

San Francisco Department of Public Health
Environmental Health Section
1390 Market Street, Suite 210
San Francisco, CA 94102



**Director's Rules and Regulations
For Prevention and Control of Rodents and other
Vectors, and to promote Housing Habitability**

**Pursuant to Article 11, Sec. 581–596 of the
San Francisco Health Code**

09/2007

I. Introduction

The following Director's Rules and Regulations shall provide clarity and give guidance to all stakeholders regarding the widely accepted "best practices" for control of active infestations and prevention of future infestations. The Rules and Regulations set forth specific guidelines and are promulgated to carry out the intent of Article 11 of the San Francisco Health Code, in dwellings, yards, commercial businesses and vacant lots. Our goal is to improve the health, safety and general welfare of the residents of San Francisco.

Vectors include living organisms such as mosquitoes, fleas, wasps, pigeons, raccoons, mice and rats, that have the potential to spread filth and disease, to contaminate food and water, to destroy property and/or to cause injury or severe annoyance.

The Role of the San Francisco Department of Public Health

The Department of Public Health has responsibility for ensuring that human risk of vector-borne disease is kept to a minimum in the City, using safe, effective, and cost-effective methods. Successful vector control is possible only with the combined efforts and ongoing commitment of all stakeholders. Stakeholders may include hotel owners and operators, owners and managers of rental properties, building management companies, tenants and tenant advocate groups, business owners and operators, neighborhood associations, the San Francisco Housing Authority and various City departments and public agencies.

The essential components of vector prevention and control are:

- Maintaining good sanitation and effective exclusion
- Identifying infestations early
- Cooperation of all stakeholders
- Monitoring to assess effectiveness of treatments

The Department of Public Health recognizes the essential role and expertise of the many reputable licensed pest control companies and operators (PCOs) doing business in San Francisco. It is our policy to support and promote Integrated Pest Management (IPM) strategies, such as choosing the least-toxic method of control.

These rules are not intended to restrict or prevent PCO's from using their professional judgment and experience when deciding on an abatement strategy. Examples and cautions given in this document are for the benefit of the property owner or manager who may try to handle a pest problem on their own. DPH recommends that every rental property owner employ a licensed PCO, but we acknowledge that some do not.

These Director's Rules and Regulations shall become effective 30 days after a noticed public hearing.

II. Definitions

- (a) **Accessory Structure** shall mean a structure that is attached to or adjacent to dwellings or dwelling units, including but not limited to, garages, carports, cabanas, storage buildings, garden structures as well as fences, walls and similar enclosures.
- (b) **Arthropod** shall mean invertebrate animals that have a segmented body and jointed appendages, such as insects, arachnids, and crustaceans.
- (c) **Noxious** arthropods shall mean arthropods, such as wasps, that inject a poison/toxin by biting or stinging human skin and cause discomfort or illness.
- (d) **Department** shall mean the San Francisco Department of Public Health (DPH).
- (e) **Director** shall mean the Director of Public Health or his/her designee.
- (f) **Harborage** shall mean anything that attracts or provides shelter for vectors.
- (g) **IPM** is the acronym for Integrated Pest Management which is a pest control strategy that uses an array of complementary methods: natural predators and parasites, pest-resistant varieties, biological controls, various physical techniques, and pesticides as a last resort. It is an ecological approach that can significantly reduce use of pesticides.
- (h) **Multiple dwelling** shall mean any dwelling with two or more units.
- (i) **Owner** shall mean any person who possesses, has title to or an interest in, harbors, or has control, custody or possession of any building, property, real estate...
- (j) **Person** shall mean and include corporations, estates, associations, partnerships and trusts, one or more individual human beings, any department, Board or Commission of the City and County of San Francisco, and any agencies or instrumentalities of the State of California or the United States to the extent allowable by law.
- (k) **Responsible Parties** includes the Owner and Manager and tenant and any person having control over property, who creates or allows or contributes to or fails to correct a condition that constitutes a nuisance as defined by S.F. Health Code section 581.
- (l) **Rodent** shall mean any of an order of small gnawing mammals, such as a mouse, rat, or squirrel, that have in both jaws a single pair of incisors w/ chisel-shaped edge.
- (m) **Rodent-proof** means rodents are prevented from gaining access.
- (n) **Vector** means any mammal, bird or insect such as rodents, wildlife, flies, mosquitoes, mites, ticks and lice that are capable of spreading disease by contaminating living areas and food or by piercing human skin, causing significant annoyance and/or posing a threat to human health.
- (o) **Wildlife** of public health importance as vectors may include; skunks, raccoons, bats, feral cats, gophers, squirrels, foxes, possums, birds.

