

23 May 2024

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

Incorporating rodent-proofing design to 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, and especially before the rainy season regarding mosquito prevention and control measures:

- (a) Guidelines on Mosquito Prevention for Contractors of Construction Sites¹,

/(b) ...

¹ www.fehd.gov.hk/english/safefood/library/pdf_pest_control/mosquito_construction_contractors.pdf

- (b) Guidebook on Control and Prevention of Mosquito Breeding², and
- (c) Handbook on Establishing and Maintaining a Rodent-free Area³.

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 mosquito breeding places and potential mosquito breeding points 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 (RRAAU) of the Food and Environmental Hygiene Department at 3188 2517.

Yours faithfully,



(TONG Fung-ling, Fiona)
Chief Officer/Technical Services
for Director of Buildings

c.c. The Real Estate Developers Association of Hong Kong

² www.fehd.gov.hk/english/pestcontrol/handbook_prev_mos_breeding.html

³ 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 rodents. 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 should not be installed at places such as kitchens, food-preparation rooms and food stores. If false ceiling is unavoidable, e.g. in office, shopping centre, etc. ceiling void should be compartmentalised into smaller sections completely partitioned with rodent-proof material(s) so as to discourage free movement of rodents between different compartments/sections. Metal panel is more preferable and gap resulted from the passing of vertical ducts/cables 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, 24 gauge expanded galvanised steel or 22 Standard Wire Gauge (SWG) galvanised steel woven wire cloth with mesh size not greater than 6 mm, barbed wire balls, etc;
- (b) Broken or missing gratings should be replaced. Ventilation grids and other similar openings may be proofed externally with 24 gauge expanded galvanised steel or galvanised steel woven wire cloth of 22 SWG with mesh size not greater than 6 mm. These materials can exclude both rats and mice;
- (c) Gaps at wall openings for the passing 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 galvanised steel '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 with 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 galvanised steel sheet, projecting about 230 mm from the pipe and diameter of at least 550 mm (assuming the diameter of pipe is less than 90 mm) should be deployed, if necessary, in form of inverted funnel to prevent rats from climbing along building services. The gap between the rat guard and the pipe should not be larger than 6 mm. Make sure there is no projection or any other structure nearby to serve as foot step for rodents to 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 should not be built at close proximity to food attractions, e.g. refuse collection points. External walls of flower bed should be more than 1 m in height with outwardly bent ledges or with copings added on top of the 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 have aperture not larger than 6 mm in width, or 24 gauge expanded galvanised steel or galvanised steel woven wire cloth of 22 SWG with mesh size not greater than 6 mm should be installed underneath the grating; and
- (c) Openings such as drain holes on flower bed wall, retention wall and drain pipes, etc should be screened with 24 gauge expanded galvanised steel or galvanised steel woven wire cloth of 22 SWG with mesh size not greater than 6 mm.

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

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