Clark County Department of Building & Fire Prevention

4701 West Russell Road ▪ Las Vegas NV 89118

(702) 455-3000 ▪ Fax (702) 221-0630

Division:	**Plans Examination, Engineering, & Inspection**	**Policy & Procedure:**	**BD-CI-209**
Subject:	**MOUNT CHARLESTON SPECIAL DESIGN CONDITIONS**	**Effective Date:**	**05/01/2007**
Code:	**2018 codes IRC, IBC, and UPC (Table R301.2 (1), R902.1, 1608, 1904.1.1, and UPC 906.7)**	**Revised Date:**	**01/01/2021**

A. CODE REQUIREMENT

Structures on Mount Charleston have special design considerations that must be taken into account. All structures on Mount Charleston shall be designed for the minimum ground snow loads specified in the International Codes. Figure 1608.2 of the IBC does not provide a snow load for elevations greater than 6,000 feet.

B. INTERPRETATION

1. When the elevation is 6,000 feet or greater the following table shall be used to determine the minimum design snow load. The minimum design snow load values for elevations between 6000 feet and 7,000 feet shall be determined by interpolation. The finished floor elevation as shown on the approved drawings shall be the elevation used to determine the snow load.

Elevation (Feet)	Minimum Ground Snow Load Pg (psf)
6,000	40
≥7,000	100

2. Frost protection for foundations at an elevation greater than 5000 shall be a minimum of 3 feet below the lowest adjacent grade or comply with IBC 1809.5. All concrete for structures at an elevation greater than 5,000 feet shall comply with IBC Section 1904. This code section requires the use of air-entrained concrete. A concrete mix design showing the percentage of air- entrainment must be submitted to Clark County for approval.

3. Roof coverings shall be Class A or B rated as defined in IRC Section R902.1. No roof covering of wood shakes or shingles of any kind, even pressure treated, shall be used.

4. Plumbing vent terminations shall comply with UPC Section 906.7 and this policy. Each vent extension through the roof shall be at least two (2) inches in diameter. The change in diameter shall be made inside of the building at least one (1) foot below the roof in an insulated space and shall terminate not less than twenty four (24) inches above the roof.

5. Model Energy Code calculations are required to be submitted. ResChek may be used for this process. When using ResChek, Mt. Charleston is currently not listed as a choice. You shall use Ely, NV as your basis for design. All Information must be transferred to the plans i.e. U values for windows, insulation for walls, roofs, floors and slab edge.

C. RATIONALE

1. The minimum ground snow loads for elevations less than 6,000 feet are from the IRC Table R301.2(1), as amended. The minimum snow loads for elevations greater than 6,000 feet are based on the previous Mount Charleston policy developed in 1998 and revised from design loads to ground snow loads beginning with the 2009 IBC.

2. A minimum foundation depth was established due to the frozen ground conditions during the winter months and the potential for damage to structures caused by ice forming under foundations. The minimum foundation depth is from IRC Table R301.2(1), as amended. IBC Section 1904 and ACI 318 Section 19.3 require air-entrained concrete for concrete exposed to freezing and thawing.

3. The Nevada Division of Forestry has designated Mount Charleston as a hazardous fire area. As such, restrictions have been placed on roof coverings for any structure built in the designated Mount Charleston area.

4. The UPC requires special consideration for plumbing vent terminations in areas where closure due to snow is likely to occur. UPC Section 906.7 requires that plumbing vents terminate only ten (10) inches above the roof. This policy changes this requirement to twenty four (24) inches. This is consistent with the previous Mount Charleston policy developed in 1998.

5. The rationale for using Ely, NV for the basis of design is due to the Heating Degree Days (HDD) which is 8100 HDD. Ely, NV Heating Degree Days is also 8100 HDD.

Prepared By: Building Division	**Date Prepared**: 2007

Revision History:

Title		Revision/Approved Date	Effective Date
Mount Charleston Special Conditions	AD-CI-IBC-018		05/01/2007
Mount Charleston Special Conditions	BD-CI-016	08/15/2008	
Mount Charleston Special Conditions	BD-CI-016	05/20/2011	
Mount Charleston Special Conditions	BD-CI-016	12/25/2011	
Mount Charleston Special Conditions	BD-CI-016	12/27/2013	
Mount Charleston Special Conditions	BD-CI-016	12/12/2016	
Mount Charleston Special Conditions	BD-CI-209	01/01/2021	

Reviewed by:

N/A
Vacant
Engineering Manager

Werner Hellmer
Werner Hellmer, P.E.
Manage of Plans Exam.

Zach Gharibian
Zach Gharibian
ACET Manager

Matthew Brewer
Matthew Brewer
Manager of Inspections

Danny Horvat
Danny Horvat
Assistant Fire Chief

Wayne Dailey
Wayne Dailey
Assistant Fire Chief

Ofelia Monje
Ofelia Monje
Senior Management Analyst

Amara Vigil
Amara Vigil
Senior Management Analyst

Samuel D. Palmer
Samuel D. Palmer, P.E. C.B.O
Assistant Director

James Gerren
James Gerren, P.E. C.B.O
Assistant Director

Approved by:

Jerome A. Stueve
Jerome A. Stueve, P.E.
Director/Building & Fire Official