. Administrative action options include:

- Notice of complaint or concern;
- Letter of noncompliance requesting a noncompliance meeting;
- Letter of warning;
- An announced or unannounced audit;
- A settlement agreement with possible probation;
- Suspension;
- Revocation; and/or
- Denial.

## **Wastewater Treatment for Regulated Establishments**

Sanitary wastewater treatment is important for establishments that are regulated by DHSS, such as food service, lodging, and childcare establishments. Sometimes, inspection and enforcement activities cover the wastewater treatment systems when the wastewater system regulatory authority is the Department of Natural Resources (DNR). Wastewater treatment systems that serve regulated establishments must provide for the sanitary treatment of wastewater and be in compliance with state laws, regulations, and local ordinances.

The following guidance and accompanying decision tree (see Figure 1) has been developed to provide clarification on the criteria for system evaluation and action when necessary. In some cases, there are too many variables involved for a single policy to apply to all situations. Also, consult the guidance provided for other environmental programs also. If there is any doubt what the proper action is, contact DHSS for technical assistance.

### **Evaluation of Systems**

Environmental Public Health Specialists (EPHS) must evaluate the wastewater treatment system as a part of each annual or routine inspection. Municipal or other public treatment systems only need to be evaluated if there are pump tanks or other components under the control of the management of the establishment. Small community or multi-establishment systems should be evaluated when the owner of the establishment has a reasonable degree of control over the system and the ability to make corrections.

#### Evaluation Criteria

1. Lagoons, evaluate possible problems:
  - A. Not holding water;
  - B. Septic color/odor;
  - C. Excessive weeds/woody vegetation;
  - D. Excessive shading;
  - E. Fencing does not prevent entrance of children and small domesticated animals;
  - F. Discharging untreated effluent;
  - G. Floating grease balls or other visible solids;
  - H. Erosion of the berm; and
  - I. Seepage through the berm.

If the berm of the lagoon is washed out and waste is flowing down the hill, or there are other clear and obvious issues that constitute a health hazard, mark a wastewater violation on the inspection report and contact the DNR regional office. If there are less serious issues, which are not considered a violation, like shading over the lagoon or erosion of the berm that is not currently leaking, notify the appropriate DNR regional office. Lagoons serving small in-home businesses, such as licensed family home childcare facilities and small food processors, are not regulated by DNR when the business generates less than 50% of flow. Therefore, do not contact DNR in these cases.

2. Subsurface treatment systems, evaluate possible problems:
  - A. Surfacing or discharging wastewater;
  - B. Evidence of prior surfacing or signs of intermittent failure.

Mark a violation on the inspection report when wastewater is discharging or exposed on the ground surface. When there are signs of past system malfunctions, use judgment and discretion to evaluate the likelihood of future failure and health hazard. In many cases, subsurface treatment systems will be under the authority of the state/local health department. However, DNR has jurisdiction over systems with flows greater than 3,000 gallons per day. DNR must be contacted when these larger systems are observed to be malfunctioning.

3. Discharging wastewater treatment systems, evaluate possible problems:
  - A. Broken pipes or other signs of mechanical failure;
  - B. The presence of standing water or excessive weeds on sand filters;
  - C. Unusual appearance or odor of the discharge;
  - D. Aeration motors/pumps malfunctioning; and
  - E. Alarms sounding or warning lights on.

If there is evidence of untreated or grossly undertreated wastewater discharging, mark a violation on the inspection report. If any of the above are observed, contact the DNR regional office.

### **Risk Categorization of Violations**

All violations should be categorized as an imminent, serious, or a minimal health hazard. Imminent hazards are where there is a substantial ongoing risk of human illness because of the situation. This would include direct contamination of a drinking water supply; wastewater backed up on the floor of a regulated establishment or in a play area of a childcare facility; or sewage backed up where employees or guests must walk through it. Serious violations will include wastewater entering a lake, stream, or public access areas, including adjacent to outdoor play areas. Minimal risk violations include low volume or intermittent surfacing of wastewater in areas not mentioned above.

### **Interim Controls, Corrective Actions, and Timeframes**

Interim controls are temporary measures that do not require major modifications or repairs, but reduce or eliminate health hazards while permanent corrections are being planned and implemented. Examples of interim controls would be pumping and hauling of wastewater or ceasing operations. This may include installing holding tanks that will be pumped routinely. See subsection 5.2 of this chapter for more details on holding tanks.

Corrective actions are repairs to existing systems or replacement of failing systems. Direction for corrective actions of DNR regulated systems will come from that agency. Most corrective actions for regulated establishments with systems under the jurisdiction of the health departments will require a permit. Exceptions include minor repairs that may be considered maintenance, like replacing an effluent pump. A construction permit is always required for a major repair or modification of any system for which a Notice of Violation (NOV) has been issued.

## Timeframes

If the wastewater issue constitutes an imminent health hazard for any establishment, interim controls or corrective actions must be put in place immediately. Otherwise, proceed directly to enforcement actions: work order, immediate closure, and/or referring the establishment to the prosecuting attorney. Jurisdictions enforcing state regulations (counties without food ordinances, all childcare, and lodging) must contact their regional EPHS IV for assistance in proceeding with enforcement actions.

Once interim measures are put in place, timeframes must be established for permanent corrective actions.

### 1. Systems regulated by the health department:

After the initial inspection where a wastewater treatment violation is noted, establish a reasonable timeframe for corrections. Common timeframes are sixty days to obtain a soil evaluation and submit a permit application and sixty days to complete construction after a permit is issued. If extenuating circumstances exist, time extensions may be considered. If these timeframes are not met, an NOV and work order will be issued.

### 2. Systems regulated by the Department of Natural Resources:

If DNR issues an NOV on a wastewater system serving a regulated establishment, the EPHS will evaluate the NOV and work with DNR and DHSS to evaluate any health hazards associated with the system. In most instances, it will be necessary to perform an onsite evaluation of the system.

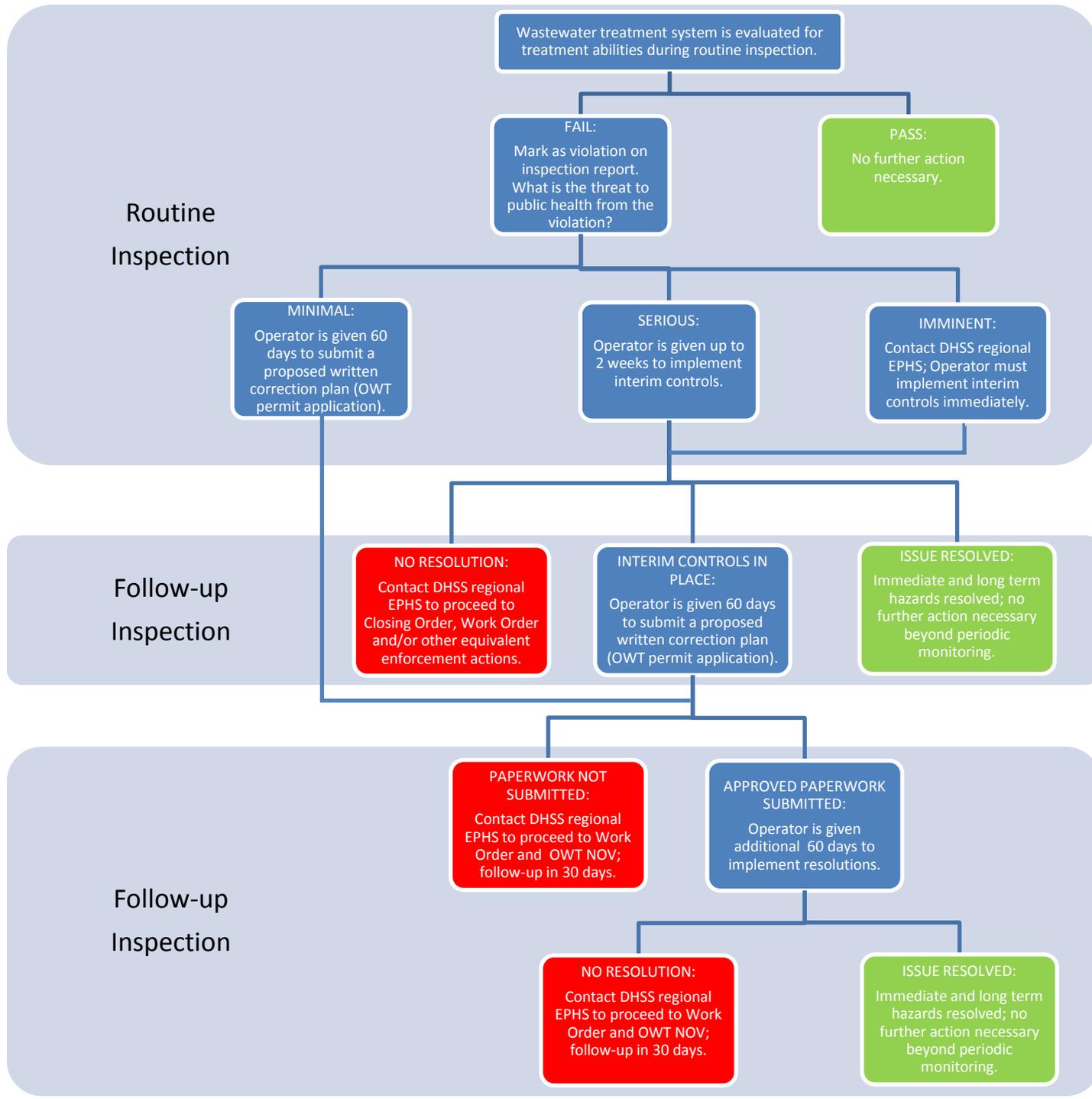
- A. No action will be taken if there is no perceivable threat to public health (e.g. no dechlorination or no warning signs).
- B. Action will be taken if the NOV is related to a public health hazard (e.g. system failure or inadequate treatment). Document the violation in accordance with the regulations relevant to the establishment. Advise the operator that they are to comply with DNR-established timeframes, and conduct follow-up inspections as necessary to determine compliance with DNR timeframes. If the timeframes are not met, a work order or other equivalent enforcement action will be taken.

Note that correction timeframes should not include time necessary for DNR to review the application and issue the permit. As such, separate corrective timeframes are usually established for submitting a permit application and for final construction after the construction permit is issued. If a DNR regulated system is in violation and DNR does not issue a NOV in a reasonable time, contact your EPHS IV for assistance.

### **Establishing Jurisdiction**

DHSS and LPHAs regulate subsurface wastewater treatment systems with flow rates of 3,000 gallons per day or less. DNR regulates subsurface wastewater treatment systems with over 3,000 gallons per day, centralized wastewater collection and treatment systems and other discharging systems, and lagoons other than single family residences. Estimated daily flow rates are determined by the values in 19 CSR 20-3.060 Table 2A.

Figure 1: Decision tree for wastewater treatment systems serving regulated establishments.



## Closure or Abandonment of an Onsite Wastewater Treatment System

### Wastewater Treatment System Abandonment

Some onsite wastewater treatment systems may be abandoned or replaced by another onsite system or connection to a cluster system or central sewer system. The following are recommendations to help ensure the former site used for wastewater treatment and dispersal is safe:

#### Sewage Tanks

1. Disconnect power at the source to all electrical controls and remove controls and panels;
2. Have a septage hauler pump all the tanks within the system to remove wastewater and sludge;
3. Fill tanks with sand or gravel to prevent future collapse and remove risers, remove the tanks, or crush tanks in place. Backfill the excavation to a natural grade and establish a vegetative cover.
4. Coat any surface areas exposed to wastewater with hydrated lime; and
5. Wait at least eighteen (18) months before using the soil treatment area for gardening or construction.

#### Dispersal Systems

1. Remove all parts of the system on the ground surface such as valves, valve boxes, and risers. Backfill the area to a natural grade and establish a vegetative cover;
2. Coat any surface areas exposed to wastewater with hydrated lime; and
3. Wait at least eighteen (18) months before using the soil treatment area for gardening or construction.

#### Single-Family Lagoons

DHSS has limited authority regarding lagoon closure. However, the closure of a single-family lagoon is not exempt from the federal sludge regulations. Based on guidance from the Environmental Protection Agency (EPA) and Missouri Department of Natural Resources (DNR), the following are **recommendations** to help homeowners comply with federal sludge regulations under Title 40 Code of Federal Regulations Part 503 (40 CFR 503).

1. Prior to disposing of sludge from a lagoon, the liquid must be properly disposed. Wastewater must not be discharged by breaking through the berm of the lagoon. Proper methods of disposal could vary depending on the location of the lagoon, weather conditions, and the time frame for closure. A municipal treatment facility might accept the effluent, especially if individual residential lagoons are being replaced by a municipal facility. The DNR approved facility plans might include a lagoon closure plan, which must be followed. Wastewater in the lagoon could be allowed to evaporate, if time and weather conditions are favorable. Land application of the wastewater can be an acceptable method of disposal. The lagoon owner should consult a septage pumper/hauler who can dispose of the waste under a land application permit from DNR.

Sufficient area must be available to maintain the wastewater on the property where it is applied following best management practices for land application. [Water quality guide](#) numbers WQ 422 through WQ 426, published by University of Missouri, University Extension, are helpful in understanding best management practices for land application and sludge handling requirements.

After the liquid is properly disposed, the remaining material should be treated and the lagoon closed. Residuals, or sludge, in a residential wastewater lagoon is considered septage. DNR's standard permit conditions include closure requirements, for lagoons with a design capacity equal to or less than 150 persons, that allow up to 100 dry tons of sludge per acre to be left in place. Therefore, to determine if the sludge may be left in place, an estimate is needed of the amount of sludge that has been produced. Sludge production of 0.015 dry tons per person per year is typical in a lagoon, and should be used for calculation purposes. If the age of the lagoon and average number of persons served is known or can be estimated, then the sludge production can be calculated. For example, the calculated sludge production in a 20-year old lagoon serving 4 persons would be:

$$0.015 \text{ dry tons per person per year} \times 4 \text{ persons} \times 20 \text{ years} = 1.2 \text{ dry tons of sludge}$$

Then to determine the amount of sludge per acre, divide the calculated sludge production by the lagoon area in acres. Continuing the example, if the sludge would cover an area of 25 feet x 25 feet, the area and sludge per acre would be:

$$25 \text{ feet} \times 25 \text{ feet} = 625 \text{ square feet}$$

$$625 \text{ square feet} / 43,560 \text{ sq. ft. per acre} = 0.014 \text{ acres}$$

$$1.2 \text{ dry tons} / 0.014 \text{ acres} = 86 \text{ dry tons per acre}$$

In this example, since the amount of sludge is less than 100 dry tons per acre, it may be left in the lagoon basin. However, if a lagoon had been in service for a long time or if it is undersized for the population served, an area larger than the lagoon may be needed to dispose of the sludge. This is only an example. The calculations should be run for each lagoon to determine whether the sludge can be left in place. It could be necessary to contract with a septage hauler to dispose of a portion of the sludge under a DNR land application permit or at a DNR permitted treatment facility.

2. Sludge left in the lagoon should be treated for pathogen reduction by mixing with hydrated lime at a rate of 50 lbs. of lime to 1,000 gallons (134 cubic feet) of sludge. Mix the treated residual sludge with soil on at least a 1 to 1 ratio;
3. Demolish the berm, and grade the site to prevent erosion or ponding of storm water. Establish a vegetative cover.

By following the recommendations above, a property owner should be able to comply with the state and federal requirements for sludge treatment and disposal.

## OWTS Forms and References

[Application Process Form](#)

[Holding Tank Use Agreement](#)

[Certification of System without Onsite Inspection with Cover Letter](#)

[Second form letter to check on status of Certification of System without Onsite Inspection form](#)

Form letter for checking on [status of unreturned application](#)

Form letter to follow-on after notifying applicant that [application is incomplete](#) or does not comply with minimum standards

Form letter to check on installation [status of permitted system](#)

[Statement of Probable Cause](#) format (Modify as necessary, to fit violation)

[Example wording for Notice of Violation](#)

[Photo Documentation](#) (Copy and paste to append more pages)

[Complaint Form](#)

[Onsite Wastewater Local Authority Map](#)

### Onsite Wastewater Treatment System Application Process Form

Application Number: \_\_\_\_\_ Date Application Sent: \_\_\_\_\_

Owner's Name: _____	Daytime Phone: _____
_____	
Mailing Address: _____	Evening Phone: _____
_____	County: _____
Property Address: _____	
_____	

Date received: \_\_\_\_\_

Date reviewed: \_\_\_\_\_

Reviewing EPHS: \_\_\_\_\_

Installer or owner contact – Date: \_\_\_\_\_

Comments: \_\_\_\_\_

\_\_\_\_\_

Preliminary site inspection – Date: \_\_\_\_\_

Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Permit issued – Date: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Final Inspection – Date: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Certification Form sent – Date: \_\_\_\_\_ Certification Form received sent – Date:

\_\_\_\_\_

(Keep a copy of form in file)

Certification of System Without Onsite Inspection accepted – Date: \_\_\_\_\_

Installation approval – Date: \_\_\_\_\_

Attach lined sheet(s) for additional notes including contact log.

**HOLDING TANK AGREEMENT**  
**for the property located at:**

\_\_\_\_\_  
Site address, plat and lot number(s), or other legal location

**Approval for the installation and use of a holding tank is based on the conditions below:**

1. Installation and use of a holding tank must comply with all requirements of 19 CSR 20-3.060 subsection (6) (F).
2. A contract with a pumper will be kept in force, which specifies pumping and disposal of the holding tank waste at a DNR permitted wastewater treatment facility. The term of the pumping contract must be for a minimum of one year and a copy must be submitted to the administrative authority.
3. Discharge of waste from a holding tank, other than by an approved sewage tank pumper will result in rescission of this agreement and possible violation notice.
4. If and when a central wastewater collection and treatment facility becomes available, the property owner will connect all sewer facilities on this property to it.
5. The property owner will notify the administrative authority of any change in occupancy (such as full time versus weekend/vacation), or in the water supply.
6. The administrative authority is granted access to the property until the use of the holding tank is replaced by another approved system. Access is for the purpose of inspection or monitoring of the system as necessary, or for a complaint investigation.
7. This agreement is not transferable. The property owner will notify the administrative authority of any change in property ownership.

8. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**This agreement expires** \_\_\_\_\_ (Enter date). The term of this agreement is the shorter of:

- 1) The expected time period for site modifications to make the site provisionally suitable for construction of an onsite wastewater treatment system or the projected time period for availability of a central sewage collection and treatment system; or
- 2) The length of the pumping and disposal contract. This agreement may be renewed, within 30 days after the expiration of the previous agreement, after submitting a copy of the renewed pumping contract and complying with requirements in affect at that time.

**I, the undersigned, agree to the above conditions.**

\_\_\_\_\_  
Property owner (PRINT)

\_\_\_\_\_  
Property owner (PRINT)

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

---

EPHS name (PRINT)

Signature

Date

February 1, 2016

Type Installer's Name  
Type Company Name  
Type mailing address  
Type City, State Zip

Dear Type Mr. or Ms. Last Name:

Thank you for notifying the Insert Administrative Authority of the completion date for the onsite wastewater treatment system (OWTS) listed below. An inspector will not be available to conduct a final inspection of the system.

Time/Date of Notification: **Type time and date**  
System Completion Date: **Type date**  
Construction Site: **Type site address, City**  
Application #: **Type App. #**  
Permit #: **Permit #**

Enclosed you will find a Certification of System without Onsite Inspection form for the OWTS. The completed form must be received by the Administrative Authority before the installed OWTS can be approved.

Please complete the form and return within ten (10) business days of the date of this letter. Mail or fax completed form to:

**Type Administrative Authority**  
**ATTN: Type EPHS name**  
**Type address**  
**Type City, State Zip**  
**Fax: Type fax number**

If you have any questions, please do not hesitate to contact me at Insert phone #. Thank you for your prompt attention to this matter.

Sincerely,

**Type EPHS name, EPHS**  
Type Administrative Authority

Enclosure

Cc: Type property owner's name, Owner

CERTIFICATION OF SYSTEM WITHOUT ONSITE INSPECTION

Sections 701.043(3) RSMo directs the administrative authority to inspect, in the aggregate, up to sixty percent of onsite wastewater treatment systems which have been constructed, modified or repaired by contractors registered under Sections 701.053 to 701.055 for which notice of construction, repair or modification is given under Sections 701.046 to 701.048 and Section 701.050 RSMo.

Section 701.043 (4) RSMo allows the administrative authority to accept certification without onsite inspection under Sections 701.046 to 701.048 and Section 701.050, from a registered contractor not required to provide a performance bond under Section 701.052, that a system is properly designed, installed, modified or repaired pursuant to the state standard.

I, \_\_\_\_\_, a registered installer not required to provide a performance bond under Section 701.052, registration # \_\_\_\_\_, do certify that I have properly designed, installed, modified and/or repaired the onsite wastewater treatment system represented by application # \_\_\_\_\_ Type App. # \_\_\_\_\_, and permit # \_\_\_\_\_ Permit # \_\_\_\_\_ pursuant to and in accordance with the state standard.

County \_\_\_\_\_

Date \_\_\_\_\_ Signature \_\_\_\_\_

The Missouri Department of Health and Senior Services or its contractor, being restricted by statute Section 701.043(3) to inspect, in the aggregate, not more than sixty percent of systems installed by registered contractors, do hereby accept this document as attesting that said system is properly installed in accordance with the state standard.

Date \_\_\_\_\_

Print Name of Administrative Authority

Representative \_\_\_\_\_

Signature of Administrative Authority

Representative \_\_\_\_\_

**SECOND NOTICE**

February 1, 2016

Type Installer's Name  
Type Company Name  
Type mailing address  
Type City, State Zip

Dear Type Mr. or Ms. Last Name:

As of the date of this letter, the Insert Administrative Authority has not received the Certification without On-site Inspection form sent to you on **Insert date**, regarding the onsite wastewater treatment system (OWTS) listed below. A copy of the form is enclosed.

