

31 May 2023

To : All Authorized Persons  
Registered Structural Engineers  
Registered Geotechnical Engineers  
Registered Inspectors  
Registered General Building Contractors  
Registered Specialist Contractors  
Registered Minor Works Contractors

Dear Sir/Madam

### **Guidelines on Rodent-proofing Design in New Buildings and Mosquito/Rodent Prevention and Control Measures in Construction/Demolition Sites**

With the increased community concerns and the heightened hazard of rodent and mosquito related infectious diseases, rodent and mosquito prevention and control work will continue to be a major focus of the Government's pest control work. In this regard, proper building design and management of construction sites and demolition sites (sites) are required to prevent harbourage of rodent and mosquito. This letter provides guidelines on rodent-proofing design in new buildings and mosquito and rodent prevention and control measures in the sites.

#### **Rodent-proofing Building Design**

Rodent-proofing design for new buildings is an effective way for rodent prevention, particularly for places where quantities of food are kept, e.g. restaurants. Registered building professionals are encouraged to adopt the rodent-proofing design listed in the Appendix in their development projects.

#### **On-site Mosquito and Rodent Prevention and Control Measures**

You should pay attention to the following guidelines from the Food and Environmental Hygiene Department on mosquito and rodent prevention and control measures in your sites, especially before the rainy season:

- (a) Guidelines on Mosquito Prevention for Contractors of Construction Sites<sup>1</sup>,

/(b) ...

<sup>1</sup> [www.fehd.gov.hk/english/safefood/library/pdf\\_pest\\_control/mosquito\\_construction\\_contractors.pdf](http://www.fehd.gov.hk/english/safefood/library/pdf_pest_control/mosquito_construction_contractors.pdf)

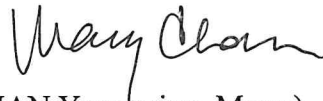
- (b) Guidebook on Control and Prevention of Mosquito Breeding<sup>2</sup>, and
- (c) Handbook on Establishing and Maintaining a Rodent-free Area<sup>3</sup>.

As a good practice, you are advised to implement rodent disinfestation operation at least 3 months before completion of works in construction sites. For demolition sites, rodent disinfestation measures inside and in the immediate surrounding should be implemented before the first round of evacuation starts and throughout the evacuation process until completion of the demolition works with an aim to prevent spreading of rodents to nearby areas.

Your site staff should be vigilant in eliminating potential mosquito breeding crannies in the sites. Should there be a situation in this regard or in the event that a registered contractor is summoned for mosquito-related offences, immediate and thorough auditing of his anti-mosquito measures should be conducted with necessary enhancement.

For rodent prevention and control measures in large demolition sites, you can seek advice from Head (RRAU) of the Food and Environmental Hygiene Department at 3188 2517.

Yours faithfully,



( CHAN Yuen-ming, Mary )  
Chief Officer/Technical Services  
for Director of Buildings

c.c. Real Estate Developers' Association

---

<sup>2</sup> [www.fehd.gov.hk/english/pestcontrol/handbook\\_prev\\_mos\\_breeding.html](http://www.fehd.gov.hk/english/pestcontrol/handbook_prev_mos_breeding.html)

<sup>3</sup> [www.fehd.gov.hk/english/pestcontrol/handbook\\_rodent-free-area.html](http://www.fehd.gov.hk/english/pestcontrol/handbook_rodent-free-area.html)

### Guidelines on Rodent-proofing Design in New Building

Voids provide ideal harbourage and nesting places for rats. While voids are sometimes inevitable in a building, the following measures should be considered:

- (a) They should be made inaccessible to vermin and the materials and decorative finishes used should be resistant to gnawing by rodents;
- (b) There should be no voids between the sides, back, or bottom of built-in furniture and the adjacent walls or floors. Voids greater than 6 mm wide behind wooden skirting should be avoided;
- (c) Voids formed by fixing battens behind panel should be kept to a minimum and made inaccessible to vermin. The materials used should be resistant to gnawing by rodents; and
- (d) False ceiling at places such as kitchens, food-preparation rooms and food stores should be avoided as far as practicable. If false ceiling is unavoidable, e.g. in office, shopping centre, etc. ceiling void should be compartmentalised with rodent-proofed materials as far as possible to discourage free movement of rodents. Metal panel is more preferable and gap between vertical ducts/cables and passing through panels should be kept at less than 6 mm.

2. Holes, openings and gaps at building fabric can be entry points to building by rodents. To plug such loopholes, the following measures are recommended:

- (a) Rat-holes and other small openings greater than 6 mm should be blocked by filling or covering them with appropriate materials, e.g. fine concrete, cement mortar, 20 gauge sheet or 22 Standard Wire Gauge (SWG), barbed wire balls, etc;
- (b) Broken or missing gratings should be replaced. Ventilation grids and other similar openings may be proofed externally with galvanised steel woven wire-cloths of 22 SWG at about seven meshes to 25 mm. These materials exclude both rats and mice;
- (c) Gaps at wall openings for the passing through of pipes/wires/ducts should be sealed with metal plate, barbed wire balls or cement; and
- (d) Wooden doors should be protected at the bottom by fitting a 20 gauge metal 'kicking-plate' (at least 300 mm high) on the outside. This should have a maximum clearance of 6 mm. A similar plate should be fixed to the door frames to form a continuous band of metal.

3. Vertical pipes may be used by rats to reach entry points or harbourage places. Guarding against their vertical access can be achieved by the following measures:

- (a) Vertical pipes should be spaced at least 100 mm apart and also at least 100 mm between adjoining wall such that rodents would find it difficult to climb between a pipe and a wall or adjacent pipes; and
- (b) Circular rat guard made of 20 gauge metal sheet and diameter of at least 550 mm should be employed, if necessary in form of inverted funnel to prevent rats from climbing along building services. The space between the rat guard and the pipe should be not larger than 6 mm. To ensure that there is no projection or any other structure nearby to act as foot step to allow rodents jump over the rat guard.

4. Flower beds and surface channels provide rodents with favourable harbourages and dispersal routes. The following measures should be taken to discourage infestation of rodents:

- (a) Flower bed at close proximity to food attractions, e.g. refuse collection points, should be avoided. External walls of flower bed should not be less than 1 m in height and outwardly bent ledges or by adding copings on the top of sides. Wall surface should be smooth and without any projection. High rise vegetation exposing soil surface should be planted in flower bed;
- (b) Open channel is preferable. Otherwise, grating covering surface channel should be having opening less than 6 mm in width or covered with galvanised steel woven wire-cloths of 22 SWG at about seven meshes to 25 mm underneath the grating; and
- (c) Openings such as drain hole on flower bed wall, retention wall, drain pipes should be screened with galvanised steel woven wire-cloths of 22 SWG at about seven meshes to 25 mm meshes.

5. Areas such as refuse collection point, market, loading area, service room, store room, kitchen, etc. are very susceptible to rodent infestation. Particular attention should be paid to these areas to ensure implementation of comprehensive rodent proofing measures.

(May 2023)