

# Best Management Practices for Renovation and New Construction

## Rationale

Planning for major renovations or new construction must take into consideration all aspects of the Best Management Practices. Due to the amount of chemicals, both

pesticides and fertilizers, used in the greenhouse, construction and renovation must be undertaken with regard to safe storage, containment and use. Steps should be taken to inhibit electrical fire, flooding and exposure to employees. Spills and leachate must not enter the ground and nearby water sources.

**Environmental Principle:** Renovation and new construction projects that are well planned and executed will allow greenhouse managers to more easily manage their environmental risks.

Operational Aspects	Environmental Assurance >>		
	Level 1	Level 2	Level 3
<b>Overview</b>			
Emergency Preparedness	emergency devices meet code requirements	emergency devices meet code requirements	emergency devices meet code requirements; emergency equipment is integrated wherever possible, and backup systems are installed to mitigate failures
Environmental Awareness	a person on the project team is assigned the responsibility for integrating BMP principles into design	a person on the project team is assigned the responsibility for integrating BMP principles into design	The entire project team is familiar with BMP principles; the project team includes a BMP lead advisor
Training	BMP principles are circulated to the project team as design criteria	BMP principles are circulated to the project team as design criteria; BMP principles are discussed during design meetings	BMP principles are circulated to the project team as design criteria; the design team can thoughtfully discuss BMP principles as the basis for design
Communication	environmental issues are not systematically addressed during design	environmental issues are considered; no consultation and guidance by qualified personnel	qualified environmental/experienced professionals are integral to the design process
<b>Management</b>			
Floor Construction	solid floor; drain to sanitary sewer	solid floor; drain to sanitary sewer	solid floor; drain to sanitary sewer; floors sloped and grooved to drain properly and prevent ponding
Building Controls	temperature control; passive ventilation	temperature and ventilation control	digital controls for environmental systems

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Disposal Systems (all waste systems: trash, compost, universal waste)	no specific waste disposal area provided	waste disposal area provided for storage of empty containers and unwanted chemicals	waste disposal area provided for storage of empty containers and unwanted chemicals
Secondary Containment Systems – Chemical Storage	portable systems provided where needed; no fixtures	portable systems provided where needed; some fixtures	portable systems provided where needed; some permanent secondary containment built-in, e.g., for fertilizer injection systems; secondary containment decisions are based on fertilizer storage, pesticide storage, and mixing/loading activities; frost heaving, tank seats and tank anchors are considered in designing secondary containment systems
<b>Support Facilities</b>			
Laundry Facilities	no special provisions are made for cleaning PPE or contaminated clothing	no special provisions made for cleaning PPE or contaminated clothing; workers generally wear disposable PPE when mixing, handling or applying pesticides	workers generally wear disposable PPE when mixing, handling or applying pesticides; washing machine and dryer are provided
Restroom & Shower Facilities	building code requirements met	building code requirements met; at least one shower available to workers	building code requirements met; shower facilities with adequate locker space are provided for each sex
<b>Safety</b>			
Worker Safety Area	no special area for worker safety provided; at least half of the following are provided, but not in an organized way: eyewash, deluge shower, first aid kit, spill response kit, fire extinguishers, telephones or other 2-way communication system for emergency notification, emergency phone numbers, material safety data sheets	all of the following are provided, but not in an organized way: eyewash, deluge shower, first aid kit, spill response kit, fire extinguishers, telephones, emergency phone numbers, material safety data sheets	all of the following are provided in an organized way or in a common location, and all staff are trained in the proper location and use: eyewash, deluge shower, first aid kit, spill response kit, fire extinguishers, telephones, emergency phone numbers, material safety data sheets