Time/Date of Notification: **Type time and date**  
System Completion Date: **Type date**  
Construction Site: **Type site address, City**  
Application #: **Type App. #**  
Permit #: **Permit #**

Please note: 19 CSR 20-3.080(9) (B) 10, Standards of Practice, require a registered installer to submit a complete and accurate certification without on-site inspection form when requested. This letter will serve as official notice that continued delay in submitting the enclosed form is in violation of the above referenced section of rule and action may taken against an installer's registration, including suspension or revocation if the individual: "Fails to comply with standards of practice established by the rule." Please complete the form and return it within five (5) business days of the date of this letter. Mail or fax completed form to:

**Type Administrative Authority**  
**ATTN: Type EPHS name**  
**Type address**  
**Type City, State Zip**  
**Fax: Type fax number**

If you have any questions, please do not hesitate to contact me at Insert phone #. Thank you for your cooperation in this matter.

Sincerely,

**Type EPHS name, EPHS**  
Type Administrative Authority

Enclosure

Cc: Type property owner's name, Owner

[Insert date]

«FirstName» «LastName»

«Address1»

«City», «State» «PostalCode»

Dear «LastName» :

Our records indicate that Onsite Wastewater Treatment System Permit Application number «ApplicationNumber» was mailed to you on «DateSent». As of this date, we have not received your completed application. Please check one of the boxes below to indicate the status of your onsite wastewater treatment system:

- System is still in planning; will submit application when plans are complete.
- I/we do not intend to construct the system; application should be canceled.
- I/we no longer own the property. Sold to:

Name of buyer: \_\_\_\_\_

Address of buyer: \_\_\_\_\_

Telephone: \_\_\_\_\_

- Other (please specify):

**Please return this letter to [agency address] within 20 days from the date of this letter, or you may return it by fax to [Fax Number]. If you have any questions, please feel free to contact me at [Phone Number].**

Sincerely,

[Insert EPHS name]

Environmental Public Health Specialist



[Type date]

«FirstName» «LastName»

«Address1»

«City», «State» «PostalCode»

Dear «LastName»:

On «Date», this office received an application for a permit to construct an Onsite Wastewater Treatment System, application number «ApplicationNumber», from you or your agent. On [insert date], you and/or your agent were notified by [phone or letter] of incomplete information or other deficiencies in the application.

To date we have not received the necessary information or system design changes and there has been no further progress on this application. Please contact this office at your earliest convenience to discuss the status of this permit application.

If there are any questions that I can answer, or if you need assistance, please contact me at [Insert Phone Number]. I will be happy to assist in any way that I can.

Sincerely,

[Type EPHS name]

Environmental Public Health Specialist

[Type Date]

«FirstName» «LastName»

«Address1»

«City», «State» «PostalCode»

Dear «LastName»:

Our records indicate you were issued onsite wastewater treatment system Construction Permit, number «PermitNumber», on «DateOpened». That permit is scheduled to expire on «ExpirationDate».

To date we have not received notification of completion of the system as required by Section 701.050 Missouri Revised Statutes.

Please contact this office at [Insert Phone Number] as soon as possible to discuss the status of this construction permit and options that may be available if the system is not completed before the expiration date.

Thank you for your cooperation.

Sincerely,

[Type EPHS name]

Environmental Public Health Specialist

## STATEMENT OF PROBABLE CAUSE

COMES NOW the Affiant, [insert name], being first duly sworn, and states:

1. My name is [insert name]. I am over eighteen years of age and competent to make this affidavit. I am aware that any false statements made in this affidavit are punishable by law. All facts included in this affidavit are true and correct.
2. I am employed by the [insert agency name] as an [insert job title].
3. [insert person's name, agency] received an onsite wastewater complaint on [insert date] for a property located at [insert property address] ([insert street name] property). The complaint stated [insert short statement/summary. If referred in writing, note complaint referral date and attach document (attached)].
4. On [insert date], [insert name, job title of any other investigator(s) and] I investigated the complaint at the [insert street name] property. [summarize any contact with {insert name(s), owner, occupant, complainant as appropriate} and what information they provided] The sanitation observation form on which I documented my investigation is attached. Throughout my investigation, I took photographs (attached). I determined [insert conclusion].
5. Under the provisions of Section 701.037.1, RSMo, on [insert date], I issued the Notice of Violation (attached) to [insert owner's name], the owner of the [insert street name] property, by certified/registered mail and first-class mail [reword if delivered by another acceptable method]. [insert owner's name] received the Notice of Violation on [insert date].
6. The [insert date] Notice of Violation contained a statement of remedial actions required within 30 days ([insert date thirty days from NOV date]). [insert a short summary of required remedial action].
7. On [insert date of a recent – within a few days – visit to the site], I investigated further and found that the property owner, [insert owner's name], had not abated the [insert type of violation e.g. surface discharge of sewage effluent] on the [insert street name] property.
8. Pursuant to §701.029, RSMo, “No person or property owner may operate an on-site sewage disposal system or transport and dispose of waste removed therefrom in such a manner that may result in the contamination of surface waters or groundwater or present a nuisance or imminent health hazard to any other person or property owner and that does not comply with the requirements of sections 701.025 to 701.059 and the on-site sewage disposal rules promulgated under sections 701.025 to 701.059 by the department [of health and senior services].” [Similarly reference another section of statute or county ordinance if appropriate.]
9. By allowing [insert type of violation] to remain on the [insert street name] property, [insert owner's name] violated § 701.029 RSMo. Pursuant to § 701.057, RSMo, a violation of § 701.029, RSMo, is an infraction, except that a persistent violation after notification by the state or county is a Class C misdemeanor.
10. The facts contained in this probable cause statement are true and accurate to the best of my

knowledge.

FURTHER AFFIANT SAITH NOT.

STATE OF MISSOURI     )  
  )  
COUNTY OF \_\_\_\_\_ )

\_\_\_\_\_  
[type affiant's name]

Subscribed and sworn to before me, a Notary Public, this \_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

\_\_\_\_\_  
Notary Public

My Commission Expires: \_\_\_\_\_



MISSOURI DEPARTMENT OF HEALTH AND SENIOR SERVICES  
ONSITE SEWAGE PROGRAM  
**VIOLATION NOTICE**

**NAME OF PROPERTY OWNER(S)**

**MAILING ADDRESS (STREET, CITY, STATE, ZIP CODE)**

**COUNTY**

**As provided in Sections 701.025-701.059 RSMo, an act relating to regulation of certain onsite sewage systems, and 19 CSR 20-3.060, "Minimum Construction Standards for Onsite Sewage Disposal Systems", an investigation was made of the system located at the following site:**

**SITE ADDRESS (STREET, CITY, STATE, ZIP CODE)**

As a result, the system was determined to be in violation of the above law and rule due to the following conditions:

- Sewage effluent not contained on own property
- Presents nuisance and/or health hazard
- Contamination of surface water and/or groundwater
- Direct contamination of well
- Potential for breeding flies and mosquitoes
- Production of odor
- Installation, repair or major modification of an onsite wastewater treatment system without the required permit and inspection.
  
- Other (describe): Wastewater surfaces from the wastewater treatment system lateral trenches serving your property. There is evidence that it has run onto adjoining property.

**Aggrieved person(s) may request a hearing before the Department of Health and Senior Services by filing a written request within ten (10) days of receipt of this notice. Requests are to be directed to: Missouri Department of Health and Senior Services, Onsite Sewage Program, P.O. Box 570, Jefferson City, Missouri 65102-0570.**

**REMEDIAL ACTION(S) INDICATED**

1. Contact the \_\_\_\_ County Health Department regarding this violation notice.
2. Contract with a state registered onsite soil evaluator to perform an evaluation of your site for an onsite system.
3. Complete the enclosed construction permit application form; submit the application, the application fee of \$--- --, and the proposed system design to the \_\_\_\_ County Health Department. The proposed system must comply with the Missouri and \_\_\_\_ County minimum requirements for onsite systems (a copy is enclosed). It is recommended that you use the services of a state registered onsite wastewater treatment system installer to assist with the system design, or a professional engineer if soil limitations require.
4. Contract with a state registered system installer to install the system. NOTE: construction may not begin until the proposed system design has been approved and a valid permit issued by the \_\_\_\_ County Health Department.
5. Following approval of the design and application and prior to the permit being issued, you and/or your registered installer must meet a representative of the \_\_\_\_ County Health Department at your site to review the proposed system layout.

**COMPLIANCE SCHEDULE**

Immediately limit water use, divert roof, foundation drains, and other surface water from the field area to reduce nuisance conditions.

Within 10 calendar days, contact the \_\_\_\_ County Health Department to discuss compliance with the terms of this notice.

Within 20 calendar days, submit permit application, application fee, soil/site evaluation, and acceptable onsite system design to the \_\_\_\_ County Health Department for approval.

Within 30 calendar days, but only after receiving design approval and a valid construction permit, contract with a Missouri registered onsite system installer and complete construction of the permitted system.

Any request for extension(s) must be made in writing. An extension may be granted due to weather or lack of contractor availability.

<b>RECEIVED BY (SIGNATURE)</b>			<b>DATE</b>
<b>IN LIEU OF SIGNATURE, SENT BY REGISTERED/CERTIFIED MAIL (ARTICLE NUMBER)</b>			<b>RECEIVED DATE</b>
<b>SIGNATURE OF REGULATORY AUTHORITY REPRESENTATIVE</b>	<b>TITLE</b>	<b>EPHS NO.</b>	<b>DATE</b>
<b>AGENCY NAME</b>			<b>TELEPHONE NO.</b>

**MO580-1074 (9-05)  
AUTHORITY PINK/DHSS**

**DISTRIBUTION: WHITE/OWNER CANARY/REGULATORY  
E3.10**

Owner's name: Site address:		Date: Photographer:	
[Click here and Insert Picture]		Direction of view: Photo description:	
[Click here and Insert Picture]		Direction of view: Photo description:	

## Training and Resources

### Available Onsite Wastewater Treatment System Training

Basic Installer Course

Advanced Installer Course

Onsite Regulators Soil Training

Onsite Regulator Field Training

These courses are available to local onsite administrative authority staff and all onsite system inspectors are encouraged to attend the courses. In addition, the Onsite Program offers or participates in continuing education courses when possible.

### District and Onsite Wastewater Treatment Program Staff:

Program Manager

Environmental Engineer

(5) Environmental Public Health Specialist V's

(2) Health Program Representative II

Onsite Wastewater Treatment Program

P.O. Box 570

Jefferson City, MO 65102

Phone (573) 751-6095

Fax (573) 526-7377

### Acronyms:

ATU:	Aerobic Treatment Unit
BEHS:	Bureau of Environmental Health Services
BOD:	Biochemical oxygen demand
CFR:	Code of Federal Regulations
CSR:	Code of State Regulations
DHSS:	Department of Health and Senior Services
DNR:	Department of Natural Resources
E&I:	Experimental and Innovative
EHOg:	Environmental Health Operational Guidelines
EPHS:	Environmental Public Health Specialist
GSP:	Geological Survey Program (DNR)
LPHA:	Local Public Health Agency
LPP:	Low-pressure pipe
NOV:	Notice of Violation or Violation Notice
OSE:	Onsite soil evaluator
OWTP:	Onsite Wastewater Treatment Program
OWTS:	Onsite wastewater treatment system
RSMo:	Revised Statutes of Missouri
STA:	Soil treatment area
TSS:	Total Suspended Solids
WQ:	Water Quality

## Onsite Wastewater Treatment Online Resources:

The Onsite Website, <http://health.mo.gov/living/environment/onsite/index.php> has links to Chapter 701.025 – 701.029, RSMo, the onsite wastewater laws; 19 CSR 20-3.060, the “Minimum Construction Standards for On-site Sewage Disposal Systems;” and registered OWTS professionals’ lists: [The Onsite Wastewater System Operation and Maintenance Guidelines: http://www.health.mo.gov/living/environment/onsite/pdf/SystemOwnersManual.pdf](http://www.health.mo.gov/living/environment/onsite/pdf/SystemOwnersManual.pdf)

DNR Water Information: <http://www.dnr.mo.gov/water.htm>

University of Missouri Agricultural Extension Service: <http://muextension.missouri.edu> & <http://muextension.missouri.edu/xplor/>

University of Missouri interactive mapping with soils information available: <http://www.cares.missouri.edu/>

Web Soil Survey: <http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm>

Topography maps: <http://www.topozone.com/>

Sinkholes in Missouri: <http://www.dnr.mo.gov/env/wrc/sinkholes.htm>

US Environmental Protection Agency onsite wastewater: <http://water.epa.gov/infrastructure/septic/index.cfm>

US Environmental Protection Agency Constructed Wetlands: <http://www.epa.gov/owow/wetlands/watersheds/cwetlands.html>

National Environmental Services Center & National Small Flows Organization: <http://www.nesc.wvu.edu/wastewater.cfm>

Missouri Smallflows organization: <http://www.mosmallflows.org/>

National Onsite Wastewater Recycling Association: <http://www.nowra.org/>

NSF Standards wastewater product certification: <http://www.nsf.org/Certified/Wastewater/>

The Consortium of Institutes for Decentralized Wastewater Treatment: <http://www.onsiteconsortium.org/>

Onsite wastewater treatment industry publication: <http://www.onsiteinstaller.com/>

Liquid waste trade publication: <http://www.pumper.com/>

## **Onsite Wastewater Treatment Program Informational Releases**

- [IR-S3-15](#) Innovative System Sizing Approval for Infiltrator Water Technologies, LLC, Quick4 Plus EQ36 LP and Quick4 EQ36 Chamber Systems
- [IR-S2-15](#) Design Sizing for AES Wastewater Treatment Systems
- [IR-S2-12](#) Experimental Protocol for Quick4 EQ36, Quick4 Plus EQ36 LP, and Quick4 Plus Standard LP Chambers (4/12)
- [IR-S3-12](#) Innovative System Approval for EZflow by Infiltrator
- [IR-S4-12](#) Experimental Protocol for the Aero-Stream Remediation system
- [IR-S1-08](#) Innovative ATU Protocol (6/08)

## **Deleted Informational Releases** – Please delete the following from your records:

- IR-S1-12 Experimental Protocol for AES Wastewater Treatment Systems
- IR-S1-15 Design Sizing for AES Wastewater Treatment Systems

**INFORMATIONAL RELEASE NUMBER S3-15**

TO: Local Public Health Agencies and other local Onsite Wastewater Agencies  
Local Environmental Public Health Specialists  
DHSS Environmental Public Health Specialists

THROUGH: Eric Hueste, Chief  
Bureau of Environmental Health Services

FROM: James Gaughan, P.E.  
Onsite Wastewater Treatment Program

SUBJECT: Innovative System Sizing Approval for Infiltrator Water Technologies, LLC,  
Quick4 Plus EQ36 LP and Quick4 EQ36 Chamber Systems

DATE: September 9, 2015

CONTACT: James Gaughan, Environmental Engineer  
[jim.gaughan@health.mo.gov](mailto:jim.gaughan@health.mo.gov)  
(573) 751-6095

The Missouri Department of Health and Senior Services (DHSS) Onsite Wastewater Treatment Program has reviewed the Infiltrator Quick4 Plus EQ36 LP Field Performance Study report by Dr. Dennis Sievers, P.E., and assisted with additional field monitoring of Quick4 EQ36 chambers to complete the Infiltrator Water Technologies, LLC, experimental protocol. Proposed experimental protocols for the Infiltrator Water Technologies, LLC, Quick4 EQ36, Quick4 Plus EQ36 LP, and Quick4 Plus Standard LP chambers were accepted by a letter dated April 23, 2012. The protocols were covered in Informational Release S2-12. The Quick4 Plus Standard LP chamber protocol was not completed.

The proposed protocol described the Quick4 Plus EQ36 LP (low profile) and Quick4 EQ36 chambers as four (4) feet long and 22 inches wide; the Quick4 Plus EQ36 LP chamber is eight (8) inches tall and the Quick4 EQ36 is 12 inches tall. A total of 18 Quick4 Plus EQ36 LP chamber installations were reported to DHSS under the experimental protocol. Another 11 Quick4 EQ36 chamber systems were reported to DHSS. Nine (9) of the Quick4 Plus EQ36 LP systems that were selected for monitoring had been installed for 2.4 to 3 years and were installed at the protocol sizing. Three (3) of the Quick4 EQ36 systems that were selected for monitoring had been installed for about 3 years to 3.7 years and were sized at the protocol sizing.

Soil group III was the most common soil group; however, groups IVa, and V were described on a few sites. The most common problem observed was unequal d-box distribution, which was considered unrelated to chamber system sizing. These observations highlight the need for onsite system management and for accessible distribution devices.

One Quick4 EQ36 system could not be confirmed to be functioning properly. It was on a lot where water tables had been described at shallow depths and unsuitable group IVb soil textures were described in two of the three soil profiles. Also, fill soil had been placed over the soil treatment area causing the trenches to be deeper than originally installed. Problems with this system were most likely related to soil limitations and not the system sizing. Except for the one Quick4 EQ36 system that appeared to have a relief line discharging in the woods, other Quick4 EQ36 and Quick4 Plus EQ36 LP systems were found to be functioning as designed or any observed problems were resolved. It should be noted that smaller dispersal trench system sizing will reduce any safety factor inherent in the Missouri Minimum Construction Standards sizing.

Based on the satisfactory completion of the experimental protocol, the Infiltrator Water Technologies, LLC, Quick4 EQ36 and Quick4 Plus EQ36 LP have been accepted by DHSS for innovative system sizing approval. Innovative approval is subject to the site requirements, minimum sizing, and operation and maintenance as discussed below. Due to the development of clogging mats and other variables influencing the long-term performance of a system, which are beyond the scope of the experimental protocol, this review and minimum sizing guidance is not a guarantee that an approved system will function in a satisfactory manner for any given period of time. Also, note that local permitting authorities may be more stringent.

For Quick4 EQ36 and Quick4 Plus EQ36 LP, as with all gravelless trench systems, the minimum site requirements for pipe and gravel filled gravity dispersal trenches shall apply, including provisionally suitable soil, vertical separation, and setback distances. The equivalent width allowed for the minimum sizing of 22-inch wide Quick4 EQ36 and Quick4 Plus EQ36 LP low profile chambers shall be 36 inches per foot of length.

Proper operation and regular maintenance is needed to ensure that any onsite wastewater treatment system continues to function and adequately protects public health and the environment. Proper operation includes limiting maximum daily flow to the system design flow and keeping inappropriate waste out of the system. Regular maintenance activities shall follow all recommendations of the manufacturer. Minimum maintenance consists of regular inspections and, as necessary, cleaning and/or adjusting sewage tanks, other pretreatment components, effluent filters, and gravity distribution devices. The soil treatment area must be inspected regularly and depressions, surface water impacts, or effluent surfacing must be corrected.

DHSS will continue to track any reports of the performance of systems that were installed under the experimental protocol. Data received will be used to compare and reevaluate sizing of onsite soil treatment systems. Approval may be discontinued at any time, if warranted by subsequent field experience with the innovative systems.

**INFORMATIONAL RELEASE NUMBER S2-15**

TO: Local Public Health Agencies and other local Onsite Wastewater Agencies  
Local Environmental Public Health Specialists  
DHSS Environmental Public Health Specialists

THROUGH: Eric Hueste, Chief  
Bureau of Environmental Health Services

FROM: James Gaughan, P.E.  
Onsite Wastewater Treatment Program

SUBJECT: Design Sizing for AES Wastewater Treatment Systems

DATE: June 16, 2015

CONTACT: James Gaughan, Environmental Engineer  
[jim.gaughan@health.mo.gov](mailto:jim.gaughan@health.mo.gov)  
(573) 751-6095

The Department of Health and Senior Services, Onsite Wastewater Treatment Program has reviewed and accepted a revised Presby Environmental, Inc. (PEI) innovative/experimental system protocol for treatment and soil dispersal using the Advanced Enviro-Septic (AES) system. The revised protocol and the design and installation manual specify a 10 percent reduction in the minimum size of an AES system compared to the sizing accepted in April 2012. The AES system is described as providing combined treatment and dispersal of wastewater that has received primary treatment in a septic tank. The system includes patented AES pipes, a layer of geo-textile fabric that partially surrounds the outer surface along the bottom of the pipe, a mat of coarse, randomly-oriented, plastic fibers surrounds the outside of the pipe, and another layer of geo-textile fabric surrounds the pipe and is stitched together to hold the fiber mat in place. The pipes are installed within a bed or trench of specified system sand. Systems include ventilation to maintain aerobic conditions in the AES system. Installation of up to 200 AES systems will be allowed in two phases. Following are general guidelines for considering proposed AES systems.

System design and installation must follow the experimental AES Missouri Design and Installation Manual, comply with the Missouri Minimum Construction Standards, and each system is subject to review and construction permit approval by the local administrative authority. PEI requires all AES designers and installers to be certified by completing an AES certification course. A DHSS registered advanced system installer, trained and certified by AES, must install AES systems. AES training is also available and recommended, for individuals involved in permitting or inspecting AES systems.

Based on a soil morphology evaluation, engineering is required for onsite wastewater treatment systems when unsuitable factors are described and are uncorrectable, 19 CSR 20-3.060(7)(K) and (L). Such unsuitable characteristics include, but are not limited to, bedrock described less than 36 inches deep, high shrink/swell clay less than 24 inches deep, a restrictive horizon less than 24 inches deep, or a seasonal high

water table described less than 24 inches deep. Minimum AES sand bed sizing is determined based on soil loading rates (SLR) assigned by the Registered Onsite Soil Evaluator and using the lowest assigned load rate between the soil surface and one-foot (1') below the AES system sand or any sand fill.