III. Regulatory Authority

Article 11 Sec. 581 (a) of the San Francisco Health Code states that no person shall have upon any premises or real property owned, occupied or controlled by him or her, or it any public nuisance.

Sec. 581 (b) (1-15) declares the following to be public health nuisances:

- (1) Any accumulation of filth, garbage, unsanitary debris or waste material...;
- (2) Any accumulation of hay, grass, straw, weeds, or vegetation overgrowth;
- (4) Any buildings, structures or portion thereof found to be unsanitary;
- (5) Any matter or material which constitutes, or is contaminated by, animal or human excrement, urine, or other biological fluids;
- (7) Any pest harborage or infestation including but not limited to pigeons, skunks, raccoons, opossums, and snakes, except for pigeon coops that comply with...;
- (8) Any noxious insect harborage or infestation including, but not limited to cockroaches, fleas, scabies, lice, spiders or other arachnids, houseflies, wasps and mosquitoes, except for harborages for honey-producing bees...
- (13) Any violation of Article 2 Sec. 92 : "This Section is designed to...protect the public health, and particularly to prevent the propagation and spread of bubonic plague and other established and emerging rodent borne infectious diseases."

Sec. 92 (b) All Buildings to be Free of Rodents. All buildings, places and premises whatsoever in the City and County shall immediately and continuously be kept in a clean and sanitary condition, and free from rodents by the owner and/or the occupant thereof.

Sec. 92 (c) Exclusion of Rodents in Buildings. All building and basement walls of all storerooms, warehouses, residences or other buildings within the City and County;...all food products or other products, goods, wares and merchandise liable to attract or to become infested with rats, rodents, ... shall be so protected by the owner or occupant as to prevent rodents from gaining access thereto or coming into contact therewith.

- (15) Anything else that the Director deems to be a threat to public health and safety

Sec 596. Enforcement. The Complaint, Notice, Hearing, Order and abatement and legal process for abating violations of section 581.

To view the full text of these San Francisco Health Code sections you may go to:
<http://www.sfdph.org/eh/laws/Index.htm>

California Civil Code section 1941.1

California Health and Safety Code section 17920.3

California Retail Food Code section 114259.1: Food Facilities shall be free of vermin

California Retail Food Code section 114245: Garbage facilities to be properly maintained

