

TOPIC: Special Construction - UBC/16/#3

CODE: Structural Specialty Code: 1998 Edition

REVISED: March 1, 1999

REFERENCE: Sections 1605 & 1624 – Structural Specialty Code

SUBJECT: Structural Requirements for Buildings Used Primarily

as Horticultural/Agricultural Greenhouses

QUESTION: What are the structural requirements for greenhouses which are

used primarily for horticultural or agricultural purposes and not

used for human habitation?

RESPONSE: Horticultural/agricultural design requirements:

A. Design Loads:

- 1. Snow/roof loads: 10 pounds per square foot uniform roof snow load on The horizontal projection. In addition roof members shall be designed for the 100 pound concentrated load as required by Section 1607.4.4. This load need not be applied at more than one location at a time, but should be applied simultaneously with the snow and wind load.
- 2. Wind loads: Wind loads may be reduced but not below those required for compliance with Section 1624 (Reduced loading for miscellaneous structures).

B. Design concepts/approaches

The Building Code permits reduced loads for these buildings. Under certain circumstances light-weight rigid or flexible plastics are permitted. These

UBC/16/#3 Structural requirements for Buildings Used Primarily as Horticultural/Agricultural Greenhouses Page 2 of 2 March 1, 1999

materials frequently are capable of carrying loads beyond those required by the code. In order to assure against having the building frame collapse due to overload on the skin or glazing materials, the main structural frame and essential secondary members should be designed under ultimate stresses to carry the maximum load the skin will carry. This design load need not be greater than the normally required snow or wind loads for regular buildings and the design load shall be no less than special reduced loads allowed by Section 1634 for wind loads combined with snow loads.

C. Limitations

These design standards may only be used for the design of unattached greenhouse structures utilized for growing or storing plants and similar agricultural/horticultural purposes. These buildings are to be treated as agricultural or "special purpose" structures. There shall be no use for human habitation as living quarters.

Activities related to the primary agricultural or horticultural purposes are acceptable. Examples of such activities include: operation, maintenance and planting; seasonal use for direct retail and wholesale viewing by the public and wholesale purchasers. Also, periodic or occasional controlled and public uses such as displays, garden club groups, educational tours, will not be construed as a primary use for purposes of structural design or load requirements provided public assess is carefully controlled by the owner.

Related Code Sections:

Sec. 202 – Definition of agricultural buildings

Sec. 1607.4.4 – Special roof loads

Sec. 1624 – Wind load for misc. structures Sec. 2409.8 – Glazing in greenhouses

Chapter 26 - Plastics

Chapter 3, UBC Appendix – Agricultural building

Updates July 1, 1996 edition Replaces Code guide UBC/23/#3 which replaced Policy & Procedure # D-59.