PEI will notify property owners regarding the experimental status of AES systems and will warrantee the product. A permit issued for construction of any innovative/experimental system should be clearly marked as experimental. Third party monitoring will be conducted for 25 of the first systems installed under this innovative/experimental protocol. Monitored systems and the third party monitors will be acceptable to both DHSS and PEI. Four monitoring reports will be completed for each monitored system beginning within six months of installation and continuing at approximately six-month intervals. After the first 40 systems are installed, the accumulated data will be reviewed. If systems are performing satisfactorily, experimental system installation will continue up to a total of 200 while the monitoring program is completed. Evidence of any system malfunction and any potential warranty issue related to systems installed under this protocol is to be reported to the Onsite Wastewater Treatment Program.

DHSS does not endorse any brand or specific product model. However, a system using the AES product may be approved by local administrative authorities as part of an onsite wastewater treatment system when the proposed system design complies with the AES Missouri Design and Installation Manual and the requirements of the state minimum standards, or local standards, which can be more stringent. Approval may be discontinued at any time, if warranted by field experience with installed systems.

**INFORMATIONAL RELEASE NUMBER S2-12**

TO: Local Public Health Agencies and other local Onsite Sewage Agencies  
Environmental Public Health Specialist V's

THROUGH: Mark Jenkerson, Chief  
Bureau of Environmental Health Services

FROM: James Gaughan, P.E.  
Onsite Wastewater Treatment Program

SUBJECT: Experimental Protocol for Quick4 EQ36, Quick4 Plus EQ36 LP, and Quick4 Plus Standard LP chambers

DATE: April 23, 2012

CONTACT: James Gaughan, Environmental Engineer  
[jim.gaughan@health.mo.gov](mailto:jim.gaughan@health.mo.gov)  
(573) 751-6095

The Department of Health and Senior Services, Onsite Wastewater Treatment Program has reviewed and accepted the Infiltrator Systems, Inc. (ISI) proposed innovative/experimental system protocol for sizing soil treatment systems using Quick4 EQ36, Quick4 Plus EQ36 LP, and Quick4 Plus Standard LP chambers. A copy of the experimental protocol is available from the Onsite Wastewater Treatment Program. The Quick4 EQ36 chamber is described as 22 inches wide by 12 inches tall, the Quick4 Plus EQ36 LP chamber as 22 inches wide by eight (8) inches tall, and the Quick4 Plus Standard LP chamber as 34 inches wide by eight (8) inches tall. Installation of up to 500 of each chamber system is allowed under this protocol. Following are general guidelines for considering proposed chamber systems under the accepted protocol.

Where these chambers are to be used, the chamber and sizing must be specified in the design and permit application. Under the experimental protocol, the Quick4 EQ36 and Quick4 Plus EQ36 LP would be sized at 3.0 square feet per foot of trench length, and the Quick4 Plus Standard LP chambers would be sized at 4.0 square feet per foot of trench length. Except for the sizing allowed under this protocol, system designs must comply with accepted design practices and with state and local standards including minimum vertical separation, layout, and distribution requirements. A DHSS registered onsite wastewater treatment system installer must install the chamber systems in compliance with state and local standards. In addition, the installer must follow the manufacturer's recommended installation procedures.

Under the innovative/experimental protocol, Infiltrator Systems, Inc. will notify property owners regarding the experimental status and will warrant system performance. Ten of the first 20 installations of each model will be selected for monitoring. After 24 months, a licensed engineer will conduct a field evaluation of the ten systems selected for each model. In addition, evidence of any system malfunction and any

potential warranty issue related to systems installed under this protocol must be reported to the Onsite Wastewater Treatment Program.

DHSS does not endorse any brand or specific product model. However, a system using the Quick4 EQ36, Quick4 Plus EQ36 LP, and Quick4 Plus Standard LP chambers may be approved by local administrative authorities as part of an onsite wastewater treatment system when the proposed system design complies with the experimental sizing and the requirements of the state minimum standards, or local standards, which can be more stringent. Approval may be discontinued at any time, if warranted by subsequent field experience with installed systems.

## INFORMATIONAL RELEASE NUMBER S3-12

TO: Local Public Health Agencies and other local Onsite Wastewater Agencies  
Environmental Public Health Specialist V's

THROUGH: Mark Jenkerson, Chief  
Bureau of Environmental Health Services

FROM: James Gaughan, P.E.  
Onsite Wastewater Treatment Program

SUBJECT: Innovative System Approval for EZflow by Infiltrator

DATE: May 29, 2012

CONTACT: James Gaughan, Environmental Engineer  
[jim.gaughan@health.mo.gov](mailto:jim.gaughan@health.mo.gov)  
(573) 751-6095

The Missouri Department of Health and Senior Services (DHSS) reviewed the EZflow by Infiltrator, Inc. Site Performance Reviews report by Dr. Dennis Sievers, P.E., to complete the experimental protocols. Experimental protocols for the 1202GEO gravity system and the 1202GEO, 1201PGEO and 1001PGEO low-pressure pipe (LPP) configurations were accepted by letters dated August 6, 2008 and the amended protocol including the 801PGEO LPP configuration was accepted by letter dated September 8, 2010. The protocols were covered in previous Informational Releases.

The proposed 1202GEO protocol describes the system as two 12-inch diameter cylinders horizontally on the bottom of a trench for a product width of 24. Cylinders contain expanded polystyrene aggregate with a geotextile fabric along the top of the product, and at least one cylinder per trench contains a four-inch diameter perforated flexible plastic pipe. The proposed LPP protocol describes the products as 12-inch, 10-inch, or 8-inch diameter cylinders containing expanded polystyrene aggregate, a four-inch diameter perforated flexible plastic pipe, and a geotextile fabric along the top of the product. In an LPP system application, a 1 to 2-inch PVC distribution pipe would be housed within the corrugated pipe.

Ten (10) 1202GEO systems that had been installed for about 2.5 to 3.5 years were selected for the performance review from the ninety-five (95) installed systems that were reported. The selected systems were installed on six (6) sites where soil groups III, IVa, and V were described and on four (4) sites evaluated using percolation tests. Nine (9) of the ten (10) systems reviewed were found to be functioning as designed with no surfacing effluent. Only one of these nine was reported to have ponding in the core hole that was observed near a trench. The other one (1) of the ten (10) systems was found to have malfunctioned with surfacing effluent.

Another 1202GEO system, which was not part of the performance review, had been reported to DHSS by the property owner because of problems with surfacing effluent. Both systems that malfunctioned were designed based on percolation tests. Permit records show the systems were installed by different installers. The percolation test report for the system reviewed as part of the experimental protocol indicates the percolation test was conducted under extremely dry conditions. According to the Performance Review report for the reviewed system, soil observed from the auguring process appeared to be high in clay content. The system reported by the owner had been installed in 36-inch deep trenches or deeper, which is non-compliant with the Minimum Construction Standards and much deeper than the percolation test holes. The two system malfunctions are not apparently related to the EZflow product; the malfunctions may be related to the use of a percolation test and/or installation practices.

Thirty-seven (37) 1001PGEO and eleven (11) 801PGEO LPP systems were reported installed in soil groups III, IVa, and V. Four (4) of the 1001PGEO LPP that had been installed for over three years and eight (8) of the 801PGEO LPP that had been installed for about 2.5 to 3 years were selected for the performance review. All of the LPP systems were found to be functioning as designed; none had surfacing effluent.

Based on the satisfactory completion of the experimental protocols, EZflow by Infiltrator has been accepted by DHSS for innovative system approval of the 1202GEO gravity dispersal trench system and the 1202GEO, 1201PGEO, 1001PGEO, and 801PGEO LPP pressure distribution configurations. Innovative system approval is subject to the site requirements, minimum sizing, and operation and maintenance as discussed below. Due to the development of clogging mats and other variables influencing the long-term performance of a system, which are beyond the scope of the experimental protocol, this review and minimum sizing guidance is not a guarantee that an approved system will function in a satisfactory manner for any given period of time. Also, note that local permitting authorities may be more stringent.

For 1202GEO gravity systems, the minimum site requirements for pipe and gravel filled gravity dispersal trenches shall apply, including provisionally suitable soil, vertical separation, and setback distances. The minimum site requirements for LPP systems shall apply to the EZflow configurations used in LPP applications, except that a greater minimum soil depth will be required for the 10-inch and 12-inch products. The soil depth, consisting of suitable or provisionally suitable soils, must be adequate to provide a minimum of twelve (12) inches of vertical separation between the bottom of the proposed dispersal trench and bedrock, water-impeding formation, or evidence of seasonally high water table. LPP systems shall be designed and bear the seal of a Missouri Professional Engineer, as required by 19 CSR 20-3.060(6)(C).

The equivalent width allowed for minimum system sizing using EZflow by Infiltrator shall be as shown in the following tables. Because of the inherent limitations of percolation tests, extra caution should be used when designing any dispersal system based on a percolation test, and more conservative sizing is recommended.

Product	Product Width	Maximum Equivalent Width
1201GEO (one 12-inch cylinder)	12 inches	24 inches (2 feet)
1202GEO (two 12-inch cylinders)	24 inches	36 inches (3 feet)

Minimum Sizing for Low-Pressure Pipe Systems using  
EZflow By Infiltrator Expanded Polystyrene Cylinders

Product	Product Width	Maximum Equivalent Width
801PGEO LPP	8 inches	5 feet – based on approved engineered LPP design
1001PGEO LPP	10 inches	
1201PGEO	12 inches	
1202GEO(two 12-inch cylinders)	24 inches	

Proper operation and regular maintenance is needed to ensure that any onsite wastewater treatment system continues to function and adequately protects public health and the environment. Proper operation includes limiting peak daily flow to the system design flow and keeping inappropriate waste out of the system. Regular maintenance activities shall follow all manufacturer’s recommendations. Minimum maintenance consists of regular inspections and, as necessary, cleaning and/or adjusting sewage tanks, other pretreatment components, effluent filters, and gravity distribution devices. The soil treatment area must be inspected regularly and depressions, surface water impacts, or effluent surfacing must be corrected. Minimum maintenance of pressure distribution systems includes inspecting the pump and controls, flushing the distribution lines, checking operating pressures, and making any adjustments necessary.

DHSS will continue to track any reports of the performance of systems that were installed under the experimental protocol. Data received will be used to compare and reevaluate sizing of onsite soil treatment systems. Approval may be discontinued at any time, if warranted by subsequent field experience with the innovative systems.

**INFORMATIONAL RELEASE NUMBER S4-12**

TO: Local Public Health Administrators  
Local Environmental Public Health Specialists  
DHSS Environmental Public Health Specialists  
Onsite Wastewater Agencies

THROUGH: Mark Jenkerson, Bureau of Environmental Health Services Chief

FROM: James Gaughan, P.E.  
Onsite Wastewater Treatment Program

SUBJECT: Experimental Protocol for the Aero-Stream Remediation system

DATE: September 28, 2012

CONTACT: James Gaughan, Environmental Engineer  
[jim.gaughan@health.mo.gov](mailto:jim.gaughan@health.mo.gov)  
(573) 751-6095

The Department of Health and Senior Services, Onsite Wastewater Treatment Program has reviewed and accepted the proposed innovative/experimental system protocol for the Aero-Stream Remediation system. A copy of the experimental protocol is available from the Onsite Wastewater Treatment Program. The Aero-Stream Remediation system is described as a sintered diffuser deployed in an existing septic tank with a coir fiber filament brush to facilitate attached growth bacteria; the diffuser is connected to an air pump. The stated purpose of the system is to restore the hydraulic capacity of a malfunctioning absorption system that is experiencing end-stage characteristics of ponding at the ground surface or is backing up into the home. Of a total of 20 Aero-Stream Remediation systems to be installed under the protocol, ten systems will be monitored and evaluated using the proposed protocol. Following are general guidelines for considering proposed Aero-Stream Remediation systems under the protocol.

Onsite wastewater systems that are the subject of a Notice of Violation are not considered for evaluation under this experimental protocol. An application to modify an existing onsite wastewater treatment system must be submitted to the local onsite wastewater authority for review. The sewage tank where the system would be installed must comply with the minimum requirements of state and local regulations. If the existing onsite system was designed by a professional engineer, the engineer should be consulted about the proposed system modification. A DHSS registered onsite wastewater treatment system installer must install the systems in compliance with applicable state and local standards and must follow the manufacturer's recommended installation procedures.

System owners must complete the acknowledgement portion of the Maintenance Inspection form. The proposed monitoring specifies that evaluated systems will be inspected after one day, about two weeks, and three, six and twelve months. After the evaluation of at least ten systems is completed, a summary

report will be submitted to the Onsite Wastewater Treatment Program. The report will include the completed system monitoring data showing source water and tank pH; dissolved oxygen; odor; sewage level in the tank; the extent of, or reduction in, surface ponding; and any evidence of back-ups caused by hydraulic malfunction. In addition, any potential warranty issues for systems under this protocol are to be reported to the program.

DHSS does not endorse any brand or specific product model. However, provided the remediation system's operation is consistent with Missouri Statutes and the minimum state standards or local standards, system installation may be approved by local administrative authorities. Approval may be discontinued at any time, if warranted by subsequent field experience with installed systems.

**INFORMATIONAL RELEASE NUMBER S1-08**

TO: Local Public Health Agencies and other local Onsite Sewage Agencies Environmental Public Health Specialist V's

FROM: Daryel Brock, Chief  
Bureau of Environmental Regulation and Licensure

SUBJECT: Innovative System Protocol for Zoeller Fusion Model ZF-450

DATE: June 9, 2008

CONTACT: James Gaughan, Environmental Engineer  
[jim.gaughan@health.mo.gov](mailto:jim.gaughan@health.mo.gov)  
(573) 751-6095

The Onsite Sewage Program has reviewed and accepted a proposed innovative system protocol for the Zoeller Fusion Model ZF-450 aerobic treatment unit (ATU). The ZF-450 unit has a treatment capacity of 450 gallons per day, which is sufficient for treating the wastewater from a three bedroom house, yet is less than the 500-gallon per day minimum required by 19 CSR 20-3.060(4)(E)3. However, the ZF-450 unit as well as the ZF-600 and ZF-800 units have been certified by NSF International as meeting the requirements established by NSF/ANSI Standard 40 for Class I effluent.

Under the proposed protocol, Zoeller would monitor the first ten (10) units installed in Missouri and submit copies of maintenance and service reports to the Missouri Department of Health and Senior Services for a period of two (2) years. These reports indicate system performance, pH, ammonia, transparency of the effluent, nitrate and nitrite, and other physical parameters.

DHSS does not endorse any brand or specific product model. However, the NSF certified Zoeller ZF-450 unit may be approved by local administrative authorities as part of an onsite wastewater treatment system when the proposed system design as a whole meets the requirements (with the exception of minimum treatment capacity) of the state minimum standards, or local standards that can be more stringent. Installation and startup instructions provided by the ATU manufacturer must be followed. Innovative approval may be discontinued at any time, if warranted by subsequent field experience with installed ATU models.

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Informational Release C1-15: Guidance on Disinfectant Use in Child Care Facilities

## Introduction Environmental Child Care

The Missouri Department of Health and Senior Services (DHSS) provide regulatory oversight of child care providers. Providers are classified as licensed, license-exempt, or are non-regulated. Although there are some exceptions, providers that care for more than four unrelated children are most likely licensed or license-exempt, and are subject to routine sanitation, fire safety, and licensing inspections.

### Licensed Child Care Facilities: Required By Statute to Be Licensed

Facility Type	Number of Children in Care
Family Homes	5 – 10 children
Group Homes	11 – 20 children
Child Care Centers	21 or more children

### Licensed-Exempt Child Care Facilities: Exempt From Licensure, but Required By Statute to Be Inspected

Facility Type	Description of Facility
Religious Organizations	A child care facility that operates under the exclusive control of a religious organization.
Nursery Schools	A program for preschool children that is operated for no more than four (4) hours per child, per day, and is not under the exclusive control of a religious organization.

### Non-Regulated: Exempt From Any Statewide Regulation or Inspection

Child care facilities operated by Private and Public School systems
Business for convenience of customers (no child care for employees' children)
Religious Organization Academic Preschools, exclusively for 4 and 5 year olds
Vacation Bible Schools
Summer Camps
Child care facilities caring for four (4) or fewer children
Registered Providers

NOTE: Child care facility category type is evaluated and determined by DHSS Section for Child Care Regulation based on information submitted by the licensee.

### Authority

DHSS authority to conduct child care sanitation inspections is derived from Chapter 210, RSMo.

210.252. 1. All buildings and premises used by a child-care facility to care for more than four children except those exempted from the licensing provisions of the department of health and senior services pursuant to subdivisions (1), (2), (3), (4) and (6) of section 210.211, shall be inspected annually for

fire and safety by the state fire marshal, the marshal's designee or officials of a local fire district and for health and sanitation by the department of health and senior services or officials of the local health department. Evidence of compliance with the inspections required by this section shall be kept on file and available to parents of children enrolling in the child-care facility.

2. Local inspection of child-care facilities may be accomplished if the standards employed by local personnel are substantially equivalent to state standards and local personnel are available for enforcement of such standards.

3. Any child-care facility may request a variance from a rule or regulation promulgated pursuant to this section. The request for a variance shall be made in writing to the department of health and senior services and shall include the reasons the facility is requesting the variance. The department shall approve any variance request that does not endanger the health or safety of the children served by the facility. The burden of proof at any appeal of a disapproval of a variance application shall be with the department of health and senior services. Local inspectors may grant a variance, subject to approval by the department.

4. The department of health and senior services shall administer the provisions of sections 210.252 to 210.256, with the cooperation of the state fire marshal, local fire departments and local health agencies.

5. The department of health and senior services shall promulgate rules and regulations to implement and administer the provisions of sections 210.252 to 210.256. Such rules and regulations shall provide for the protection of children in all child-care facilities whether or not such facility is subject to the licensing provisions of sections 210.201 to 210.245.

210.254. 1. Child-care facilities operated by religious organizations pursuant to the exempt status recognized in subdivision (5) of section 210.211 shall upon enrollment of any child provide the parent or guardian enrolling the child two copies of a notice of parental responsibility, one copy of which shall be retained in the files of the facility after the enrolling parent acknowledges, by signature, having read and accepted the information contained therein.

2. The notice of parental responsibility shall include the following:

(1) Notification that the child-care facility is exempt as a religious organization from state licensing and therefore not inspected or supervised by the department of health and senior services other than as provided herein and that the facility has been inspected by those designated in section 210.252 and is complying with the fire, health and sanitation requirements of sections 210.252 to 210.257.

NOTE: The full statutes are available at <http://www.moga.mo.gov/STATUTES/C210.HTM>

### Regulations

Sanitation inspections of child care facilities are conducted in accordance with the following:

1. “Sanitation Inspection Guidelines for Licensed Group Child Care Homes, Licensed Child Care Centers, and License-Exempt child Care Facilities”
2. “Sanitation Inspection Guidelines for Family Child Care Homes”

All EPHS’ that conduct child care sanitation inspections must be knowledgeable of these documents, as they provide sanitation requirement explanations and rationales. Downloadable copies are available at <http://health.mo.gov/safety/childcare/lawsregs.php>. The sanitation inspection guidelines are based on the child care licensing rules, Missouri Food Code, onsite sewage rules and laws, and “Caring for Our Children” by the American Public Health Association. Local ordinances may be more stringent than state regulations.

## **Environmental Child Care Guidelines**

### **Department of Health and Senior Services (DHSS) - Section for Child Care Regulation**

The DHSS Section for Child Care Regulation (SCCR) is located within the Division of Regulation and Licensure and is the lead regulatory agency regarding child care and is responsible for evaluating the licensing status of child care providers. SCCR issues licenses to providers, requests inspections for sanitation and fire safety from other agencies, conducts licensing inspections, and is responsible for pursuing any legal actions that may be necessary against a child care provider. SCCR employees providing these services are called Child Care Facility Specialists (CCFS).

### **DHSS Bureau of Environmental Health Services (BEHS) and Local Public Health Agencies (LPHAs)**

DHSS partners with LPHAs through Participation Agreements. The Participation Agreement establishes basic terms and conditions between the two agencies. Through this three year agreement most annual child care sanitation inspections are conducted at the local level.

In addition, DHSS provides funding, technical support, training, forms, and regulations for LPHA inspectors conducting child care sanitation inspections. DHSS may conduct periodic quality control monitoring to ensure the terms of the Participation Agreement are met.

### **DHSS- BEHS**

The DHSS BEHS Environmental Child Care (ECC) Program is responsible for ensuring sanitation inspections are conducted at least annually but as often as needed in licensed and license-exempt child care facilities. The ECC Environmental Public Health Specialist (EPHS) IV's housed in regional offices throughout the state conduct initial inspections, special circumstance inspections, and otherwise ensure child care sanitation inspections are completed in their jurisdictions as necessary. The Training and Resource section at the end of this chapter contains the latest Environmental Child Care staff regional map. If you need assistance and your regional EPHS is not available, please contact the DHSS central office at (573) 751-6095.

### **Missouri Department of Public Safety**

The Missouri Department of Public Safety, Division of Fire Safety is responsible for conducting fire safety inspections in child care facilities.

### **Child and Adult Care Food Program**

Providers that choose to participate in DHSS nutritional assistance programs may have additional regulatory obligations through the DHSS Child and Adult Care Food Program.

### **Types of Inspections**

Initial: Initial inspections are conducted by DHSS program staff.

Annual/Renewal: Annual sanitation inspections are required, by statute, for regulated child care facilities and are usually conducted by the LPHA. A renewal inspection is an annual inspection that must be

completed by the given due date to avoid expiration of a provider's approval to operate. Licensed facilities have a two-year license period that requires an annual inspection and a renewal inspection to be performed according to assigned time frames to maintain the license. License-exempt facilities require a renewal inspection every year according to assigned time frames to maintain their approval to operate.

Annual inspections should be conducted as soon as possible after the request is received. The inspection must be completed by the due date on the request.