IV Responsibilities of Tenants

1. **Tenants are responsible for performing routine housekeeping** tasks to keep living areas reasonably clean and orderly, and keep garbage, pet food and other attractive items properly stored. Do not put food out for wildlife or pigeons.
2. **Tenants shall promptly report signs of infestations** observed in living units or common areas, to building management. SFDPH and the Rent Control Board recommend that the complaint be in writing and that the tenant keep a written copy.
3. **Cooperate.** Upon notification, tenants shall cooperate with building management and the Pest Control operator (PCO) and shall provide reasonable access for inspection and treatment of the premises.
4. **Prepare.** Tenants shall follow PCO instructions to prepare their units for treatment, to the best of their abilities.
5. **Clean.** Tenants of infested units and adjacent units shall dispose of any unnecessary items, and store belongings in an orderly way that permits proper inspection and treatment.
6. **Conference.** SFDPH may issue a Notice of Violation or a citation to an abatement conference to tenants who fail to cooperate with management and/or the PCO, who continue to provide harborage for vectors, and who put neighbors at risk. In addition, SFDPH may declare the premises a public nuisance and take further enforcement action.
7. **Unsatisfactory response from owner/manager.** Tenants who do not receive satisfactory assistance with their problem from owner or manager, should report the conditions to the DPH Code Enforcement program at 415-252-3805. We can also assist callers in Spanish and Chinese. Hotel residents should call the Residential Hotels and SRO program secretary at 415-252-3866. Tenants may also call 311.
8. **Temporary relocation.** The Director of Health has the authority to issue orders to vacate premises upon discovery of a condition that endangers the immediate health and safety of residents. The Director shall notify affected tenants that they may be eligible for assistance pursuant to California Health and Safety Code Sections 17975 et seq. Tenants shall cooperate with the Department, the owners and the managers, if temporary relocation is required while the infested living unit is treated.
9. **Commercial Food Operations are required to properly contain and remove all food waste and other refuse, to eliminate rodents and insects from their premises, to avoid creating a nuisance for the neighborhood and to practice good sanitation indoors and out. Good refuse management is a condition of the Permit to Operate, which may be suspended or revoked by SFDPH for repeated violations.**

V--Responsibilities of Rental Property Owners and Managers

1. Training

It shall be the responsibility of property owners/ managers/management companies, to provide training to site staff. Training shall emphasize sanitation and shall include:

- Signs of an infestation
- How to inspect for infestation
- Maintaining proper sanitation
- Basic principles of vector exclusion and prevention
- Procedures for handling reports, making referrals and record keeping
- Safe handling / removal /disposal of infested materials

2. Owner or manager shall investigate reports of pest activity within 72 hours.

3. Recordkeeping

Owners and managers shall keep written records of the following activities for two years, and shall provide them to the DPH upon request.

- Activities of staff in response to each report of infestation.
- Services, treatments and recommendations made by Pest Control Operator.

4. Licensed Pest Control Operator (PCO): Owner will hire a PCO with an appropriate current license. Companies or operators shall provide proof of valid license on request, or anyone may call the California Structural Pest Control Board at (916) 561-8704 for status.

5. Proper refuse/garbage storage and collection: Owner and/or Manager shall provide an adequate number of refuse containers and frequent enough collections per week to prevent the over-filling of containers, and keep area sanitary. **(SF Health Code Article 6 sect. 290)**

6. Owners and managers shall ensure that the PCO performs a thorough physical inspection to determine the level of any pest infestation.

7. It is the policy of the San Francisco Department of Public Health and the San Francisco Department of the Environment to recommend that when chemical controls are necessary, the least-toxic products shall be considered first.

8. Owners and managers shall ensure that advance notification of tenants of any pesticide treatment complies with all State requirements. (see Appendix A)

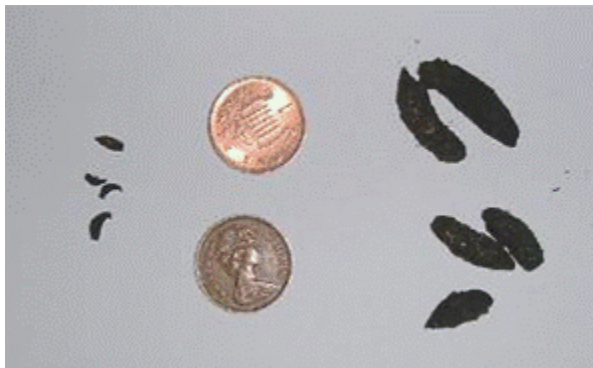
9. The Health Department, at its discretion, may require managers and owners or any responsible parties of a property with a history of violations of Section 581 of the San Francisco Health Code, to attend DPH-approved training in recognizing signs of infestation, good sanitation and maintenance, and vector exclusion and prevention.

Tenants who are unable to prepare a room for treatment:

Owners and Managers of rental dwellings shall contact the social worker or case worker or Adult Protective Services intake worker at 415-557-5230 ext. 3 for advice and assistance with tenants unable to care for themselves or unable to prepare the unit for treatment.

