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### Notes for volunteer observers at B-stations of snow loads on roofs Thorburn, H. J.

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## TECHNICAL NOTE

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PREPARED BY H.J. Thorburn

CHECKED BY W.R.S.

APPROVED BY R.F.L.

PREPARED FOR

DATE November, 1958.

SUBJECT Notes for Volunteer Observers at B-Stations of  
Snow Loads on Roofs

These notes are intended as guides for B-Station observers taking part in a country wide survey of snow loads on roofs. The notes describe the observations required and the methods of making these observations. Suggestions regarding supplementary observations are included.

Observers are asked to make two kinds of observations:

- (i) Regular periodic observations of snow depth on one roof and on the surrounding ground. These observations are recorded on the salmon-coloured B-2 cards.
- (ii) Observations of extreme snow depths to be taken at the time when, in your opinion, snow depth is likely to be a maximum for the winter. These observations should be made on various roofs (not the "B-2" roof) and results recorded on the blue-green B-3 cards.

B-2 Observations

1. Any typical roof will be satisfactory for the regular observations. A flat roof, easily accessible from inside, is a good choice because it affords closer observation of average depths. Having selected a roof, record the information required on the back of card B-2.

2. Representative\* vertical measurements of snow depth are to be made on the roof and on the ground. The recording of observations should start when the ground snow depth exceeds 5 inches. At this time roof depths may be less than 5 inches and need not be actually measured until they reach this depth. Describe whether the snow on the roof is drifted or even and, if drifted, where the largest drifts occur (e.g. ridge, eave, valley, etc.)

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\* The representative depth is the average depth of snow cover and should be measured where the snow has neither drifted nor been swept away.

3. It is suggested that these measurements be taken weekly and in addition, if possible, after every snowfall of 3 inches or more.

4. If, after a complete winter, there has been no snow accumulation on the ground greater than 5 inches, kindly note this fact on the B-2 card. If you think that the lack of snow accumulation on roofs is the result of things other than light snowfall (e.g. wind action, excessive heat loss, etc.) your comments will be welcome.

5. At the end of the snow season please send the completed card to the Division of Building Research, National Research Council, Ottawa, Ontario.

### B-3 Observations

1. Watch for the maximum snow accumulation of the winter. When this condition occurs, look for the roof or roofs in your area (other than the B-2 roof) having the deepest accumulation or drifts. If possible measure the vertical depth of the deepest snow-drift and of several representative areas on the roof. Take four or more representative depths of undisturbed snow on the ground and record this information as required on card B-3.

2. Observe and note the snow condition on other roofs as required. If it seems necessary, use additional B-3 cards for this purpose.

3. Under "Snow Condition" please answer the indicated question by check marks. With regard to the temperature, it is suggested that, if the maximum accumulation is the result of a single snowfall, you record the high and low temperatures of the period. If this is not possible indicate a single temperature and the time of day it was taken. Failing this, estimate the temperature range of the snowfall period. If the accumulation takes place over a long period, briefly describe the prevailing temperature conditions. Remember that all temperature readings should be taken in the shade.

4. Describe the roof or roofs observed as required on the back of card B-3.

5. Please send the B-3 cards, as soon as they are completed, to the Division of Building Research, National Research Council, Ottawa, Ontario. Additional B-3 cards will then be sent to you.

6. If a snow depth greater than that recorded earlier should accumulate kindly repeat the B-3 observations.

### Photographs

In many cases photographs will provide a more accurate and complete idea of the roof, the surroundings, and the snow accumulation than a word description. This is especially true where the situation is complicated and difficult to describe verbally or in a sketch. Of particular interest are examples of extreme drifting on roofs. It is suggested, therefore, that you use photographs to supplement your observations. The Division of Building Research is able to help in two ways:

- (i) It will provide, on request, size 120, 135, or 620 film which can be returned to the Division for processing.
- (ii) For those using film other than the above sizes, the Division will refund the cost of purchase or purchase and development upon presentation of the photographs and of a proper receipt.

### Roof Failures

If you know of any roof failures in your locality caused by snow load, we would greatly appreciate receiving any relevant information you may have to offer. Photographs may also be useful.