Re-inspections: A re-inspection is necessary when non-compliances are not corrected during the annual inspection. During a re-inspection, only items previously documented as violations are evaluated. If the EPHS determines that facility conditions have deteriorated since the original inspection, it may be necessary to restart the inspection process. An additional request for inspection is not needed to conduct one re-inspection. Most re-inspections should occur within thirty (30) days of the annual inspection. However, all re-inspections must be conducted no later than thirty (30) days after the due date on the request for inspection. If additional inspections are necessary, the LPHA should obtain approval from their DHSS program staff prior to conducting additional re-inspections.

Special Circumstances: Occasionally there may be a situation in which a sanitation inspection is needed that does not fit into the other types of routine inspections. Examples include complaints, disease interventions, emergency situations such as flooding or sewage backup, and when facilities are not in compliance after one re-inspection. In order to be reimbursed for a special circumstance inspection, the LPHA EPHS must contact ECC program staff for approval before conducting the inspection.

Desk Approvals: When a noncompliance correction can be verified by means of submission of documentation such as a laboratory report, purchase receipt, or photo, a desk approval may be used in lieu of a re-inspection. Desk approvals are not appropriate for all types of corrections and the EPHS must ensure the submitted documentation provides reasonable proof of correction. For a desk approval to be completed, an inspection report must be filled out to document the correction and sanitation approval of the facility. Desk approvals are not reimbursable.

Lead: Lead inspections are conducted by DHSS program staff. However, the LPHA EPHS should screen for potential lead hazards during annual inspections—LeadCheck® and D-Lead® test kits may be used to assist the inspector. If the LPHA EPHS identifies suspected lead hazards during an annual inspection, they are to contact DHSS program staff for assistance.

### Complaints

The DHSS Section for Child Care Regulation tracks complaints of child care facilities. DHSS Section for Child Care Regulation should be notified of any complaints regarding child care received by other offices, regardless of the nature of the complaint. Complaints should be followed up on as requested in accordance with Chapter 1, subsection 1.10 of this manual.

## **Required Training**

In order to conduct child care sanitation inspections, an inspector must qualify as an Environmental Public Health Specialist (EPHS) as defined by the Missouri state Merit System (<http://oa.mo.gov/>) and complete required training. For an EPHS with no previous approval to conduct child care sanitation inspections, training includes:

1. Assigned reading and online training.
2. Successful completion of six field training inspections with DHSS staff.
3. Completion of annual training provided by DHSS. This training may consist of classroom, online, field, or written training, not to exceed eight hours.

For an EPHS with previous approval to conduct child care sanitation inspections, the following is required in order to conduct child care sanitation inspections:

1. Complete annual training provided by DHSS. This training may consist of classroom, online, field, or written training, not to exceed eight hours.
2. Additional field training may be required if the EPHS has not conduct child care sanitation inspections within the past twenty four months.

## **Conducting Inspections**

1. DHSS will first notify LPHAs of the need for an inspection through a Request for Child Care Inspection form. Inspections should occur as soon as possible after the request is received but no later than the due date printed on the Request for Child Care Inspection.
2. Annual inspections shall be made during normal business hours of the child care facility. Inspections during periods of food service are encouraged; inspections during nap time (typically 1:00-3:00 pm) are discouraged. Annual inspection shall be unannounced. Exceptions to unannounced inspections may occur for other visits such as re-inspections and/or meetings with a contractor or provider to discuss specific physical plant corrections.
3. A thorough evaluation of the entire premises should be made, with an obvious emphasis on licensed child care space. The inspection should stress the importance of handwashing, food safety, diapering procedures, and proper bathroom equipment. An emphasis on drinking water is necessary for facilities with private or non-community drinking water supplies; wastewater must be examined closely for facilities with onsite wastewater treatment systems; and facilities constructed prior to 1978 must be examined closely for potential lead hazards.
4. The EPHS can use the inspection report while the inspection is made to determine and document compliance with the requirements. Each requirement on the form is to be evaluated and the box next to it marked with the appropriate code. Codes at the top right of the inspection report form (DC 34 or 35) are used to indicate the status of each requirement.
  - a. No code in the space to the right of the requirement indicates the requirement was met.

- b. An **X** indicates the requirement was not met.
  - c. **N.O.** (Not Observed) is used during an inspection to indicate the scope of the inspection did not include items with that requirement. As annual inspections require an evaluation of the entire premises, this code is generally used only during re-inspections or special circumstance inspections.
  - d. **N.A.** (Not Applicable) indicates that a specific requirement does not apply to the facility being inspected.
  - e. An \* (asterisk) is used to denote requirements were discussed with the provider. The report items are discussed in detail to educate providers or to give the provider an opportunity to demonstrate knowledge of the application of requirements in specific situations.
5. The observations page of the inspection report is used to record specific noncompliance issues in detail. The specific noncompliant observation is to be clearly written and the corresponding requirement is to be stated. Additional discussion points should also be listed on the observations page to document what information was shared with the provider. If there are no violations, a comment stating this is required on the observations page. Inspectors must remember that a copy of this legal document will be placed in the facility's permanent file maintained by the Section for Child Care Regulation for possible review by anyone requesting information.
  6. All observed violations shall be documented at the time of inspection. Violations that are corrected during the inspection are to be marked as corrected on site. The EPHS shall write a correction time frame on the observation page for violations not corrected during the inspection. The provider must know how long they have to correct violations before a re-inspection is made. Input from the provider on re-inspection time frames can be considered. However, all re-inspections must be conducted no later than thirty (30) days after the due date on the request for inspection.

NOTE: Violations that present an imminent health hazard to children in care shall be corrected immediately or arrangements made to correct no later than by the end of that day. Arrangements shall be documented on the inspection report.

7. The EPHS must indicate whether the facility **Does or Does Not Conform** to the inspection standards by marking the correct check box in the section above the EPHS' signature box on the observations page. If there are any unresolved violations, the EPHS must mark that the facility "Does Not Conform" with the sanitation requirements.
8. An exit interview is conducted with the provider/person in charge at the end of the inspection. The results of the inspection are to be reviewed at this time. Correction time frames must be discussed and documented.

9. Ensure all parts of the inspection report are complete. For the report to be considered complete, signatures of both the EPHS and the provider are necessary. A legible copy of the report is to be left with the provider/person in charge at the completion of the exit interview. Should the provider refuse to sign the inspection, a copy of the inspection report should be mailed to the provider via USPS Certified Mail.
10. The completed sanitation inspection report and Request for Child Care Inspection must be mailed to the appropriate Section for Child Care Regulation office within ten (10) working days of the inspection. If a re-inspection is required, a copy of the Request for Child Care Inspection is needed to send with the re-inspection also.
11. Any unresolved violations will require a re-inspection. All re-inspections must be conducted no later than thirty (30) days after the due date on the request for inspection. Re-inspections may be conducted by appointment (announced). Contact your DHSS Environmental Child Care district ECC if the facility is not in compliance with sanitation requirements after one re-inspection.

### **Notifying the DHSS ECC Program**

The following are instances where the LPHA EPHS will need to consult with the ECC program staff before proceeding:

1. Before being approved by DHSS staff to conduct reimbursable child care sanitation inspections;
2. If, after one re-inspection, the provider still does not meet sanitation requirements;
3. If suspected lead hazards are identified on any inspection;
4. If the EPHS believes an issue at the facility presents an imminent health hazard to children in care, whether or not it is sanitation related;
5. Before recommending closure of a child care facility;
6. Before conducting special circumstance inspections;
7. If a potential conflict of interest exists between the EPHS and the provider, e.g. the provider cares for the children of the EPHS;
8. If the EPHS identifies an excessive number of violations or highly unsanitary conditions during an inspection; and
9. If facility staff deny the EPHS entry for inspection.

Check the resources section at the end of this chapter for the latest Environmental Child Care Program district map. If you need assistance and your district EPHS is not available, please contact the DHSS central office at (573) 751-6095.

### **Program Forms**

All necessary forms are available to LPHAs through the DHSS Warehouse or electronically at the end of this chapter. Pertinent forms are:

BCC (or DC) 34-1 and 2: Carbon copy forms for inspecting Family Home Providers. These forms are available through the DHSS Warehouse at <http://dhssnet/appsforms/index.php>. A working electronic version of the BCC 34 form is available in .pdf format for use from your DHSS ECC EPHS.

BCC (or DC) 35-1, 2, and 3: Carbon copy forms for inspecting Group Family Home, Licensed Centers, and License-Exempt Providers. These forms are available through the DHSS warehouse at <http://dhssnet/appsforms/index.php>. A working electronic version of the BCC 35 form is available in .pdf format for use from your DHSS ECC EPHS.

DC 38: Reimbursement Request for Child Care Sanitation Inspections. This form is submitted monthly by LPHAs to DHSS to request reimbursement for inspections conducted and is available at the end of this chapter under “Training and Resources.”

DH 38: DHSS Vendor Request for Payment. This form is submitted with the DC 38 forms to request reimbursement for inspections conducted and is available at the end of this chapter under “Training and Resources.”

DC-39: Late Inspection Reimbursement Request. This form is submitted to request payment for any inspections not conducted within the required time frames and is available at the end of this chapter under “Training and Resources.”

Request for Child Care Inspection: This document provides the basic identifying information of the child care facility to the EPHS. This document is typically mailed to the LPHA from the DHSS Section for Child Care Regulation to indicate when a sanitation inspection is needed.

## **Technical Points and Interpretations**

### **Other Regulatory Authorities**

Although a thorough assessment needs to be done at each inspection some issues are regulated by other agencies. Fire safety issues are inspected by the Department of Public Safety's Division of Fire Safety. The Department of Health and Senior Services (DHSS) Section for Child Care Regulation regulates safety, supervision, and nutrition issues. If questions or concerns regarding these issues arise during a sanitation inspection, document these issues on a Sanitation Observation form and mail or fax to the DHSS program Environmental Public Health Specialist (EPHS). If you observe an issue that may present an immediate threat to the health or safety of a child, please contact Environmental Child Care Program staff or Section for Child Care Regulation staff immediately.

### **Inspection of Premises**

Licensing rules require that the premises be inspected annually and requires providers to permit DHSS access to the facility and its premises. 'Premises' is defined in rule as "a house(s), dwelling(s) or building(s) and its adjoining land."

At each annual inspection a thorough evaluation of the entire premises should be made with an obvious emphasis on approved child care space. Non-child care areas that can potentially affect child care space should also be evaluated for sanitation issues. For example, basements and extra bedrooms should be examined for pest harborage, evidence of mold, lead hazards, sewage backup, storage of children's items, etc. Non-child care areas need not be scrutinized to the same extent as approved child care space.

Because of the sensitive nature of this issue, each inspector must utilize discretion. Occasionally there are situations in which evaluating non-child care space extends beyond the scope of work or is not practical for that particular inspection. For example, it is not recommended the inspector evaluate a non-child care bedroom in a Family/Group Home if the provider indicates a family member is sleeping there at the time of inspection and there are no indications of sanitation issues within the bedroom. Document the reason the room was not evaluated during the inspection and proceed with the rest of the inspection. Likewise, the inspection may be limited in scope for multi-use buildings such as schools, strip malls, hospitals, community centers, etc.

If you have questions or are in need of additional guidance concerning inspection of the premises, please contact your DHSS Regional EPHS IV.

## **Urgent and Non-Urgent Special Circumstance Inspection Procedures**

Occasionally there are situations in which a sanitation inspection is needed that do not fit into a routine inspection category. This type of sanitation inspection, an urgent special circumstance inspection, includes emergency situations such as, but not limited to, disease interventions; floods; structural damage; no running water; no electricity; and sewer issues.

In order to be reimbursed for a special circumstance inspection, the Local Public Health Agency (LPHA) Environmental Public Health Specialist (EPHS) must contact the Department of Health and Senior Services (DHSS) program staff for approval before conducting the inspection. These requests are given the highest priority by the Environmental Child Care (ECC) program.

### **Requesting an Urgent Special Circumstance**

1. When requesting an urgent special circumstance, the LPHA should send an email to: [eccprogram.lphas@health.mo.gov](mailto:eccprogram.lphas@health.mo.gov)
2. The email subject line should say: URGENT Request for Special – (LPHA Name). It is important to list the subject line as ‘URGENT’ to avoid any delays.
3. In the body of the email, explain the urgent situation and request that a special circumstance be issued.
4. Call the ECC Program at 573-526-4679 and ask for Breanna to inform her that a request has been sent for an urgent special and approval is needed as soon as possible. If Breanna is not available please ask for the ECC Program Manager. It is very important to call about the special circumstance request after the email is sent to avoid delays.

### **Requesting a Non-Urgent Special Circumstance**

1. When requesting a special circumstance due to a failed re-inspection, the LPHA should send an email to: [eccprogram.lphas@health.mo.gov](mailto:eccprogram.lphas@health.mo.gov)
2. The email subject line should say: Request for Special – (LPHA Name)
3. Include copies of the failed inspection and re-inspection for review.
4. In the body of the email, explain the current situation and why a 2<sup>nd</sup> re-inspection is needed and when the 2<sup>nd</sup> re-inspection will be conducted.

### **ECC Program Response**

The ECC Program will reply to a special circumstance request by one of the following:

1. ECC may issue a special circumstance request to the LPHA to conduct the inspection as soon as possible. This approved inspection would be payable at a rate of \$30 per hour.
2. ECC may issue a special circumstance request to the LPHA with the requirement that a regional EPHS accompany the LPHA on the inspection. This approved inspection would be payable at a rate of \$30 per hour.
3. Depending on the nature of the request; the ECC program reserves the right to conduct the inspection without LPHA accompaniment.

**Billing – Urgent Special Circumstance**

1. Return a copy of the completed urgent special circumstance inspection to the ECC Program within 10 days of completion –
  - Email at [eccprogram.lphas@health.mo.gov](mailto:eccprogram.lphas@health.mo.gov) using the subject line: Completed SC Inspection – (LPHA Name); or
  - Fax (573) 526-7377 Attn: ECC.
2. Include copies of the urgent special circumstance approval with your billing for reimbursement.

**Billing – Non-Urgent Special Circumstance**

1. Return a copy of the completed non-urgent special circumstance inspection to the ECC Program with your monthly billing for reimbursement -
  - Email at [eccprogram.lphas@health.mo.gov](mailto:eccprogram.lphas@health.mo.gov) using the subject line: (Month/Year) Billing – (LPHA Name);
  - Fax (573) 526-7377 Attn: Breanna – Billing; or
  - Mail to: Missouri Department of Health & Senior Services  
Bureau of Environmental Health Services – ECC Program  
PO Box 570  
Jefferson City, MO 65102

## **Reimbursement**

For reimbursement, Local Public Health Agencies shall submit a copy of the inspection reports, a copy of the Request for Inspection, a completed Vendor Request for Payment (DH-38) and a Reimbursement Request for Child Care Sanitation Inspections (DC-38) for each month of the year in which an inspection occurred or was attempted. The Participant shall indicate the invoice number on each Vendor Request for Payment (DH-38) submitted to the Department of Health and Senior Services (DHSS) for payment in the following format: CCSImmyy. The Participant shall submit the completed forms to:

Missouri Department of Health and Senior Services  
Bureau of Environmental Health Services  
930 Wildwood, PO Box 570  
Jefferson City, MO 65102

The Participant may not submit more than one (1) invoice per month and all reimbursement requests shall be submitted within thirty (30) days of the month end date, with the exception of September. Each fiscal year ends on September 30<sup>th</sup> and funding changes at that time. Therefore, September billings must be submitted no later than October 15<sup>th</sup>.

Invoices received after the required deadline may be ineligible for payment. Incomplete invoices received shall be returned to the Participant for completion, which will delay the reimbursement process. Billing/invoicing inquiries should be directed to Breanna Werdehausen, Health Program Representative I/II, Department of Health and Senior Services at (573) 751-2678 or [eccprogram.lphas@health.mo.gov](mailto:eccprogram.lphas@health.mo.gov).

In some instances it may be necessary to conduct an inspection that does not meet the required time frames. Late inspections that do not meet the required times must be accompanied by a "Late Inspection Reimbursement Request" when submitting the request for reimbursement. DHSS has sole discretion when considering payment for late inspections. If a request is denied, the Department will send written notice explaining the reason for denial and the adjusted reimbursement amount.

### Reimbursement Rates (as identified in the Participation Agreement)

**\$120.00** per annual inspection

**\$70.00** per re-inspection

**\$30.00 per hour** for special circumstance inspections. Prior written approval from your DHSS

Environmental Child Care Regional EPHS is required in order to be eligible for reimbursement for a special circumstance inspection.

**\$25.00** when the Section for Child Care Regulation requests an inspection and upon arrival at the facility, it is closed. The appropriate Request for Child Care Inspection and a completed Sanitation Inspection Report indicating the facility was closed must be submitted for payment.

### Reimbursement Rates for Inspections Outside Home County (requires prior approval as identified in the Participation Agreement)

**\$130.00** per annual inspection

**\$80.00** per re-inspection

**\$35.00 per hour** for special circumstance inspections. Prior written approval from your DHSS

Environmental Child Care Regional EPHS is required in order to be eligible for reimbursement for a special circumstance inspection.

**\$30.00** when the Section for Child Care Regulation requests an inspection and upon arrival at the facility, it is closed. The appropriate Request for Child Care Inspection and a completed Sanitation Inspection Report indicating the facility was closed must be submitted for payment.

## Training and Resources

### Websites:

1. [Child Care Sanitation Inspection \(CCSI\) Billing Presentation](#)  
*Provides information on what to include with reimbursement requests and how to complete the forms.*
2. [New Environmental Child Care Tracking Process](#)  
*Provides an overview of the new ECC processes for sanitation inspections.*
3. Section for Child Care Regulation: [www.health.mo.gov/ChildCare/](http://www.health.mo.gov/ChildCare/)  
*Provides general information to the public regarding child care licensing, as well as, licensing rules for regulated child care.*
4. Department of Public Safety's Division of Fire Safety:  
<http://www.dfs.dps.mo.gov/dfsINSPUNIT1.htm>  
*Agency responsible for fire safety inspections of child care facilities.*
5. Centers for Disease Control and Prevention: [www.cdc.gov](http://www.cdc.gov)  
*Provides information and handouts on healthy swimming, diseases, etc.*
6. Environmental Protection Agency: [www.epa.gov](http://www.epa.gov)  
*Provides information on drinking water quality, lead renovation/repair/painting, etc.*

### Acronyms:

BEHS:	Bureau of Environmental Health Services
CACFP:	Child and Adult Care Food Program
CCFS:	Child Care Facility Specialist
DHSS:	Department of Health and Senior Services
ECC:	Environmental Child Care
EHOG:	Environmental Health Operational Guidelines
EPHS:	Environmental Public Health Specialist
LPHA:	Local Public Health Agency
SCCR:	Section for Child Care Regulation

### Resources:

1. Participation Agreement
2. Sanitation Inspection Guidelines for Licensed Group Child Care Homes, Licensed Child Care Center, and License-Exempt Child Care Facilities
3. Sanitation Inspection Guidelines for Family Child Care Homes
4. Memo for new EPHS training
5. Inspection forms
6. Billing forms ([DH 38](#), [DC 38](#), [Late Inspection Reimbursement Request](#))
7. [Informational Release C1-15](#): Guidance on Disinfectant Use in Child Care Facilities
8. Regional Map
9. Educational Handouts
  - Handwashing
  - Safe Food Temperatures

Water Play  
Thermometer Calibration USDA  
Final Cooking Temperatures  
Shigella

## INFORMATION RELEASE NUMBER C1-15

TO: Local Public Health Administrators  
Local Environmental Public Health Specialists  
DHSS Environmental Public Health Specialists

THROUGH: Eric Hueste, Bureau Chief  
Bureau of Environmental Health Services

FROM: Michael Henderson, Assistant Bureau Chief  
Bureau of Environmental Health Services

SUBJECT: Guidance on Disinfectant Use in Child Care Facilities

DATE: September 9, 2015

CONTACT: BEHS District Environmental Public Health Specialist  
Environmental Child Care Program  
[EnvironmentalChildCare@health.mo.gov](mailto:EnvironmentalChildCare@health.mo.gov)  
(573) 751-6095

The Child Care Sanitation Guidelines are based on the Licensing Rules for Group Child Care Homes and Child Care Centers (19 CSR 30-60.010 - .12), Missouri Food Code Sanitation of Food Establishments (19 CSR 20-1.025), Caring for Our Children Health and Safety Guidelines by the American Public Health Association and the American Academy of Pediatrics, Environmental Health Guidelines for Child Care by the National Environmental Health Association, and Individual Sewage Treatment Standards (19 CSR 23-1.010 to 23-31.000 (4), 10 CSR 20-8.023(DNR), Chapter 701 RSMo 1986).

National performance standards for child care facilities have changed in recent years. Caring for Our Children (3<sup>rd</sup> ed.) standard 5.4.2.6 now requires that “changing tables should be non-porous, in good repair, and cleaned and disinfected after each use to remove visible soil and germs” and standard 5.4.1.7 requires that “toilets, non-flushing toilets (potty chairs), and hand sinks shall be cleaned and disinfected after each use.” In addition, the Section for Child Care Regulation licensing rules for Group Homes and Child Care Centers 19 CSR 30-62.182 (1)(E)2 requires that “The diapering table shall be cleaned thoroughly with a disinfectant after each use.”

The Bureau of Environmental Health Services (BEHS) will accept disinfection of diapering tables if discovered during routine annual/renewal inspections. Providers shall follow the manufacturer’s label directions for appropriate use. Local Public Health Agencies (LPHAs) performing annual/renewal sanitation inspections of child care facilities shall ensure that all chemicals being used in the child care facilities are used per manufacturer’s label. Test kits to check proper concentration of the disinfecting agent(s) may not be available or required. LPHAs shall cite any improper storage or use of chemicals within the facility. BEHS will provide additional guidance in upcoming revisions of the EHO and Child Care Sanitation Guidelines.

If you have any questions or are in need of additional guidance or clarification concerning disinfection practices, please contact your BEHS District Environmental Public Health Specialist or the Environmental Child Care Program.