VI--Licensed Pest Control Operators

1. The state of California requires that only a properly licensed Pest Control Operator (PCO) apply pesticides. Companies or operators shall provide proof of valid license on request, or anyone may call the California Structural Pest Control Board at (916) 561-8704 for status.
2. The PCO shall perform a thorough inspection and identify type and location of any pests.
3. Prior to performing any pest control, advance notification must be provided to the owner / manager and occupant. See APPENDIX A for specific language as required by the California Business and Professions Code. Sec.8538
4. The PCO shall provide instructions for owner/manager and tenants on how to prepare the rooms for treatment.
5. SFDPH recommends that where feasible, the PCO use non-chemical Integrated Pest Management (IPM) methods, particularly in units where young children, asthmatics, or immune-compromised tenants reside. If a chemical treatment is necessary, gel-type products are generally better accepted by tenants than spray products.
6. All units adjacent to the infested unit shall be inspected and treated if necessary.
7. The PCO shall follow the manufacturer's recommendations and observe all safety precautions, label instructions and applicable laws when transporting, mixing, applying, documenting and disposing of any pesticides.
8. The PCO may also use scientifically proven methods such as freezing, vacuuming, steam or heat applications, and others, to treat infested units.
9. The PCO shall give instructions to owner/manager and tenant regarding proper disposal of any materials that may be infested so as to prevent re-infestation.



Mouse droppings on the left, compared to rat droppings

VII--Vector Prevention

Successful prevention of rodents and other vectors requires long term commitment by all stakeholders to these objectives:

1. Proper sanitation;
2. Proper storage practices;
3. Proper landscape management;
4. Eliminate standing water to prevent mosquitoes that can carry the West Nile virus;
5. Perform routine inspections, monitoring and recordkeeping;

1. **Proper sanitation:** Garbage and other waste shall be contained in a sanitary manner.
 - Each dwelling and dwelling unit shall be provided with at least one rigid plastic or metal container of sufficient volume to provide storage for all rubbish and garbage generated within the dwelling or dwelling unit.
 - Such containers shall be rodent-proof, insect disease vector-proof and watertight with tight fitting lids. Plastic bags may be used as garbage and refuse container liners, but shall not be used without the container for on-site storage of garbage or refuse.
 - other vector species. Food spillage and food utensils shall be cleaned daily
2. **Proper storage practices:** Accumulated materials such as crates, pallets, lumber, tires, firewood, or scrap metal shall be stored in a manner that facilitates monitoring for pest activity and prevents harborage of noxious insects, rodents, and wildlife.
 - Commercial spaces shall organize their products and operations in a manner that facilitates pest monitoring. Tenant personal belongings shall also be organized in a manner that prevents pest access to food, and facilitates pest monitoring.
 - Unnecessary items shall be discarded or recycled. Where it is necessary to temporarily store materials such as crates, pallets, lumber, tires, or scrap, the responsible parties shall store these materials so as to allow easy access for inspection, and so as to prevent harborage and breeding of disease vectors.
 - Stored items shall be stacked neatly in piles and elevated at least 6" from the ground, with at least 6" of space between the piles and exterior walls of any structure or fence, and
 - Stored items shall not collect water that would permit the breeding of insect disease vectors such as mosquitoes. Stored items shall be drained, covered and inverted.

3. Landscape management. When rodent activity is identified, Owners shall:

- Maintain tree/shrub branches, at least 3 feet away from or above buildings to prevent rats and other wildlife from gaining access by climbing or jumping.
- Install metal or heavy plastic tree protector "sleeves" to deter rodents from feeding on fruit, nut and citrus trees.
- Regularly pick up dropped fruit. Citrus, figs and palm fruit are especially attractive to rats. Tree netting may be installed.
- Thin out dense trees, vines and shrubs that can hide nests and shelter mosquitoes.
- Remove or thin out dense groundcover that can hide burrows, runways and drains.
- Maintain a clear space of at least 24" along side fences and exterior walls of buildings. Rats like to run along walls and under cover, so they will avoid these areas.
- Keep fence tops clear of vegetation to make it easier to observe any rodent activity.
- Apply a few inches of gravel around foundations and in any area where rats may be burrowing. Rats will avoid gravel.
- If there is a bird feeder, remove it until the rodent activity has ceased.