MH:bew



# Stop the Spread of Germs!

# Wash your Hands

1. Wet
2. Wash with soap for 20 seconds
3. Rinse
4. Dry
5. Turn off water with paper towel

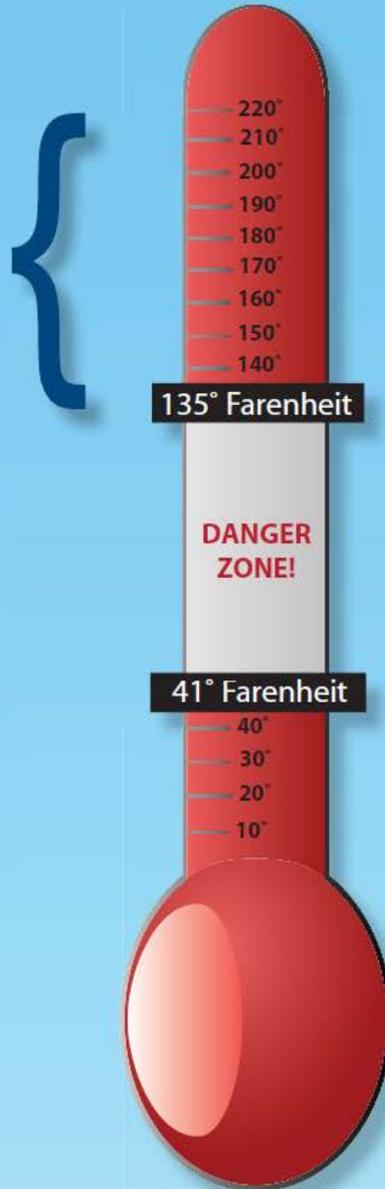


Missouri Department of Health and Senior Services  
866-628-9891 [www.dhss.mo.gov](http://www.dhss.mo.gov)

This health information is part of Missouri's pandemic influenza educational efforts.  
#332

# Safe Food Temperatures

**SAFE**  
hot-hold  
temperatures



**SAFE**  
chilling  
temperatures



[www.dhss.mo.gov/EnvironmentalChildCare/](http://www.dhss.mo.gov/EnvironmentalChildCare/)

# Water Play Table

## Guidelines

Water play tables are great opportunities for children to learn, but they must be carefully maintained to prevent the growth of disease-causing germs that can be found in warm and wet environments.

To ensure water play tables do not spread disease, the following guidelines must be followed:

- Before filling the table: wash, rinse and sanitize the table. Use test strips to ensure the sanitizing solution is adjusted properly (approximately 100 ppm for chlorine solutions).
- The toys should be clean before putting them into the water. It is best if they have been washed, rinsed and sanitized prior to usage.
- Make sure that children wash their hands before and after playing in the water table. Children with cuts or scrapes on their fingers, hands or arms should not participate in water play activities.
- Change water every 30 minutes or maintain a detectable chlorine residual of 1-10 ppm.
- Supervise the children to make sure they do not drink the water.
- Discard the water after play is over. Allow table to dry thoroughly.



# Food Product Thermometer Calibration

A food product thermometer is a useful tool that is required for all food establishments and regulated child care providers.

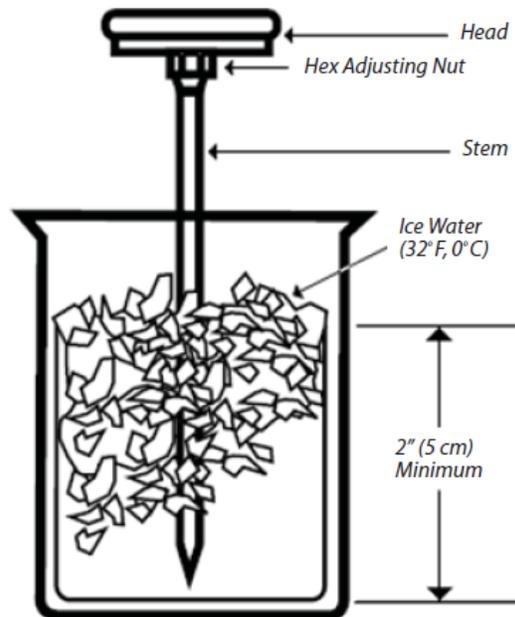
A typical analog food product thermometer is composed of a metal stem and head with a dial. The dial measures from 0-220° Fahrenheit in 2-degree increments to allow accurate measurements for cold-holding, hot-holding, cooking temperatures, hot water and ambient air.

When using a food product thermometer, allow adequate time for the thermometer to adjust to the right temperature, and remember to sanitize the stem between uses.

An important feature of any food product thermometer is that it can be calibrated. Thermometers should be calibrated before initial use, after being dropped and at regular intervals to ensure accuracy.

Most thermometers can be calibrated with the following method using ice water:

1. Fill an insulated cup with crushed ice and water.
2. Immerse the food thermometer stem a minimum of 2 inches into the mixture, touching neither the sides nor the bottom of the glass.
3. Wait 4-5 minutes to allow the temperature to stabilize. It may be necessary to add ice during this process to ensure the solution is maintained at 32° F.
4. Be sure to hold the stem of the instrument away from the bottom and sides of the container to avoid error.
5. If the thermometer is not accurate within +/- 2° F of 32° F, it must be adjusted accordingly.
6. Without removing the stem from the ice, hold the adjusting nut under the head of the thermometer with a suitable tool and turn the head so the dial reads 32° F.



[www.dhss.mo.gov/EnvironmentalChildCare/](http://www.dhss.mo.gov/EnvironmentalChildCare/)

**165°F**

meets or exceeds all required cooking temperatures

NSF

Use a food product thermometer to ensure foods are properly cooked

### Shigellosis: What Is It?

Shigellosis is an infectious disease caused by a group of bacteria called *Shigella*. Every year, about 14,000 cases of shigellosis are reported in the United States. Because many milder cases are not diagnosed or reported, the actual number of infections may be much greater. Shigellosis is particularly common and causes recurrent problems in settings where basic hygiene and handwashing habits are inadequate. It is more common in summer than winter. Children, especially toddlers aged 2 – 4, are the most likely to get shigellosis. Several cases are related to the spread of illness in child care settings, and many are the result of the spread of the illness between family members, caregivers, and playmates.

However, anyone can get shigellosis. Most *Shigella* infections are the result of the bacterium passing from stools usually via inadequately washed hands of one person to the mouth of another person. *Shigella* bacteria are present in the diarrheal stools of infected persons and can generally be excreted in feces for one (1) to four (4) weeks, in person without treatment. *Shigella* infections may also be acquired from eating contaminated food; drinking contaminated water; or swimming/playing in contaminated water, such as splash tables, untreated wading pools, or shallow play fountains used in child care settings.

Most individuals who are infected with *Shigella* develop diarrhea, headache, dehydration, fever, cramps, and mucous and blood in the stool which usually resolves in five (5) to seven (7) days. Some persons who are infected may have no symptoms at all, but may still pass the *Shigella* bacteria to others. Antibiotics are sometimes used to treat severe cases or to shorten the duration of the illness. A physician should determine the best method of treatment for a *Shigella* infection.

Currently, there is no vaccine to prevent shigellosis. However, the spread of *Shigella* from an infected person to others can be stopped by frequent and thorough handwashing with soap and warm running water after using the bathroom; changing diapers; and before preparing food, beverages; or caring for children or patients. In addition, implementing the following general control measures can further reduce and/or eliminate the spread of shigellosis:

- Supervise handwashing of toddlers and small children after they use the toilet.
- Dispose of soiled diapers in a covered diaper container.
- Wash, rinse, and sanitize and/or disinfect diaper changing areas after use.
- Keep children with diarrhea out of child care settings.
- Exclude persons ill with diarrhea from food handling. These individuals shall not prepare food or drinks for others or provide care or services to children or patients that pose significant risk of transmission until diarrhea ceases and appropriate medical documentation is provided showing the person is free of *Shigella* infection based on test results.
- Avoid swallowing water from ponds, lakes, or untreated pools.
- Refrain from recreational water venues (e.g. swimming pools, water parks) for one (1) week after symptoms resolve.

Due to the potential for rapid spread in the child care setting, additional precautions are recommended when shigellosis is diagnosed in an attendee or employee of a child care facility. *Shigella* outbreaks involving groups of young children, especially those who are not yet toilet trained, can be difficult to

control. The following procedures incorporate glove use as an additional barrier and heightened awareness to reduce the likelihood of contamination of hands and environment.

#### Diapering Procedures:

- Collect all necessary supplies. Put on a clean pair of single-use, tight fitting gloves.
- Handle the child and clothing to prevent contamination.
- Remove soiled diaper and clean child. (Remember children cannot be left unattended while on the diapering table).
- Remove gloves by inverting each glove one-at-a-time over the bundled diaper, containing the soiled wipes. Discard in a diaper pail.
- Place a clean diaper on the child and then put the outer clothing back on the child.
- Immediately wash your hands and the child's hands, using soap and warm running water. Return the child to a supervised area.
- Clean the diapering surface and any other contaminated surfaces using soapy water and disposable towels.
- Remove soap residue with clear water.
- Sanitize and/or disinfect the contaminated areas with an approved sanitizing or disinfecting solution and allow surface to air dry.
- Wash your hands before returning to other duties.

#### Cleaning Procedures:

- Collect all necessary supplies. Put on a clean pair of single-use, tight fitting gloves.
- Remove as much bodily fluids as possible using disposable towels.
- Clean with your preferred cleaning agent.
- Rinse with plain water.
- Disinfect affected area. Using a more powerful disinfectant instead of a sanitizer in these instances is recommended due to the nature of the accident. A disinfectant must be used according to the manufacturer's instructions.
- Remove gloves and dispose of gloves and other used materials in a sealed plastic trash bag. Place the trash bag a covered trash receptacle outside of child care space.
- Wash your hands using soap and warm running water.
- Allow the affected surface to air dry, restricting children's access to the area in the interim if possible. Children should not have contact with areas that remain wet from a disinfectant.

#### Supervision:

- Ensure appropriate staff are familiar with proper handwashing procedures, diapering procedures, and illness policies. Ensure staff are trained on how to respond to accidents involving diarrhea and vomit.
- Increase surveillance within the child care facility to identify others with diarrheal illness.
- Eliminate access to water-play areas.

#### Attendance:

- Children and child care staff with diarrhea should be excluded from day care until they are well. Shigellosis is transmitted easily and can be severe, so all symptomatic persons (employees and children) should be excluded from the child care setting in which *Shigella* infection has been identified, until diarrhea has ceased for 24 hours; and one (1) stool culture is free of *Shigella*. Samples should not be obtained earlier than 48 hours after discontinuation of antibiotics.
- Because *Shigella* can spread most quickly as a foodborne illness, excluded food employees should be reinstated only with written medical documentation showing the food employee is free of *Shigella* infection based on test results showing two (2) consecutive negative stool cultures that are taken at least 24 hours after diarrhea ceases.
- Symptomatic employees, children, and family members should seek medical attention. Antibiotics are sometimes used to treat severe cases or to shorten the time during which the germ can be spread. A physician will determine the best method of treatment for a *Shigella* infection.
- Child care facilities should avoid new admissions when *Shigella* infections have been identified and transmission has been epidemiologically linked to the facility.

#### Employee Assignments:

- Emphasize handwashing. Because good hand hygiene is the best preventive measure, supervised handwashing after visiting the bathroom and before eating is necessary for all children. Verify all child care staff are familiar with handwashing requirements. Waterless hand sanitizers may also be helpful as an adjunct to washing hands with soap.
- Surfaces and objects should be decontaminated regularly; daily during an outbreak of shigellosis. Utilize the wash, rinse, and sanitize or disinfect procedure to ensure surfaces are free of contamination.
- Staff changing diapers should incorporate the use of disposable gloves into the diapering process.
- Staff preparing food should refrain from changing diapers or assisting children in using the toilet.
- Staff preparing food should not handle ready-to-eat foods with their bare hands.

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## **Private Drinking Water Supply Introduction**

The Department ensures public health for the citizens and guests of the state of Missouri by providing information regarding private water and private water supplies as well as private water testing to homeowners and local public health agencies (LPHAs).

The Department offers technical assistance to homeowners and LPHAs regarding water sample results, health issues and water treatment, and regulates private water supplies of lodging, child care, and food establishments and other facilities under the jurisdiction of the Department. Water testing of these establishments is performed on a regular schedule to ensure these water supplies meet drinking water standards for safe water.

Sampling of private and non-community water supplies is an essential part of routine inspections, complaint response, and illness investigations.

Program authority can be found in:

- 19 CSR 20-3.040 Environmental Health Standards for the Control of Communicable Diseases;
- 19 CSR 20-3.050 Sanitation and Safety Standards for Lodging Establishments;
- 19 CSR 20.1.025 Missouri Food Code;
- Sanitation Inspection Guidelines for Licensed Group Child Care Homes, Licensed Child Care Centers and License-Exempt Child Care Facilities;
- Sanitation Inspection Guidelines for Family Child Care Homes; and
- Chapters 210, 192, and 196 RSMo.

### **Water Quality**

The U.S. Environmental Protection Agency (EPA) maintains agreements with the Missouri Department of Natural Resources (DNR) in order for DNR to provide regulatory oversight of public drinking water quality in Missouri. DNR maintains regulatory oversight of private well construction as well, but does not regulate private drinking water quality.

The EPA has established and maintains a list of drinking water contaminants and a corresponding Maximum Contaminant Level (MCL). The list is divided into primary and secondary standards. The primary standards include contaminants with substantial public health risks; these maximum contaminant levels are enforceable standards that apply to public drinking water systems. Secondary standards are non-enforceable guidelines that regulate contaminants that may have adverse cosmetic or aesthetic effects. EPA recommends compliance with both sets of standards, but only enforces the primary standards. DNR and DHSS utilize EPA's maximum contaminant levels as well as risk assessments to evaluate drinking water risks to individuals and the public. DHSS-regulated facilities that operate public or private drinking water sources that exceed EPA's primary drinking water Maximum Contaminate Levels are required to take appropriate actions in order to meet EPA standards. EPA primary and secondary standards can be found at <http://water.epa.gov/drink/contaminants/index.cfm>.

## Requirements for Operating Regulated Establishments

Water supplies that serve regulated establishments must provide safe drinking water. Bacteriological, chemical and radiological contaminants must be within levels acceptable to the administrative authority. Supplies deemed unsafe by the Department of Health and Senior Services (DHSS) must not be used as a potable water supply.

Private water supplies are regulated under the jurisdiction of DHSS and must be constructed and located according to the “Missouri Well Construction Rules,” 10 CSR 23-3.010 through 10 CSR 23-3.110 with the following above ground construction components verified by inspection:

1. Well casing must extend a minimum of twelve (12”) inches above grade; and
2. The top of the well casing must be free of openings, which may allow the entry of contaminants.

Private water supplies that are determined by the administrative authority to be potentially influenced by surface water or shallow groundwater (i.e. springs, bored and dug wells) must be equipped with a treatment system that includes:

1. Microfiltration using a filter with a one (1) micron absolute or smaller pore size; and
2. Chlorinator. New and existing chlorinators shall comply with the following:
  - A. Be a positive feed liquid chlorinator with a thirty (30) minute retention time based on pump capacity; and
  - B. Maintain a free available chlorine residual of no less than five tenths (0.5) and no greater than four (4) parts per million (ppm).

A minimum thirty (30) minute retention time can be accomplished in one of two ways:

1. Determine the gallons per minute for the well pump and multiply this figure by thirty (30) to calculate the minimum size for the pressure tank; or
2. Install a flow reducer upstream from the pressure tank to restrict the gallons per minute into the pressure tank to allow for thirty (30) minute retention.

Ultraviolet light treatment is not an acceptable method of disinfection because there is no measurable residual to counteract possible contamination in the system and treatment can be greatly diminished due to turbidity, scale formation on the treatment column, and age of the UV light source.

New and existing treatment equipment for private water supplies, necessary to provide a safe drinking water supply, shall be installed, maintained and operated according to manufacturer’s specifications and DHSS requirements. Equipment, approved by the administrative authority, must be available to test the treatment system.

Community and non-community public water supplies must be in compliance with the current “Missouri Safe Drinking Water Act,” “Safe Drinking Water Commission Rules,” “The Water Well Drillers’ Act,” and “Missouri Well Construction Rules.” Non-community water supplies must have a valid Missouri Department of Natural Resources (DNR) permit to dispense water. A current copy of the DNR permit must be available for review by the administrative authority.

### Testing mandated by DHSS or DNR

Non-community public water and private water supplies must be in compliance with all applicable testing mandated by DHSS or DNR.

1. During each inspection, but no less than annually, a bacteriological water sample must be collected, by the administrative authority, and analyzed for the presence of coliform bacteria.
2. A nitrate sample shall be collected when deemed necessary by the administrative authority and at least annually when a chlorinator is present. Wells exceeding nitrate levels of ten (10) ppm must not be used for drinking water; a permanent alternative water supply must be provided.
3. Any water supply may be sampled by the administrative authority and tested for chemical or other contaminants whenever the administrative authority believes there is a need for such tests.

Private water supplies with chlorinators installed because of unsafe water samples shall:

1. Have a nitrate analysis conducted prior to installing a chlorinator and annually thereafter;
2. Provide two consecutive bacteriological sampling results, collected by the administrative authority a minimum of five (5) days apart, that are absent for total coliform and/or *E. coli*;
3. Be tested by the administrative authority for appropriate chlorine concentrations at the time of each routine inspection; and
4. Be tested weekly, by the owner/operator, for appropriate chlorine concentrations. Results should be maintained in a log.
5. If bacteriological sampling results continue to indicate the presence of total coliform the well may be deemed unsafe by DHSS.

#### Interpretation of Bacteriological Testing Results – Total Coliform

The presence of total coliform in a water sample means the system may be vulnerable to contamination and the result is unsatisfactory.

In response to a total coliform positive drinking water sample, the Administrative Authority shall:

1. Notify the owner/operator and issue a Boil Water Order or Boil Water Notice/Advisory within twenty four (24) hours of the sampling result.
2. Prescribe any corrective measures necessary. Special guidance on water usage for facilities serving highly susceptible populations may be provided.
3. Notify the appropriate Regional DNR office within twenty four (24) hours for non-community public systems.
4. Take subsequent water samples once the system has been disinfected and chlorine is no longer present in the system.
5. Follow Boil Order procedures within this chapter.

In response to a total coliform positive drinking water sample, the Owner/Operator shall:

1. Follow DHSS guidelines on disinfecting the well and distribution system.
2. Follow any corrective measures given by the administrative authority.
3. Follow Boil Order procedures within this chapter.
4. Contact the administrative authority to sample the system after disinfection.

Facilities with a chronic history of unsatisfactory sample results shall be required to implement permanent corrective measures acceptable to DHSS.

#### Interpretation of Bacteriological Testing Results – *E. coli*

The presence of *E. coli* in a water sample means there may be pathogenic fecal organisms in the system and the result is unsatisfactory.

In response to an *E. coli* positive drinking water sample, the Administrative Authority shall:

1. Notify the owner/operator and issue a Boil Water Order or Boil Water Notice/Advisory effective immediately.
2. Prescribe any corrective measures necessary. Special guidance on water usage for facilities serving highly susceptible populations may be provided.
3. Notify the appropriate Regional DNR office immediately for non-community public systems.
4. Take subsequent water samples once the system has been disinfected and chlorine is no longer present in the system.
5. Follow Boil Order procedures within this chapter.

In response to an *E. coli* positive drinking water sample, the Owner/Operator shall:

1. Follow DHSS guidelines on disinfecting the well and distribution system.
2. Follow any corrective measures given by the administrative authority.
3. Follow Boil Order procedures within this chapter.
4. Contact the administrative authority to sample the system after disinfection.

If two (2) water samples, collected by the administrative authority within a twelve (12) month period, separated by at least thirty (30) days, are *E. coli* positive, the well shall be deemed unsafe by DHSS, unless immediate corrective actions can be taken to provide safe drinking water. These corrective actions must be approved by the DHSS.

#### Boil Orders

Boil Orders may be issued by DHSS and/or DNR for the following reasons:

1. Microbiological contamination - the imminent threat of or the presence of total or fecal coliform in a water supply as indicated by unsatisfactory bacteriological analyses and/or epidemiologic association of the water with human illness.

*DNR will begin implementing the Revised Total Coliform Rule (RTCR) effective April 1, 2016. This rule significantly changes the manner in which DNR will respond to unsatisfactory water sample results on public water systems. Specifically the RTCR states the presence of total coliform is not, in and of itself, a health hazard but rather an indication of a sanitary defect in the water system. Therefore DNR will no longer issue a boil water order for the presence of total coliform, but will conduct a series of water system assessments in an effort to identify the source or cause of contamination. More information on the rule and adoption by DNR can be found at: <http://dnr.mo.gov/env/wpp/rules/wpp-rule-dev.htm>.*

2. Low water pressure - pressure below 20 psi in any part of the system signals the existence of conditions that could allow contamination of the water supply through backflow.
3. Turbidity - in excess of 5 turbidity units in any one confirmed unit interferes with the disinfection process.
4. Other physical findings - which indicate imminent potential for bacteriological contamination of the water system.

Water purveyors may issue a Boil Water Advisory. These advisories shall be considered to be the same as a boil order issued by DHSS/DNR and the same procedures shall be followed. The Bureau of Environmental Health Services will be available for consultation and technical advice, if necessary.

Under DNR's internal policy, the affected DNR regional office will contact the appropriate DHSS Food Program staff and they will then email the Local Public Health Agency (LPHA) staff and cc: the Regional staff, whenever a boil order or limit use order is issued or lifted.

LPHAs should contact all water purveyors in their jurisdiction to assure they are contacted when advisories are issued.

The LPHA should contact the water purveyors that issued the boil order/boil advisory or limited use order to determine if all regulated establishments have been notified.

LPHAs should develop a process to advise regulated establishments and others, of the best options available. Spot checks should be conducted to ensure compliance. This can be done before or during a boil order.

#### Procedures for Treating Water during a Boil Order

When a boil order is issued, water may be used for potable uses after treatment by boiling or disinfection.

1. Boiling - boil water vigorously for three (3) minutes prior to use for cooking and drinking.
2. Disinfection - water that has been chlorinated, retained for thirty (30) minutes and tested to assure a residual of one half (0.5) to four (4) parts per million free available chlorine.

End of line chlorinators are prohibited from use to address water disinfection, unless specifically approved by DHSS on a case-by-case basis.

#### Boil Order/Advisory Procedures for Food Establishments.

The owner/operator shall:

1. Voluntary cease operations until the water has been declared acceptable by DNR or DHSS; or
2. Obtain an alternate supply of potable water and/or ice (as described above,) plus satisfactory methods for handwashing, food preparation, equipment cleaning, and sanitation.
  - A. Handwashing (Food handlers and/or Public)
    - (1) Standard handwashing policies should be implemented; followed by applying an approved hand sanitizer (hand antiseptic) to clean hands.
    - (2) Use potable water from an approved alternative source.
  - B. Food Preparation
    - (1) Produce
      - (A) Use pre-washed packaged produce.
      - (B) Use produce washed prior to boil or limit use order.
      - (C) Use frozen/canned produce.
      - (D) Wash fresh product with potable water from an approved alternative source.
    - (2) Preparation and cooking requiring water, including and reconstitution of liquid concentrates and dried foods
      - (A) Use only food that was prepared prior to the boil or limit use order.
      - (B) Discontinue sale of prepared foods requiring water.
      - (C) Obtain prepared foods from alternate source (i.e. local deli or caterer).
      - (D) Use potable water from approved alternative source.
  - C. Carbonated and other beverages

- (1) Substitute with bottled or canned beverages and turn off water lines to beverage dispensers. Such dispensers shall be completely flushed and sanitized before being returned to service after the boil or limit use order has been lifted.
  - (2) Use potable water from alternate approved source.
  - (3) Coffee machines that are directly connected to the water system can be used if the water reaches a boiling temperature for one (1) minute. Otherwise, bottled water from an approved alternative source or other previously boiled water must be used.
- D. Utensils and food contact equipment
- (1) A properly operated manual dishwashing arrangement or properly operating and maintained mechanical temperature or chemical dishwashing machine should be satisfactory for sanitizing utensils.
  - (2) Use only single-service tableware and kitchenware.
  - (3) Take items to commissary for cleaning.
  - (4) Use water from alternate approved source.
  - (5) Use waterless cleaning or non-potable water for floors and other non-food contact surfaces.
  - (6) Store food dispensing utensils in the food products.
- E. Garbage grinders - no change
- F. Toilets - no change, if water pressure is available
- (1) If no water pressure is available, use adjacent facilities if possible or provide chemical toilets (e.g. porta-johns)

Boil Order/Advisory Procedures for Lodging Establishments:

The operator shall:

1. Notify lodging establishment guests, verbally and again, by written notice prominently placed in each rented guest room that the plumbed water is not potable and only potable water should be used for drinking and/or brushing of teeth. Additional restrictions for water use may be required by the DHSS;
2. Discard ice that may have been made from or exposed to contaminated water; and
3. Obtain a temporary, alternate supply of potable water using one of the following practices:
  - A. Individual containers of commercially bottled water must be placed in each rented guest room and provide additional bottled water upon request;
  - B. Bulk water containers acceptable to DHSS and which are filled from a source acceptable to the DHSS or DNR may be used. Such water shall be treated with an appropriate concentration of residual disinfectant of 0.5-4.0 ppm chlorine to effectively counteract potential contamination that may be introduced between the filling of the container(s) and the dispensing of the water. This water shall be transported and handled in a safe and sanitary manner, which prevents contamination; or
  - C. Other methods approved by DHSS or DNR.

If the owner/operator refuses or fails to follow either option referenced above, notification with detailed information shall be made to the DHSS regional staff, which in turn will notify Central Office. DHSS regional staff will evaluate the situation for enforcement actions.

Lifting of Boil Order

When DHSS identifies the water supply may have been contaminated as a result from a minor repair in the system or other incident, DHSS can conclude that permanent measures are not required. In these cases, if the owner/operator disinfects the well and distribution system producing satisfactory sampling results in

two (2) subsequent water samples taken at least five (5) days apart, DHSS can lift the Boil Water Order with no further measures required by the owner/operator.

When permanent measures are required to provide a safe drinking water supply, the owner/operator must comply with one of the options below and produce satisfactory sampling results in two (2) subsequent water samples taken at least five (5) days apart before DHSS will lift a Boil Water Order on private water supplies. The owner/operator shall:

1. Provide permanent corrective measure(s) as authorized by DHSS;
2. Provide a chlorinator that complies with DHSS requirements; or
3. Provide an alternate connection to an adjacent plumbing source of water acceptable to the DHSS and/or DNR, which is protected from contamination and capable of supplying a sufficient quantity of water.

#### After a Boil Order is Lifted

1. Flush the building water lines and clean faucet screens, water line strainers on mechanical dishwashing machines etc.
2. Purge all water using fixtures and appliances, such as ice machines, beverage makers, produce and seafood misting devices, hot water heaters etc. Clean and sanitize all fixtures, sinks and equipment connected to waterlines.
3. Follow the manufacturer's recommended procedures for:
  - A. Disinfecting water softeners, prior to putting back on line;
  - B. Disinfecting filters or replacing media in small filters on ice machines, water treatment systems, beverage vending machines; and
  - C. Replacing carbon filters or carbon media in filters.

#### Limit Use Orders

Limit Use Orders may be issued by the DHSS and/or DNR for the following reasons:

1. Chemical or radiological contamination - exceeding or the expectation of exceeding the maximum contamination level (MCL) of any constituent as identified in DNR rule 10 CSR 60-4.010 that may pose an acute risk to human health and/or epidemiologic association of the water with human illness.
2. Other physical findings - which indicate imminent potential for chemical and/or radiological contamination of the water system.

#### Procedures for Treating Water during a Limit Use Order

Because of different characteristics of the various potential contaminants, direction will need to be obtained from DHSS or DNR.

#### Lifting of Limit Use Order

For public and/or private water supplies, the owner/operator shall comply with one of the following permanent corrections:

1. Provide an alternate connection to an adjacent plumbing source of water acceptable to the DHSS and/or DNR, which is protected from contamination and capable of supplying a sufficient quantity of water; or

2. Provide other permanent corrective measures that provide a safe water supply, as approved by the DHSS.

## Well Supply Types

Per 10 CSR 23-1.030, Types of Wells, there are three main categories of wells that supply water for human consumption. Definitions of these wells are based on construction standards established by the Department of Natural Resources (DNR). As a rule, public water system wells have more strict construction standards, more depth, casing, and grout, than do domestic or multi-family wells. Domestic wells and multi-family wells are considered private water supplies.

A Public Water System is defined as a system with at least fifteen (15) service connections or regularly serves an average of at least twenty-five (25) individuals daily at least sixty (60) days out of the year. This system includes any collection, treatment, storage or distribution facilities used in connection with the system.

A public water system is either a community water system, transient non-community water system or non-transient non-community water system. Any community or non-community public water supply well must be constructed according to Missouri Public Drinking Water rules.

A Community Water System is defined as a public water system which serves at least fifteen (15) service connections or regularly serves an average of at least twenty-five (25) residents on a year-round basis.

A Transient Non-community Water System is defined as a public water system that is not a community water system which has at least fifteen (15) service connections or regularly serves an average of at least twenty-five (25) individuals daily on a year-round basis.

A Non-transient Non-community Water System is defined as a public water system that is not a community water system, which has at least fifteen (15) service connections or regularly serves an average of at least twenty-five (25) individuals daily at least sixty (60) days of the year.

A Domestic Well is defined as a private water supply well that is constructed to meet minimum standards and is equipped with a pump that does not have the capacity to produce more than seventy (70) gallons of water per minute and services three (3) or less service connections.

A private domestic water supply well that produces less than seventy (70) gallons of water per minute regardless of the use is a domestic well.

A Multiple Family Well is defined as a private water supply well constructed for the purpose of serving more than three (3) dwellings, but having less than fifteen (15) service connections and serving less than twenty-five (25) individuals daily at least sixty (60) days out of the year.

The majority of water samples taken from regulated establishments by the Department of Health and Senior Services (DHSS) will be non-community and private water systems. Remember, DNR regulates the construction of wells; DHSS regulates the water quality of the inspected establishments using the well.

## Well Construction

There are five different well construction types or categories listed on the official drinking water form (lab 10G): drilled, driven, spring, bored, and dug.

A drilled well, the most common type of private drinking water well in Missouri, is constructed by using a type of percussion tool or a drill (rotary) bit. During the drilling process, steel or plastic casing is installed to prevent the collapse of the borehole. The depth of the casing in the well will depend on the depth of the well and the different types of formations encountered during the drilling process. The space between the casing and the sidewalls are filled with either a cement or bentonite grout to prevent contamination of the well. Contamination can occur when water moves vertically along the casing. This construction method is commonly used when drilling through bedrock and/or reaching several hundred feet.

A driven well is constructed by driving a screened well point attached to small diameter segmented pipe into sand or gravel bearing formations. This type of well may be driven or jetted until a water-bearing stratum is reached. They are typically very shallow, twenty-five feet (25') or less, and easily contaminated (see Figure 1).

Springs are formed when groundwater surfaces above ground naturally. A spring is developed by using a watertight box usually constructed of concrete, and a tight fitting lid with a lip that will hang over the box to prevent the entrance of any contaminants. The spring box is set in the line of flow at least three feet (3') into the ground. Depending on the type of spring, tile or pipe may be required to collect the water and transfer it to the spring box. In some instances (low area springs), the spring box may serve as the collection point. The spring box will have an outlet pipe, a screened overflow pipe, and a drain to clean the box when needed. Springs are not a recommended source for drinking water because they are easily and often contaminated (see Figure 2).

A bored well is constructed by using a rotating auger or bucket to bore into unconsolidated material such as sand, clay or silt. Their diameter ranges from two (2') to four feet (4') and they are typically no more than 50 feet (50') deep. Bored wells are usually lined with a concrete casing, which is lowered down the hole in segments. This type of well is shallow and easily contaminated if not sealed properly (see Figure 3).

Dug wells are constructed by using a shovel or a backhoe. The hole is dug into the groundwater table until the flow of water is greater than the bailing rate. Watertight casing is installed to prevent the well from collapsing and from becoming contaminated. The diameter of the well can be anywhere from three (3') to six feet (6') and the depth usually ranges from ten (10) to thirty feet (30'). The risk of contamination is very high because these types of wells are extremely shallow (see Figure 3).

### Above Ground Well Construction (See Figure 4)

Newly drilled wells in Missouri are required to extend the casing at least twelve inches (12") above grade and seal with a sanitary well cap to prevent surface contamination. The ground surface should be sloped away from the well to keep water from pooling around the well casing and the vent should be screened to keep rodents and insects out. If the well is subject to flooding, it is then required to extend the casing twenty-four inches (24") above ground to prevent floodwater contamination. Existing wells with the casing below grade are required to extend the casing above grade.

An above ground well inspection should be done on a yearly basis, usually during any routine inspection of a regulated establishment or any other time water samples are collected.

Guidelines for above ground inspection of wells:

1. Check well cap and casing for any visible signs of damage, cracking or tampering. Older wells may show signs of corrosion and deterioration. The well cap should be firmly attached to the casing.
2. Observe that the ground surface is graded to drain water away from wellhead. Look for any evidence that water has been pooling around well.
3. Check the space between the well hole and the well casing, this is known as the annular seal, if sealant has shrunk, this could provide a pathway for surface waters to flow downward.
4. Check to see that the vent pipe is elbowed downward and the opening covered with a mesh screen.
5. Assure unprotected openings are sealed. In above ground connections, the electric wire hole, the drop pipe hole and the vent pipe hole may not be adequately sealed, therefore, silicon caulking may be used to caulk around holes.
6. Assure separation distances from common sources of contamination are maintained.

## Bacteriological Analysis

The Missouri State Public Health Laboratory (MSPHL) can test for three different types of bacteria in private water samples. Routine samples are tested for coliform and *E. coli* bacteria. Testing for iron bacteria is available by special request. These methods are found in the latest edition of the American Public Health Association's *Standard Methods for the Examination of Water and Wastewater*, and comply with the U.S. Environmental Protection Agency (EPA) and Missouri Department of Health and Senior Services (DHSS) standards for drinking water.

**Coliform bacteria** occur naturally in soil, on vegetation, and in surface waters such as lakes or streams. They also can be found in the intestines of humans and other animals. The majority of coliform bacteria is not harmful and is used as an "indicator bacteria" in drinking water. If present, contamination of the water has occurred and other disease causing bacteria may also be present in the water supply.

*Escherichia coli* (*E. coli*) is a member of the coliform group of bacteria and is found only in humans and other warm-blooded animals. *E. coli* in drinking water indicates that it has been recently contaminated with human or animal wastes.

**Iron bacteria** occur naturally in soil and derive its energy by oxidizing iron, manganese or aluminum. This oxidizing process creates a reddish-brown slime which over time can build up clogging screens, well pumps, faucets, pipes, and tanks. Although iron bacteria are not harmful, it can produce an unpleasant taste and odor.

When testing for these bacteria, the MSPHL tests for presence/absence only, not a specific count. Other tests for specific waterborne pathogens may be available upon request. Contact your Regional EPHS V.

### Bacteriological Forms

The traditional sample information "card" has been replaced by the Environmental Sample Collection Form. Changes to the form include the following:

1. Form size is expanded to a single 8 1/2" x 11" sheet of paper. The form is no longer in a triplicate carbon copy format. You may choose to photocopy for your records if you prefer.
2. The form is printed by the Laboratory Information Management System and will be pre-populated with your agency name and address. When you request sampling kits from the laboratory, staff will ask you to verify this information so that sampling forms are printed accurately. Blank forms will be available from LPHAs for use by the general public.
3. The form requires all requested information to be printed by the collector. There are no longer check boxes. See Sample Collection Instructions for details on options for completing specific lines on the form.
4. There are no longer different forms for "Official" or "Unofficial" samples. Historically, an "official" sample was collected by a state or local public health agency staff person, or someone licensed by DHSS to inspect water systems and collect samples. "Unofficial" samples were those collected by the general public. These designations no longer have any significance to public health. Lending institutions or other agencies requiring an "official" sample designation will have to use the submitter's information from the test results report to determine if the sample meets their requirements for acceptability.

Beginning December 16, 2015, please discard or recycle all old forms and request new forms from the MSPHL Central Services Unit at 573-751-4830.

### **Bacteriological Water Sampling Procedures**

Before you begin, wash your hands thoroughly before handling supplies. Assemble all of the sampling supplies. The sample should be taken from a clean, smooth-nosed cold water faucet if possible. Recommended locations include hose bibs located on the house foundation wall or a faucet near the pressure tank inside the house. Avoid drinking fountains, leaky faucets, hot/cold mixing faucets and frost-proof yard hydrants since it is not practical to sterilize these fixtures. If possible, remove any aerators, strainers or hoses that are present because they may harbor bacteria. Follow the procedures below when collecting the sample:

1. Open the cold water tap for approximately three (3) minutes before collecting the sample. This should adequately flush the water line of any debris.
2. Chemically disinfect the tap by thoroughly rinsing both the inside and outside of the tap with a 100 ppm solution hypochlorite (bleach NaOCl). If tap cleanliness is questionable, provision should be made to allow the bleach solution to remain in contact with the tap for up to fifteen (15) minutes or to increase the strength of the solution to ensure adequate disinfection.
3. Flush the tap for an additional three (3) minutes with cold water and then reduce to a gentle flow to permit filling the bottle without splashing.
4. Remove the plastic shrink wrap seal by pulling down on the red strip and peeling the shrink wrap from both the cap and bottle. Discard the shrink wrap. Do not attempt to reseal the lid with shrink wrap still attached.
5. Grasp cap along top edge and remove carefully. Do not touch the inside with your fingers. Hold the bottle in one hand and the cap in the other. Do not lay the cap down or put it in your pocket. Also, take care not to contaminate the sterile bottle or cap with your fingers or permit the faucet to touch the inside of the bottle.
6. Hold the bottle so that water entering the bottle will not come in contact with your hands or the outside of the bottle.
7. Fill the bottle until the water sample level is between the two lines on the bottle (100-120 ml). Preferably, the sample level should be at or just slightly above the 100 ml line. Sample levels below the 100 ml (lower) line will not be tested due to insufficient sample volume. Sample levels above the 120 ml (upper) line will not be tested due to overfilled bottle. If the bottle is overfilled, you may pour of any excess water to get the sample level between the two lines. Place the cap on the bottle and screw it down tightly.

8. Fill out the Missouri Department of Health and Senior Services, State Public Health Lab, Environmental Sample Collection Form using waterproof ink.
9. For single samples, neatly fold the sample collection form into thirds, roll around the bottle and place in the shipping box. For multiple samples, fold the forms once or more as needed and place in the shipping box alongside the samples. If needed, use bubble pack or folder paper to fill space. Do not use shredded paper. Seal the box with a single strip of shipping tape and affix the return address label to the top of the box.
10. Payment for testing must be included with the sample. Enclose check or money order made out to DHSS (no cash please) in the payment envelope included in the test kit. Seal the envelope and place in box with the sample bottle and collection form. The sample will not be tested if payment is not included. Only the following facilities are exempt from paying the fee: State and local government entities (city/county health agencies), WIC assisted households, foster homes, head start/day care facilities and USDA inspected meat processing facilities. Enter your facility type in the No Charge Justification section of the Environmental Sample Collection form.

### **Shipping Instructions**

Private water samples must be received by the laboratory and tested within 48 hours of the date and time of collection. The MSPHL recommends you use the free DHSS contract courier for overnight delivery to the MSPHL. This courier picks up at most local public health agency office and hospitals (Note: Not all hospitals will accept water samples for courier pick up). For sample drop locations and times, please go to [www.health.mo.gov/lab/courierservices.php](http://www.health.mo.gov/lab/courierservices.php) and click on the interactive map or the listing of drop off locations by county; or you may call the MSPHL courier liaison at (573) 751-4830.

Please note the courier is allowed to pick up samples within one hour of the scheduled time (before or after). The earliest pick up time is at 10:30 a.m. To ensure your samples meet the transit time requirement of 48 hours, it is important that you collect your samples in the morning and have them dropped off at the courier pickup point one hour prior to the scheduled time.

Use of the U.S. Postal Service or other commercial carriers such as FedEx or UPS will require additional charges and may not meet the 48 hour transit time requirement.

Samples should not be en route to the laboratory over a weekend or state holiday. Sample results will be mailed within two to three business days of receipt of the sample.

For frequent clients of the MSPHL, sample results are also available immediately upon completion of testing through the MSPHL's new on-line web portal. This web portal allows MSPHL clients to check the status of samples, print final reports and export data to spreadsheets for analysis. This portal will also allow clients to receive emails when their samples are received in the laboratory, and when their sample

results are available on-line. Please contact MSPHL LIMS Administrator at (573) 751-3334 for instructions on how to request access to the web portal.

### **Explanation of Results**

If the sample tested for coliform and *E. coli* is **absent**, then the water is considered SATISFACTORY for drinking. If the sample tested is **present** for coliform and/or *E. coli*, the water is considered UNSATISFACTORY for drinking. The presence of either or both bacteria would indicate that contamination has occurred in the well.

When samples are UNSATISFACTORY, discontinue use of the water for drinking and food preparation until the well has been disinfected and two consecutive samples are determined to be SATISFACTORY (See subsection 7.7 Disinfection of Wells and Springs).

If the report states UNSATISFACTORY FOR TESTING, then one or more of the following situations may have occurred:

1. Sample was collected in an improper container.
2. Maximum hold time was exceeded.
3. Detectable chlorine was present.
4. Insufficient sample quantity.
5. Sample bottle was overfilled.
6. Inaccurate or incomplete information on form.
7. Sample collected from a source other than a drinking water supply.
8. Sample froze in transit.
9. Sample leaked in transit.

The above guidelines for filling out the LAB 10G form, collecting, and shipping the water sample should be followed to ensure that the sample will be accepted for testing.



## SAMPLE COLLECTION INSTRUCTIONS

PRIVATE DRINKING WATER for COLIFORM and E. COLI BACTERIA ANALYSIS



This sample kit and collection method is for private drinking water samples for bacterial analysis. Only samples collected in bottles supplied by the Missouri State Public Health Laboratory (MSPHL) and collected in accordance with these instructions will be accepted for testing. **PLEASE READ THESE INSTRUCTIONS COMPLETELY BEFORE COLLECTING SAMPLES.**

**Sample Containers:**

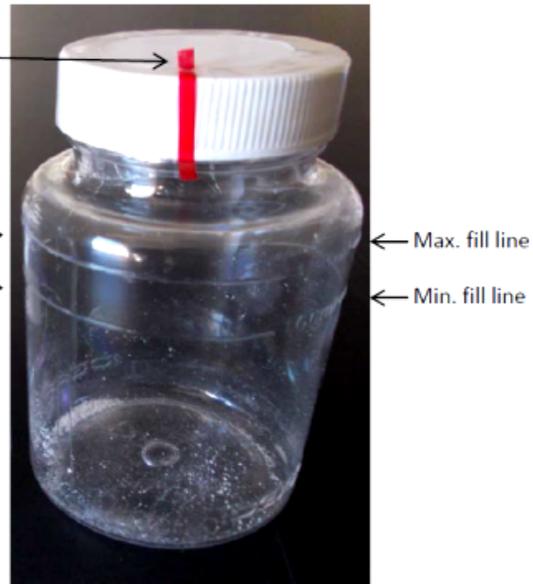
Sample bottles from the MSPHL contain a chlorine neutralizer that is present in powder or liquid form. The bottles are sterile and ready for use when shipped. **Do not rinse the contents from the container and keep the bottle closed until it is to be filled.**

**Shrink Wrap Seal:**

Remove the seal by pulling down on the red strip and peeling shrink wrap from both the cap and bottle. Discard all shrink wrap. Do not attempt to reseal lid with shrink wrap still attached.