4. Standing water. To prevent the breeding of mosquitoes that can carry the West Nile virus, property owners/managers are required to eliminate all standing water sources. Water will also attract wildlife, rodents and other unwanted pests.

West Nile illness is a disease of birds. In people it is usually a mild disease, but it can be serious and even fatal in older adults. People get it from the bite of a mosquito that has previously fed on an infected bird. For information about the West Nile virus call (415) 252-3806 or 1-877-WNV-BIRD or visit SFmosquito.org or WWW.westnile.ca.gov.

- **Everyone should observe the following precautions:**
- Repair or install window screens, or close windows before dusk.
- Cover exposed skin when mosquitoes are active and/or use repellent.
- Do not over-water gardens. Allow the surface to dry between watering.
- Report unusual mosquito activity to the San Francisco Department of Public Health, Mosquito Control program at (415) 252-3806, or 311.
- If you or a family member have been bitten by mosquitoes and develop high fever, with severe headache or stiff neck, contact your health care provider immediately.
- See **APPENDIX C: The Homeowners Checklist** for preventing mosquitoes.

5. Perform routine annual inspections:

- It is recommended that rental agreements include language authorizing the property owner or manager to conduct at least annual inspection of rental units for conditions that adversely affect housing habitability and that may cause health problems or property damage.
- Annual inspections are an opportunity to discover early signs of trouble, such as vector infestations, water leaks, mold or other damage that can be corrected early before greater damage occurs.

6. Perform routine monitoring and recordkeeping:

Using a simple checklist to survey property on a regular basis can prevent problems.

- Monitor for available entry, food, water or harborage will prevent problems;
- Monitor for pest abundance helps determine if activity has or is likely to reach the treatment threshold;
- Monitor to help determine the effectiveness of the intervention methods used;
- Monitor to help to determine if or when to call for professional assistance;
- Monitor to help in planning future resource needs.
- This documentation will provide evidence to support of your resource requests;

VIII --Vector Exclusion:

Residential and commercial buildings shall be constructed and maintained to prevent the entry of vectors or pests by means of effective exclusion. Vector exclusion includes, but is not limited to the following:

- Gaps greater than $\frac{1}{4}$ ' around exterior doors and windows shall be repaired;
- Openings in exterior walls, particularly around pipes or conduits shall be sealed with hardware cloth, copper mesh, caulk, sheet metal, concrete or mortar;
- Exterior openings into attics or crawl spaces shall be covered with corrossions-resistant wire screening, perforated vinyl, or other similar material to prevent the entry of birds, bats, rodents, and other animals;
- Clear brush and grass at least 2 feet around the foundation of the structure. Rodents prefer not to cross open ground;
- Shrubs, vines and trees shall be trimmed to 3 feet away from the roof or balconies;
- Where flies and mosquitoes are a nuisance, every doorway, window or other device with openings to outdoor space and used for ventilation shall have screens of at least 16-mesh per one inch set in tight-fitting frames, or such other devices as will effectively prevent their entrance into the living space or commercial space.

IX--Signs of Rodent activity:

Rodents are most active at night, so direct rodent sightings are not usually the first indication of a problem. It is essential to monitor regularly for signs of rodent activity:

- Rodent droppings. Droppings smaller than a grain of rice are from mice.
- Droppings that are soft when pressed are fresh.
- Clean droppings daily using safe clean-up methods to learn if infestation is on-going.
- See page 13 for safe clean-up procedures
- Damaged food containers. Bags and boxes with holes is a sign.
- Rub marks (dark, greasy smudges) and signs of gnawing/ holes. These signs could be from current or previous activity.
- Burrows and nests. These should be destroyed, whether fresh or old.
- Footprints and tail marks in dust, flour or sand.
- Damage to ornamentals and fruits, such as hollowed lemons.
- Noises at night, such as scratching, chewing and running;
- Pet behavior. If your pet shows interest in a corner of the garage, investigate.