**Two Fill Lines:**

**Fill the bottle until the water sample level is BETWEEN THE TWO LINES.** Place the bottle on a level surface to check the sample level. **Samples below the 100 mL (lower) line WILL NOT BE TESTED due to insufficient sample volume. Samples above the 120 mL (upper) line WILL NOT BE TESTED due to overfilled bottle.** Technical protocol and EPA requirements dictate that bottles must have sufficient air space to add testing reagents and to mix the sample properly.



If the bottle is overfilled past the 120 mL line, pour off water until the sample volume is between the two lines before shipping to MSPHL. MSPHL **WILL NOT** adjust sample volume once the sample is received at the lab.

**No Paper Label:**

There is no longer a label to record sample information on the bottle. **DO NOT WRITE ON THE BOTTLE.** Please complete a sample collection form for each sample submitted for testing. **DATE AND TIME OF SAMPLE COLLECTION and the BOTTLE NUMBER (from sticker on bottle) ARE REQUIRED.** A form for each bottle is included in this sample kit.

**For More Information, please contact:**

Missouri Department of Health and Senior Services  
 State Public Health Laboratory  
 Environmental Bacteriology Unit  
 101 North Chestnut St., P.O. Box 570  
 Jefferson City, MO 65102  
 Phone: 573-751-3334  
 FAX: 573-522-4032  
 Email: [labweb1@health.mo.gov](mailto:labweb1@health.mo.gov)  
 Website: [www.health.mo.gov/Lab](http://www.health.mo.gov/Lab)

**Sample Collection Form**  
**Private Drinking Water Bacterial Analysis**

PRINT LEGIBLY using water proof ink. A standard ink pen is sufficient. Complete ALL sample information lines on the form. Some sections of the form may already be completed by the laboratory computer system when the forms are printed. To make corrections, please draw a single line through the inaccurate information and print the corrected information behind it. The sections of the form and directions for completing each line are as follows:

**Order #:** For Missouri State Public Health Lab (MSPHL) purposes only. Pages in Order and Containers in Order indicate number of forms and sample bottles shipped in the sample kit order.

**REPORT TO:** Submitter / Collector Agency name and shipping address on file with the Missouri State Public Health Laboratory (MSPHL). Please review and correct if necessary. If using a blank form, complete name and address lines. Result reports and sample kits will be mailed to this address.

**BILL TO:** Section defaults to REPORT TO information. Payment for private drinking water bacterial testing (\$10 handling fee) must accompany the sample or testing will not be performed.

**Requested Analysis/Tests**

This section will state PRIVATE DRINKING WATER BACTERIAL ANALYSIS. You must have prior approval from the laboratory to request different or additional testing.

**Complete or Correct the Following Information**

All lines are considered required information unless indicated as NOT REQUIRED. Failure to complete a line may result in an invalid sample.

**Collected Date:** Enter the date the sample was collected using YYYY-MM-DD format. Use 4 digits for year and 2 digits for month and date. November 1, 2015 would be written as 2015-11-01.

**Collected Time:** Enter the time the sample was collected using 24-hour military format hh:mm. For samples collected in the morning between midnight (00:00) and noon (12:00) record as usual. For samples collected in the afternoon or evening between 1:00 p.m. (13:00) and 11:59 (23:59) add 12 to the hours. For example, a sample collected at 2:30 p.m. would be entered as 14:30. Any sample with a collected time before 12:00 would be considered as collected in the a.m.

**Collector:** Enter your last name, first name.

**Collector Phone:** Enter your 10 - digit day time phone number.

**Collection Location Street Address:** Enter the street address of the location where the sample was collected.

**Collection Location City:** Enter the city name of the location where the sample was collected.

**Collection Location State:** Enter the state of the location where the sample was collected.

**Collection Location Zip Code:** Enter the zip code of the location where the sample was collected.

Inspector ID Number: If you are a DHSS licensed inspector/installer, enter the ID number from your license.

Bottle Number: Enter the number from the label on the bottle. This is used to match collection forms to samples.

Collection Location Facility Name: If applicable, enter the name of the facility (business, agency, public facility) of the location where the sample was collected.

Collection Location County: Enter the county of the location where the sample was collected.

Collection Location GPS Latitude: Not Required. If known, enter the GPS latitude (numeric format only)

Collection Location GPS Longitude: Not Required. If known, enter the GPS longitude (numeric format only)

Owner: Enter the last name, first name of the property owner or current resident of the location where the sample was collected. This may be the same as Collector above if the homeowner or current resident is collecting and submitting the sample for testing.

Owner Telephone Number: Enter the 10 – digit phone number of the property owner or current resident. This may be the same as Collector Phone Number.

Supply Type: Enter one of the following options that best describes the source of the water sample:

Private Well – Single Home – Privately owned well or drinking water system serving a single home or property.

Private Well – Multi Home – Privately owned well or drinking water system serving multiple homes or properties.

Community Public – A public water system that serves a city, town, county or other incorporated entity.

Non-Community Public – A public water system that is not part of a community system, but still serves the public, such as a rural school, restaurant, convenience store, small subdivision.

Chill Water – Dairy chill water system.

Location Type: If applicable, enter one of the following options that best describes the location where sample was collected:

Child Care Facility

Restaurant

Motel/Resort

Grocery/Convenience Store

USDA Inspected – A United States Department of Agriculture inspected meat processing facility

Non-USDA Inspected – A non USDA inspected meat, fish or food processing facility

Dairy Farm

Location Establishment Number: If applicable, enter the establishment number for the facility (USDA or FDA inspected facility, food processor)

Construction Type: Enter one of the following options that best describes the type of well construction or water source:

- Drilled Well – A well that was constructed by drilling and casing into an aquifer
- Driven Well – A well that was constructed by driving pipe into an aquifer
- Bored or Dug Well – A well that was constructed by boring or digging into a shallow water table
- Spring – A free flowing surface water source (used for drinking water purposes only)
- Other – Any well construction or water source type not described above

Sewage Disposal: Enter one of the following options that best describes the type sewage disposal on the property where the sample was collected:

- City Sewer – A city or subdivision sewage system with a treatment plant
- Onsite – An onsite sewage treatment system, such as a septic tank with a soil treatment system, lagoon or drip system

Resample After Treatment: Yes/No. Was this sample following chemical treatment of the water system after a prior positive sample?

No Charge Justification: DHSS has waived the test handling fee for the following types of facilities only. You may be required to provide proof of your facility's qualifications for this waiver. Enter one of the following options if applicable:

- Government: State and Local government entities (including city and county health agencies)
- WIC – Women, Infant, Children Program assisted households
- Foster Home
- Head Start
- Child Care Facility
- USDA – USDA inspected meat processing facility

NOTE: All other sample submitters must enclose payment with sample.

All other sections of the form are for MSPHL use only. If you have any questions, please contact the MSPHL Environmental Bacteriology Unit at (573) 751-3334.

## Chemical Analysis

The Department of Health and Senior Services, State Public Health Laboratory, Chemistry Unit, provides testing for private water supplies in circumstances where public health is threatened. Typically, the following tests are requested:

- New Well Series;
- Nutrients and Minerals; and
- Metal Analysis.

### **New Well Series and Nutrients and Minerals**

A New Well Series and Nutrient and Minerals analysis includes the following: pH, fluoride, chloride, nitrate/nitrogen, sulfate, iron, manganese, and lead. Water samples shall be collected and submitted by a DHSS Environmental Public Health Specialist (EPHS) or Local Public Health Agency (LPHA) EPHS for all drinking water supply analysis.

### **Metal Analysis**

A Metal Analysis includes the following: Iron, Manganese, Zinc, Copper, Lead, Cadmium, Lithium, Nickel, Aluminum, Arsenic, Barium, Mercury, Beryllium, Vanadium, Molybdenum, Antimony, Thallium, Thorium, Uranium, Strontium, Tin, Selenium and Titanium. Water samples shall be collected and submitted by a DHSS EPHS or LPHA EPHS for all drinking water supply analysis.

### **Sampling Procedure**

In most circumstances, the faucet or hydrant closest to the well should be the collection point. Make sure there is no filtration unit between the well and the collection point, unless you are testing the efficacy of the filtration unit. Always collect cold water, unless you are looking for a problem with the hot water heater.

Flush the faucet or hydrant before collecting a sample. The water should run until the pH, temperature, and conductivity stabilizes. If you are without the instruments to check for stabilization, five (5) minutes is generally sufficient to remove any water that has been standing in the system. The sample sheet should be filled out while flushing the casing, or immediately after sample collection.

Label the cubitainer before filling. Unscrew the lid, and expand the cubitainer by pulling the two walls apart. Do not inflate the cubitainer by blowing into it. This may contaminate the container and the sample. Be careful not to touch the bottom of the sample lid or the inside of the cubitainer. Pull up on the neck of the cubitainer until it “pops” and stays in the “up” position. Fill the cubitainer by holding it under the flowing water. Leave a small volume of air inside the cubitainer (head space) and screw the lid on tightly. Transport or ship the sample promptly to the laboratory.

Current information for testing that occurs in the Chemistry Unit is available on the State Public Health Laboratory website: <http://health.mo.gov/lab/index.php>. The website includes information regarding

the description of the testing performed, methodology used, specimen collection and holding times, storage and transit, acceptable specimen types, test request forms, and result reporting.

## Disinfection of Wells and Springs

Disinfection should be done any time a well is newly constructed or repair work is done or if the water testing indicates UNSATISFACTORY results due to the presence of coliform and/or *E. coli* or iron bacteria. Using chlorine to disinfect a well contaminated with bacteria is known as shock chlorination. The highly chlorinated water destroys the bacteria along with disease-causing organisms in the drinking water.

Shock chlorination is not considered a permanent correction method for water sources continually exposed to bacteriological contamination. Safety precautions should always be taken when disinfecting and/or cleaning the well.

The following are recommended:

- Turn off all electricity to the well. Inspect all electrical connections for breaks in the insulation and for moisture; connections must be dry and unbroken to avoid electrical shock.
- Retain the services of a qualified electrician or well or pump contractor if you are not experienced with this type of work.
- Wear rubber gloves, eye protection and protective clothing when working with chlorine solutions.
- When mixing and handling chlorine solutions, work in a well-ventilated area to avoid breathing fumes.
- Warn users not to drink or bathe in the water until all the disinfecting steps have been completed and testing indicates the water is safe for use.

Equipment such as water softeners may be damaged by the chlorine in the disinfection process. Be sure to follow manufacturer's guidelines for disinfecting the unit. It may be necessary to bypass the unit completely during the process.

### Disinfecting Drilled Wells:

1. Remove any cover over the well casing to allow access to well water.
2. Introduce the prescribed amount of chlorine; you may use LAB-10 D, Disinfection of Contaminated Wells and Cistern, to determine the amount.
3. Turn on outside hose and rinse down the sides of the well to help circulate the water. Run hose until you smell chlorine.
4. Turn on all inside faucets until chlorine is detected then turn them off.
5. Let chlorine stand in system at least 4 hours; preferably overnight.
6. Turn on outside hose and run water until the smell of chlorine is gone. This method will keep the septic system from becoming overloaded and from adding too much chlorine to the system.
7. Open all faucets and allow the water to run until no chlorine odor is detected.

Water produced by the well will continue to be considered UNSATISFACTORY for drinking and food preparation until two consecutive samples taken at least five days apart are determined to be SATISFACTORY.

### **Disinfecting a Driven or Sandpoint Well**

1. Clean the outside of the sand point or driven well and all associated equipment, following the procedures for drilled wells as much as possible.
2. Pump the well to waste until the water is clear. If possible, avoid pumping water into the pressure tank or the distribution system.
3. Pump water through the distribution system until the water from all of the taps run clear. If the pressure tank or water heaters contain dirty water, drain them first.
4. Turn off the pump and drain the pressure tank. Using a drain plug opening, pressure gage opening outlet pipe, or other opening into the pressure tank, add unscented household chlorine bleach or other chlorine into the pressure tank, so that the water in the tank contains approximately 50 ppm free chlorine. This will take approximately 3 (three) tablespoons, or 1 ½ ounces of bleach for each 10 (ten) gallon of tank capacity (a 50-gallon tank, for example, will require approximately  $\frac{3}{4}$  (three fourths) of a cup of bleach.
5. Open all taps one-by-one until chlorinated water comes through each tap. If available, test the water with chlorine test papers. If there is between 10 and 50 ppm free chlorine residual go to step 4; if there is less than 10 ppm, add more chlorine to the pressure tank and repeat this step. Let the water stand in the system for at least 4 hours, preferably 12 hours or overnight.
6. After at least 4 hours, flush the system by allowing water to run until the free chlorine level is reduced to 5 ppm or less, or until no chlorine taste or odor is detected (if available, use a chlorine test kit).
7. Have the water tested for the presence of bacteria. Continue to disinfect water used for drinking or cooking using the emergency disinfection purposes until a satisfactory bacteriological test result is received. If the test results are unsatisfactory, repeat the disinfection process. The water should be tested again for bacteria after 2 weeks.

Water produced by the well will continue to be considered UNSATISFACTORY for drinking and food preparation until two consecutive samples taken at least five days apart are determined to be SATISFACTORY.

### **Disinfecting a Spring Box**

1. Debris and sediment should be removed from the spring box and distribution system before disinfecting the system.
2. Scrub the inside surfaces of the box with a strong chlorine solution.
3. Allow the spring box to fill with water, stop the flow of water through the outlet pipe, add chlorine to the system to obtain 200 parts-per-million and let stand for at least 12 hours but preferably overnight. If the flow rate into the spring box is too great than the chlorine solution must be fed continuously for at least 12 hours.
4. Pumping chlorinated water through the system should disinfect tanks, waterlines, valves, and faucets. To do this, turn on all faucets until a strong chlorine odor is detected at each one and then shut them off. Allow the chlorine solution to remain in the lines for at least 12 hours but preferably overnight.
5. Once this process is completed, turn on all faucets and run fresh water through the system until no chlorine is detected.

Water produced by the spring will continue to be considered UNSATISFACTORY for drinking and food preparation until two consecutive samples taken at least five days apart are determined to be SATISFACTORY.

## **Training and Resources**

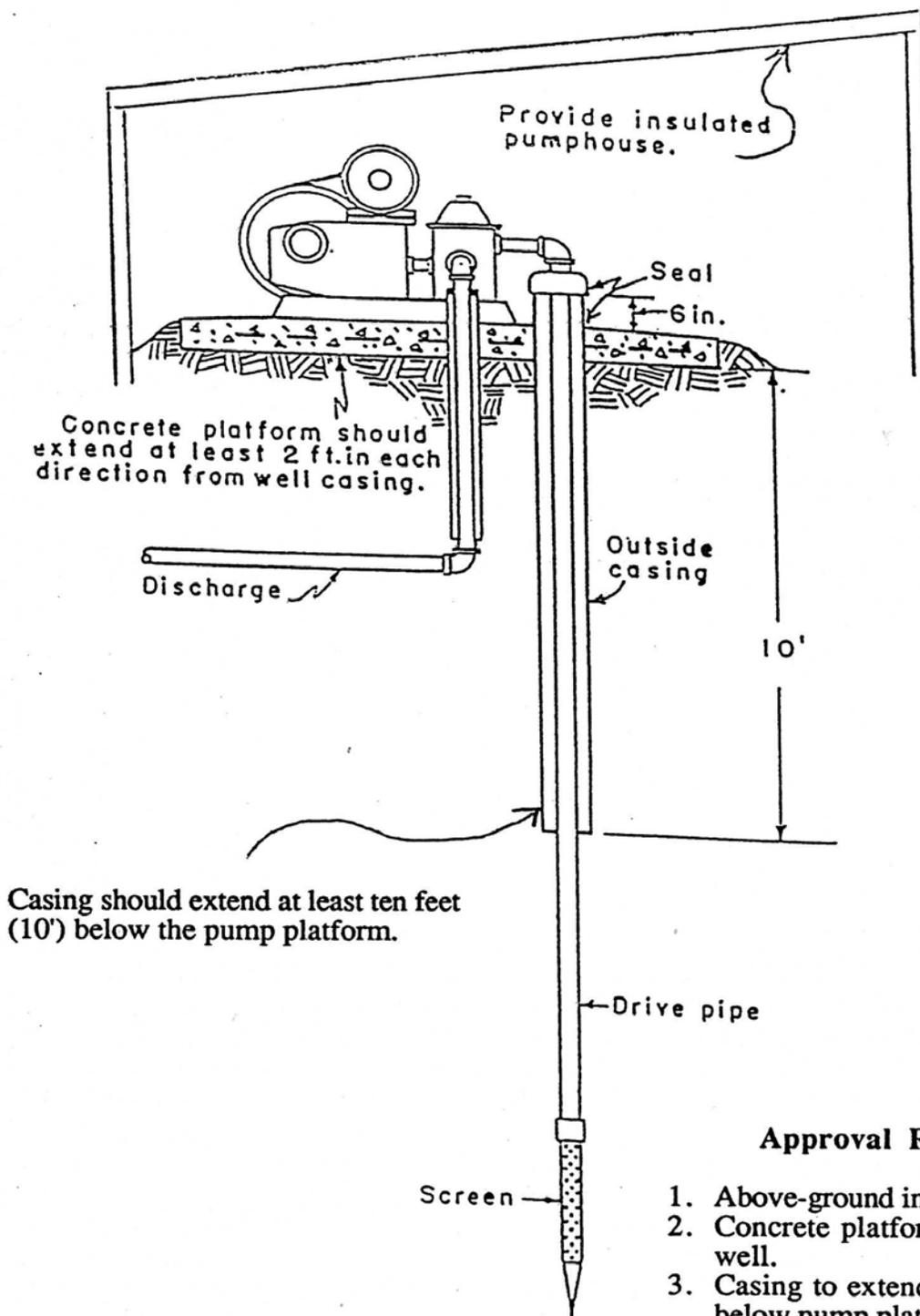


Figure 1

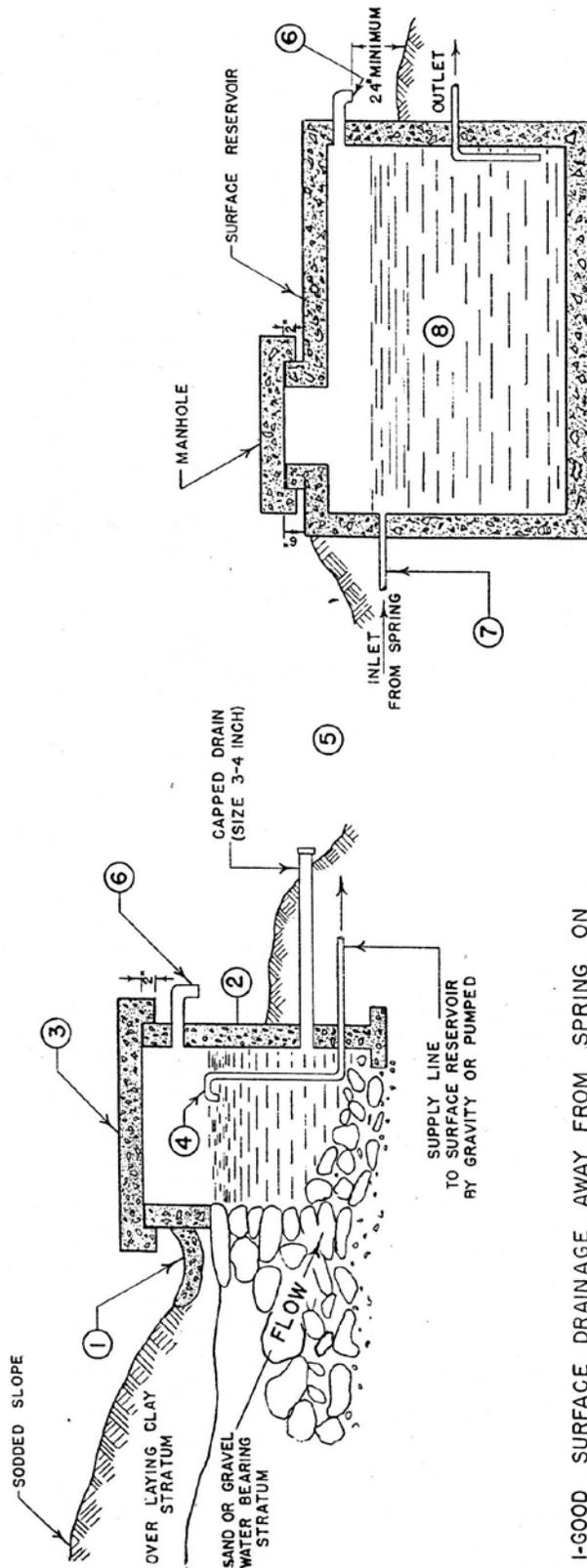
**Approval Requirements:**

1. Above-ground installation.
2. Concrete platform sloping away from well.
3. Casing to extend at least ten feet (10') below pump platform.
4. Insulated well house.
5. Surface drainage away from the well.
6. All openings to the well must be sealed.
7. Wells located in basements or pits cannot be approved.

# MISSOURI DEPARTMENT OF HEALTH

Figure 2

RECOMMENDED CONSTRUCTION AND PROTECTION OF A  
 SPRING WATER SUPPLY  
 INCLUDING CHLORINATION FACILITIES



- 1-GOOD SURFACE DRAINAGE AWAY FROM SPRING ON ALL SIDES.
- 2-CONCRETE BOX AROUND SPRING WITH WALLS OF WATER TIGHT CONSTRUCTION.
- 3-CONCRETE BOX FITTED WITH TIGHT COVER TO PREVENT ENTRANCE OF ANIMALS, INSECTS AND VERMIN.
- 4-SUPPLY LINE PLACED AT NORMAL ELEVATION OF WATER IN SPRING, WATER DRAWN FROM BELOW THE SURFACE.
- 5-LOCATION OF SPRING AND RESERVOIR ABOVE FLOOD LEVEL.