X--Preventing Pigeon roosting, disease and property damage:

Pigeon waste, pigeon feathers and nesting materials are a source of mites, lice, allergens, bacteria, fungal spores and other organisms that can cause human disease. Accumulation of these dangerous materials constitutes a health nuisance. Pigeon waste damages paint and building materials. In San Francisco it is not legal to poison, trap, or shoot pigeons.

Pigeon-proofing means pigeons are discouraged and prevented from roosting and creating a health nuisance, by means of design, such as sloping sills, or by means of a net or screen or other deterrent such as a timed sprinkler. Pigeon-proofing may include the following:

- Exterior doorways, stairs, easements, windowsills, eaves, awnings, roof surfaces, gutters, and light-wells shall be constructed or modified to effectively discourage pigeon roosting and nesting.
- Structural modifications which may potentially affect building exits, such as use of netting in stairwells, should first be approved by the Fire department;
- Where pigeons are causing a nuisance as defined by sec. 581(b), the Responsible Party or Parties shall ensure that no bird seed, pet food or food waste is accessible on the property. Tenants shall be notified to cease the feeding of pigeons.
- To obtain signs and flyers for posting call 415-252-3805;
- Property shall be maintained clean of any accumulation of pigeon waste, particularly: the entry ways, windowsills; stairways; light-wells; schoolyard structures; drinking fountains; easements; and around the air-intake for ventilation equipment.
- Use plenty of water and disinfectant when removing bird droppings and nest materials.

XI--Trapping for Rodent control:

- Glue traps can be useful for monitoring cockroaches and fleas.
- Glue traps may be hazardous to children, pets and wildlife.
- Glue traps may be removed from skin or hair with vegetable oil.
- Snap traps can be effective when used properly for mouse control.
- It is recommended that a licensed pest control technician perform trapping for rats.
- Snap traps can be used without bait. If a bait food will be used, choose a food that the rodents are known to be eating, or a food that is especially appealing: bacon grease on bread, raisins, or chocolate candy.
- Rodents must press the trigger while taking the bait in order to activate the snap-trap.

XII--Snap Traps:

- Snap traps are effective when used by experienced persons.
- A licensed pest control operator is the best person to perform trapping for rat control.
- Continue to set traps for about 1 week after the last rodent is caught.
- Snap traps can be hazardous to children and pets.
- There are safer rodent traps enclosed inside boxes, available on-line and at some hardware stores.

XIII--When to call a licensed Pest Control Operator.

- When routes of entry of the pests are hard to find.
- When an experienced person is needed to manage a significant infestation.
- When an apartment building has more than 6 units.
- When trapping has not solved the mouse infestation problem.
- When tenants continue to report pest activity.
- When rodenticides may be needed for rodent control.
- When more than one living unit is likely to be affected.
- When doing exclusion or installing deterrents to roofs, eaves, or balconies.
- When dealing with dangerous vectors such as wasps or black widow spiders.

XIV-- Procedures for Safe Cleanup

Because of recent cases of Hantavirus, a serious respiratory disease contracted from the droppings of certain rodents, the U. S. Department of Communicable Disease Control (CDC) recommends the use of personal protective equipment (ppe) such as disposable gloves and other precautions for cleaning up dead rodents and their urine, droppings, nesting or other contaminated materials or surfaces. These procedures also apply to the clean-up of bird waste. See APPENDIX B for sources of information on Hantavirus, etc..