- 6-OVERFLOW PIPES, OPENINGS SCREENED WITH 16 MESH WIRE SCREEN.
- 7-LOCATION OF CHLORINATING UNIT AND CHLORINATION OF WATER PRIOR TO DISCHARGE INTO RESERVOIR.
- 8-WATER FROM SPRING MUST BE DISCHARGED INTO A WATER TIGHT RESERVOIR LARGE ENOUGH TO PROVIDE 2 HOURS HOLDING TIME BEFORE CONSUMPTION.

FIGURE 1  
BURIED SLAB CONSTRUCTION  
(Preferred Method)

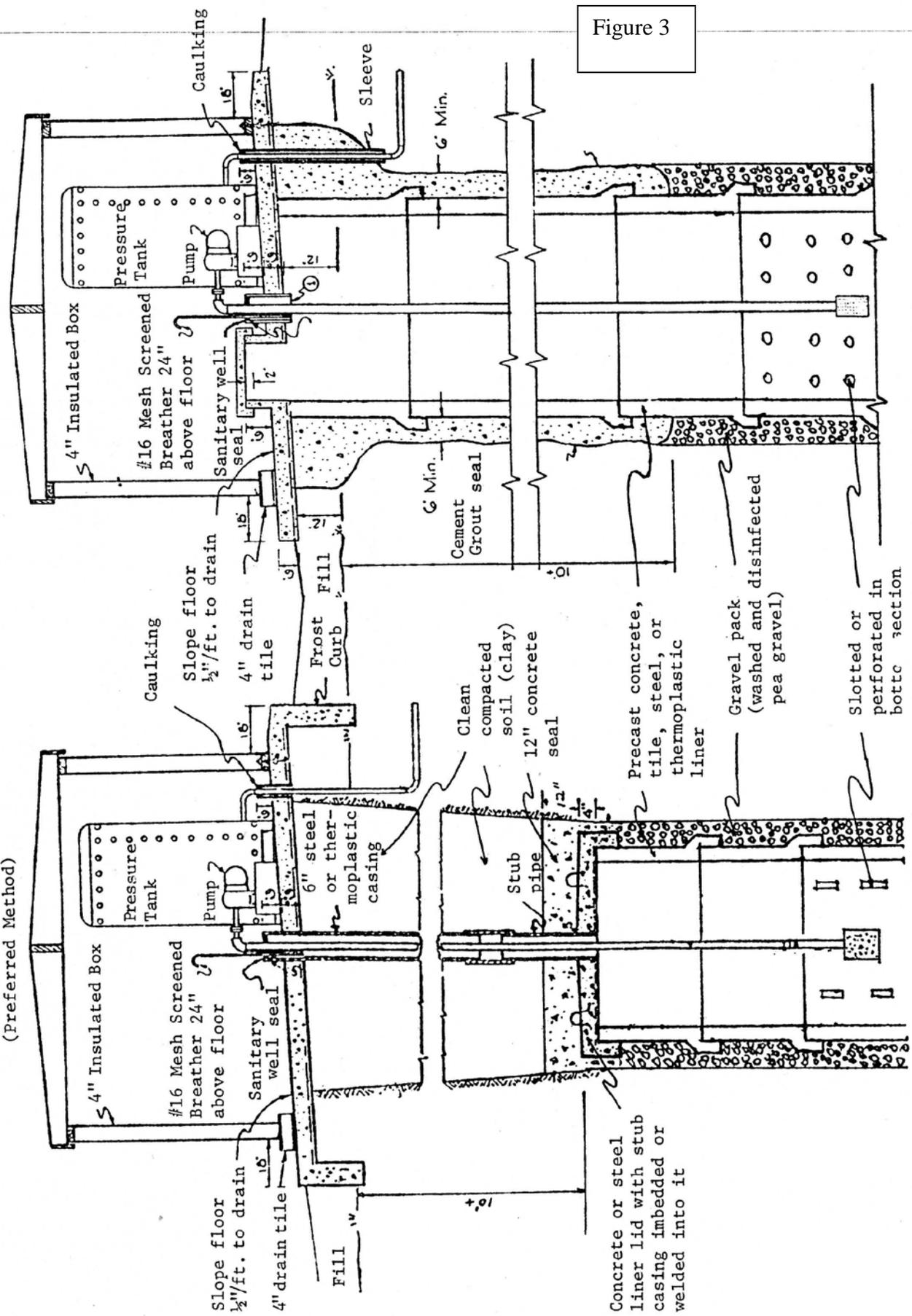


FIGURE 2  
CONTINUOUS LINER WITH GROUT SEAL CONSTRUCTION

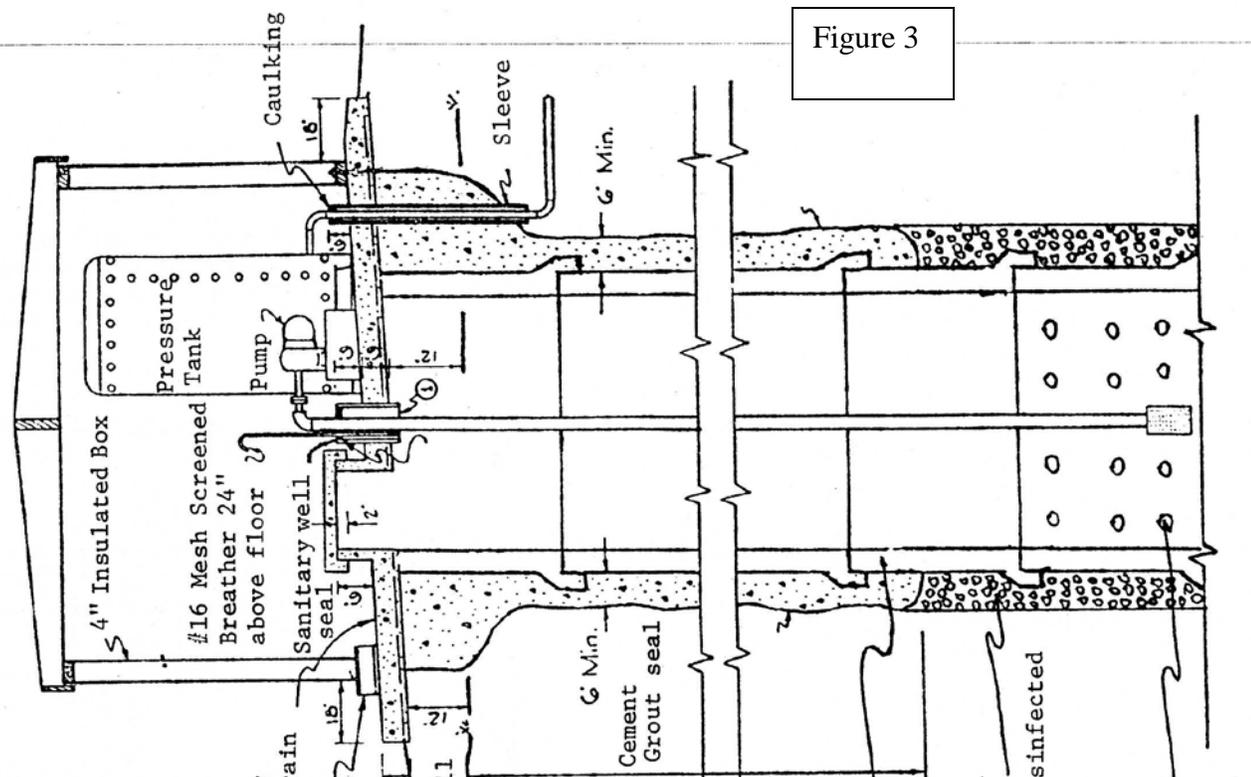
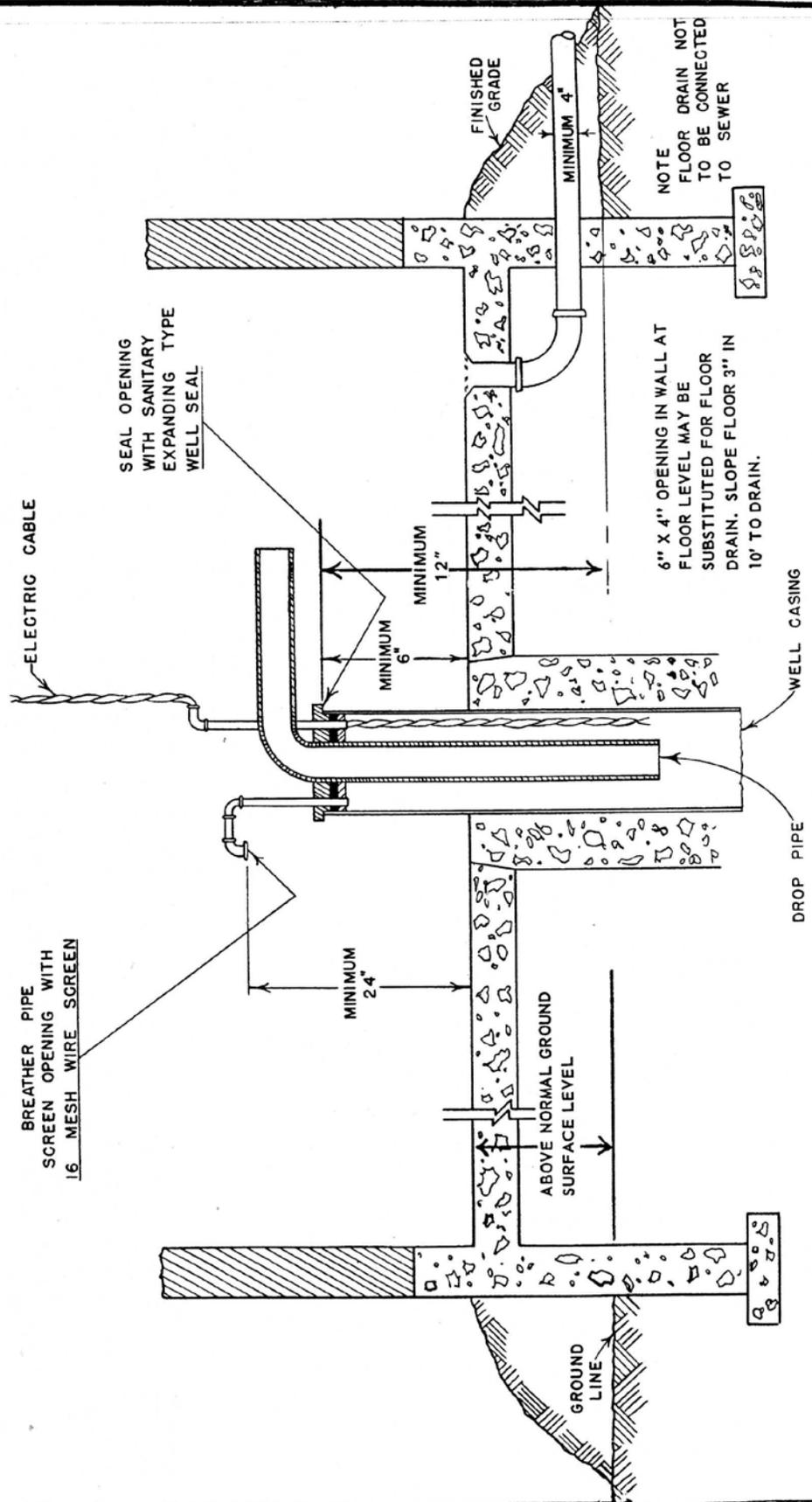


Figure 3

Figure 4

MISSOURI DEPARTMENT OF HEALTH



PROPER INSTALLATION OF SUBMERSIBLE TYPE PUMP ON DRILLED WELL

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- 8.3 [Nuisance Complaints/Questions](#)
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- 8.5 Training and Resources
- 8.6 Updates

## Recreational Waters

Recreational waters can be classified into two general categories; natural waters such as streams, lakes and reservoirs; and controlled areas such as public and semi public pools, spas and water parks. Each has their own environmental public health and safety concerns.

The Department of Health and Senior Services has been granted the authority to assure public bathing places meet sanitary conditions and that water quality is satisfactory for bathing purposes under 192.092, RSMo and 19 CSR 20-3.020 *Sanitation of Public Bathing Places*, however, the Bureau of Environmental Health Services has limited resources, therefore no staff are currently designated to this program.

Public swimming pools and spas associated with lodging establishments are regulated under Chapter 315, RSMo and 19 CSR 20-3.050 *Sanitation and Safety Standards for Lodging Establishments*.

Child care swimming pools are regulated under the *Sanitation Guidelines for Family Homes*, the *Sanitation Guidelines for Group Homes, Centers, and License Exempt facilities*, and by the Section for Child Care Regulation's licensing rules.

Additional guidance on recreational waters can be found at [www.cdc.gov/healthyswimming/](http://www.cdc.gov/healthyswimming/) and [www.poolsafely.gov](http://www.poolsafely.gov).

## **Mattresses**

Questions regarding the sell or manufacturing of mattresses within Missouri may be referred to the Bureau of Environmental Health Services and/or to the following website:

<http://www.moga.mo.gov/mostatutes/chapters/chapText421.html>

## Frequently Asked Questions/Nuisance Complaints

The frequently asked questions discussed in this section are those in which the Department of Health and Senior Services (DHSS) has no laws or rules granting the authority to regulate. There may be cases, however, where a local ordinance would grant a county, municipality, or another local governmental agency the authority to regulate in these situations. It is essential to be familiar with local ordinances in your jurisdiction to successfully and appropriately answer and/or respond to these frequently asked questions.

**1. I am interested in opening a new child care facility or home, who should I contact?**

The Missouri Department of Health and Senior Services' [Section for Child Care Regulation](#) will assist potential child care providers in getting started with the initial licensing process. Once the prospective provider has completed an application for licensure, the Section for Child Care Regulation will notify the Division of Fire Safety and Environmental Child Care Program of the provider's need for initial inspections.

**2. I am going to open a new lodging establishment, who should I contact? (What do I do?)**

If you are planning on opening a new lodging establishment please [contact us](#). There are plans that you will have to submit and an initial inspection will have to be conducted by the DHSS before you open the lodging establishment. DHSS will need to know the name, address information, contact person, and phone number for the establishment.

**3. Tenant is complaining about conditions in their dwelling; such as the landlord is not spraying for insects, they have rodent problems, or have no water or other utilities.**

Check to see if the county or city has laws they can enforce; DHSS does not have any statutes or rules it enforces concerning this issue. If no local ordinances are available, you can provide the tenant some sound public health advice, talk with the landlord about the complaint, and/or refer the tenant to the Attorney Generals' Office under the Landlord/Tenant Law. That telephone number is (573) 751-3321.

In addition, the Attorney Generals' Office publishes a consumer guide on the Landlord/Tenant Law. This guide can be accessed at <http://www.ago.mo.gov/publications/landlordtenant.pdf>.

**4. Citizen is complaining that the house next door is abandoned and ready to collapse; can the health department come out and condemn the house?**

Check to see if the county or city has an ordinance allowing another governing body, such as the building department to have inspection and/or condemnation authority; DHSS does not have any statutes or rules it enforces concerning this issue. If no local ordinances are available, you are limited to only providing some sound public health advice.

**5. Citizen is complaining about neighboring properties having a buildup of cars, debris and “trash” on his property.**

Again, check to see if the county or city has laws they can enforce; DHSS does not have any statutes or rules concerning this issue. If no local ordinances are available, you can provide assistance to encourage the owner to perform appropriate property maintenance. Additionally, if there are issues with rodents and insects in the area as a result of the build-up of debris, you could consider sending the property owner a letter informing them of the rodent and insect harborage conditions that are being created by the build-up of debris and direct them to clean up the property.

**6. Citizen is complaining about dogs running loose throughout the neighborhood.**

Check to see if there is a county and/or city leash law; DHSS does not have any statutes or rules it enforces concerning this issue. You could also suggest that they call the Humane Society or County Sherriff’s Office in their community.

**7. Citizen is complaining about neighbor using/applying herbicides and/or pesticides.**

The Missouri Department of Agriculture (MDA), Pesticide Program administers the Missouri Pesticide Use Act and the Missouri Pesticide Registration Act and can respond to complaints related to pesticide use. Missouri Department of Agriculture Pesticide Program can be accessed at <http://agriculture.mo.gov/plants/pesticides/> or (573) 751-5504.

**8. Citizen is complaining about an individual improperly disposing of dead animals on private or public property.**

The MDA, Animal Health Division responds to reports of dead livestock that have not been properly disposed. The MDA does not dispose of the animals, but will attempt to locate those responsible and see that they properly dispose of the carcasses in a timely manner as required by the Disposal of Dead Animal law. The Division of Animal Health only investigates animals raised for commercial purposes. The Division of Animal Health can be accessed at <http://agriculture.mo.gov/animals/health/deadanimal.php> or (573) 751-4259.

The Division of Animal Health does not respond to reports of dead animals under the Wildlife Code, such as deer or coyotes, or pets, whether confined or stray. If it is a dead wild animal the caller can be referred to their local [Missouri Department of Conversation](#) agent.

**9. Citizen is complaining about the neighbor’s dog kennels.**

The MDA, Animal Health Division licenses animal care facilities, performs inspections and responds to complaints related to animal care facilities. The MDA, Animal Health Division can be accessed at <http://agriculture.mo.gov/animals/ACFA/> or (573) 751-3377.

**10. I want to sell farm fresh eggs. How do I obtain an egg license?**

The MDA, Weights and Measures Division, licenses egg producers, dealers, and retailers and also inspects eggs sold in Missouri for quality. Anyone who buys eggs from producers or other dealers or sells eggs must be licensed and renew that license annually. The MDA, Weights and Measures Division can be accessed at <http://agriculture.mo.gov/weights/device/egglic.php> or (573) 751-5639.

**11. I want to process meat and/or make beef jerky in Missouri. What are the requirements?**

The MDA, Meat and Poultry Inspection Program has jurisdiction over Missouri meat processors. Owners or operators who want to process meat and poultry products including making beef jerky, within the state (intrastate) should contact the Missouri Meat and Poultry Inspection Program at <http://agriculture.mo.gov/animals/health/inspections/> or (573) 751-3377.

Individuals who want to ship meat and meat products across state lines (interstate) should contact the USDA Food Safety Inspection Service in Lawrence, Kansas at (785) 841-5600.

**12. I want to process and sell cheese and milk in Missouri. What are the requirements?**

The MDA, State Milk Board has regulatory oversight of the manufacturing and grading of dairy products, enforces sanitation and quality standards for manufactured dairy products and provides market testing of all milk at the first point of sale. The State Milk Board licenses milk procurers, manufacturing plants, field superintendents, testers, grades, samplers, bulk milk truck operators and market-testing laboratories. The MDA, State Milk Board can be accessed at <http://agriculture.mo.gov/animals/milk/> or (573) 751-3830.

**13. I want to open a tattoo/body piercing/branding parlor. What are the requirements?**

Check to see if a local ordinance requiring the inspection and licensing of tattoo/body piercing/branding parlors. If so, follow the requirements of your ordinance. In addition, the Missouri Department of Economic Development, Division of Professional Registration requires licensing of tattoo/body piercing/branding parlors and performs a preopening inspection of the facility as well as random inspections throughout the year.

If you receive a complaint about a tattoo/body piercing/branding parlor contact the Division of Professional Registration, Office of Tattooing, Body Piercing and Branding at <http://pr.mo.gov/tattooing.asp> or (573) 526-8288.

**14. I want to open a massage parlor. What are the requirements?**

Check to see if you have a local ordinance requiring the inspection and licensing of massage parlors. If so, follow the requirements of the ordinance.

In addition, the Missouri Department of Economic Development, Division of Professional Registration requires licensing of massage parlors and performs a pre-opening inspection of the facility as well as random inspections throughout the year.

If you receive a complaint about a massage parlor contact the Division of Professional Registration Massage Therapy Program at <http://pr.mo.gov/massage.asp> or (573) 751-9268.

**15. I want to open a business. Do I need to make the restrooms handicap accessible?**

Check to see if you have a local ordinance requiring building permits, construction permits, etc. and refer the individual to the appropriate county/city agency; DHSS does not have any statutes or rules it enforces concerning this issue. Otherwise, the Missouri Governor's Council on Disability may be able to assist the caller. The Missouri Governor's Council on Disability can be accessed at <http://disability.mo.gov/gcd/> or (573) 751-2600. At the federal level, the Department of Justice is responsible for enforcing Americans with Disabilities Act (ADA) requirements and can be accessed at [www.ada.gov](http://www.ada.gov).

**16. Citizen is complaining about the nursing home that their mother is staying in.**

The DHSS, Section for Long Term Care Regulation inspects, regulates and licenses long-term care facilities like nursing homes. The Section for Long Term Care Regulation can be accessed at <http://health.mo.gov/seniors/nursinghomes/> or (800) 392-0210.

The phone number to report a complaint is the elder abuse hotline at (800) 392-0210. This number is operational 24 hours per day, 365 days per year.

## **Lead**

In order to evaluate for the presence of lead, conduct lead abatement, provide lead training, or establish lead abatement plans, the appropriate license must first be obtained from the Department of Health and Senior Services (DHSS). Environmental Public Health Specialists that provide professional lead poisoning prevention public health services typically do so as a DHSS-licensed lead risk assessor. To become a lead risk assessor, an individual must have the appropriate background, successfully complete required training, complete an application, and pass a DHSS-administered test. More information is available at [www.health.mo.gov/safety/leadlicensing/index.php](http://www.health.mo.gov/safety/leadlicensing/index.php)

DHSS administers the lead licensing program with the Bureau of Environmental Epidemiology. In addition, a lead poisoning prevention program is administered by DHSS with the Bureau of Environmental Epidemiology. Additional information about lead poisoning prevention is available at <http://health.mo.gov/living/environment/lead/index.php>