- Spray animal urine stains or feces with an appropriate disinfectant such as a solution of a sodium hypochlorite product (bleach) or other disinfectant until thoroughly soaked. With your hand covered by a plastic bag, use a paper towel to pick up the urine and the droppings. Wrap the paper towel in the plastic bag and discard it outdoors in a sealed container.
- NEVER mix hypochlorite products (bleach) and ammonia products (such as glass cleaner) because poisonous chlorine gas will be created.
- Do not vacuum or sweep urine, feces, droppings or contaminated surfaces unless they have been disinfected. Sweeping will put the disease organisms into the air you breathe.
- After the feces, or droppings have been removed, clean and disinfect the area, especially food preparation surfaces and utensils that may have been soiled. The urine is not visible, but where there are droppings there will be urine also.
- Spray dead animal with a disinfectant or chlorine solution to kill mites, fleas and other organisms.
- Avoid direct contact with the dead animal. If possible, pick it up with a shovel.
- If a rodent is in a trap, first wear disposable gloves or place hands into plastic bags.
- Take the rodent out of the trap by lifting the spring-loaded metal bar and letting the animal fall into a plastic bag or place the entire trap containing the dead rodent into a plastic bag, and sealing the bag. Or dispose of the animal AND the trap.
- Place the dead animal or bird into 2 plastic bags and seal it.
- Promptly dispose of the wrapped animal or bird into a covered garbage can.
- If the trap will be reused, clean it with any detergent, then dip it in disinfectant or hypochlorite (bleach) solution, and rinse well afterwards.
- After removing gloves, thoroughly wash hands with soap and water, or use an alcohol-based hand gel when soap and water are not immediately available.

Notification Requirements Prior to Performing Pest Control work: California Business and Professions Code Section 8538

(a) A registered structural pest control company shall provide the **owner, or owner's agent, and tenant** of the premises for which the work is to be done with clear written notice which contains the following statements and information using words with common and everyday meaning:

- (1) The pest to be controlled.
- (2) The pesticide or pesticides proposed to be used, and the active ingredient or ingredients.
- (3) **Required Text of Notice "State law requires that you be given the following information:**

CAUTION--PESTICIDES ARE TOXIC CHEMICALS. Structural Pest Control Companies are registered and regulated by the Structural Pest Control Board, and apply pesticides which are registered and approved for use by the California Department of Pesticide Regulation and the United States Environmental Protection Agency. Registration is granted when the state finds that, based on existing scientific evidence, there are no appreciable risks if proper use conditions are followed or that the risks are outweighed by the benefits. The degree of risk depends upon the degree of exposure, so exposure should be minimized."

"If within 24 hours following application you experience symptoms similar to common seasonal illness comparable to the flu, contact your physician or poison control center (**1-800-876-4766**) and your pest control company immediately." (This statement shall be modified to include any other symptoms of overexposure which are not typical of influenza.)

"For further information, contact any of the following: Your Pest Control Company (telephone number); for Health Questions--the County Health Department 415-252-3805; for Application Information--the County Agricultural Commissioner 415-252-3830 and for Regulatory Information--the Structural Pest Control Board (916-561-8708) 1418 Howe Ave #18, Sacramento."

- (4) If a contract for periodic pest control has been executed, the frequency with which the treatment is to be done. (b) In the case of Branch 1 applications, the notice prescribed by subdivision (a) shall be provided at least 48 hours prior to application unless fumigation follows inspection by less than 48 hours. In the case of Branch 2 or Branch 3 registered company applications, the notice prescribed by subdivision (a) shall be provided no later than prior to application. In either case, the notice shall be given to the owner, or owner's agent, and tenant, if there is a tenant, in at least one of the following ways: (1) First-class mail. (2) Posting in a conspicuous place on the real property. (3) Personal delivery. If the building is commercial or industrial, a notice shall be posted in a conspicuous place, unless the owner or owner's agent objects, in addition to any other notification required by this section. The notice shall only be required to be provided at the time of the initial treatment if a contract for periodic service has been executed. If the pesticide to be used is changed, another notice shall be required to be provided in the manner previously set forth herein. (c) Any person or licensee who, or registered company which, violates any provision of this section is guilty of a misdemeanor and is punishable as set forth in Section 8553.

Rodent-borne Diseases			
Disease	Host	Method of Transmission	More Information
Leptospirosis	Rodents or wildlife	Ingestion of contaminated water or food; skin or mucous membrane contact with water or soil contaminated with urine from infected animals.	www.cdc.gov/ncidod/dbmd/diseaseinfo/leptospirosis_g.htm www.bt.cdc.gov/disasters/hurricanes/katrina/leptofags.asp
Lymphocytic Choriomeningitis (LCM)	House mouse	Inhalation of, mucosal contact with, or ingestion of dust or food that is contaminated with rodent secretions/excretions; and occasionally bite wounds.	www.cdc.gov/ncidod/dvrd/spb/mnpages/dispages/lcmv.htm
Hantavirus pulmonary syndrome (HPS)	Cotton rat, Rice rat, Deer Mouse and White-footed mouse	Inhalation of, mucosal contact with, or ingestion of dust or food that is contaminated with rodent secretions/excretions; and occasionally bite wounds.	www.cdc.gov/hantavirus (www.cdc.gov/ncidod/diseases/hanta/hps/noframes/rodents.htm)
Murine typhus	Rats	Inhalation of aerosolized ectoparasite feces; bite from an infected flea or mite; or by inoculation of abraded skin with crushed infected ectoparasites or their feces.	www2.ncid.cdc.gov/travel/yb/utills/ybGet.asp?section=dis&obj=rickettsial.htm
Bubonic plague	Rats, chipmunks and their fleas	Bite from infected flea. (pneumonic plague is transmitted from person to person via droplets)	www.bt.cdc.gov/agent/plague/
Rat-bite fever	Rats, possibly mice	Bite or scratch wound; ingestion of food, water, or milk contaminated by rat feces.	www.cdc.gov/ncidod/dbmd/diseaseinfo/ratbitefever_g.htm
Rickettsialpox	Rats, mice and their mites	Bite from an infected mite.	www2.ncid.cdc.gov/travel/yb/utills/ybGet.asp?section=dis&obj=rickettsial.htm
Salmonellosis	Rats and mice	Inadvertent ingestion of fecal matter from rodents, from contaminated food.	www.cdc.gov/ncidod/dbmd/diseaseinfo/salmonellosis_g.htm

HOMEOWNER AND RESIDENT CHECKLIST OF MOSQUITO SOURCES Mosquitoes <u>must</u> have standing water to develop!	
Fishpond	Stock with fish, remove excess vegetation and construct properly.
Swimming Pool & Spas	Chlorinate, cover tightly when not in use, and keep water off cover. Drain or stock with fish if not in use.
Bird Bath	Change water frequently, at least once a week.
Containers	Empty, invert, dispose of, or cover to prevent mosquito entrance (boats, buckets, drums, etc.).
Basement & Under House	Drain the area and keep dry; correct leaky plumbing, dripping air conditioning or refrigeration. Water in basements or under houses can be a major source of mosquitoes in urban areas.
Catch Basins & Storm Drains	Do not dispose of litter, oil, paint or garden debris into these. Catch-basins are being treated at least monthly by the City and County to prevent mosquitoes, and are marked.
Sump	Construct so that water does not stand, or screen to prevent Mosquito entry.
Trim and thin shrubbery Avoid over-watering	Dense shrubbery is where mosquitoes rest during the day. It can also keep the ground damp by limiting light and air circulation. Allow the ground to dry between watering.
Tires	Dispose of properly, or cover so that water does not collect inside.
Tree holes	May be drained, filled, screened, or removed.
Septic Tank	Keep tightly covered. Septic tanks can produce very large numbers of mosquitoes.
Drains and ditches	Clear litter, weeds or other obstructions and allow water to flow freely.
<p>Eggs: Females deposit eggs singly or in rafts on the water surface or in places where water will ultimately cover them, depending on the species. The eggs will then hatch into larvae.</p> <p>Larvae: Because of their typical movement through the water, larvae are commonly called “wigglers”. They are ¼-1/2 inch long, very active, feed on microorganisms, and may be readily seen in the water.</p> <p>Pupae: These are also active, but non-feeding, and can be seen resting at the water surface. Because of their method of swimming, they are often called “tumblers”. During this stage, the transformation to the adult occurs. Upon completion, the pupae case splits open to allow emergence of the adult</p>	