

भारतीय मानक

नदी घाटी परियोजनाओं में कार्य मापन की पद्धतियां  
( बांध और सम्बद्ध संरचनाएं )

भाग 12 स्थलाकृतिक सर्वेक्षण

*Indian Standard*

**METHOD OF MEASUREMENT OF WORKS IN  
RIVER VALLEY PROJECTS  
( DAMS AND APPURTENANT STRUCTURES )**

**PART 12 TOPOGRAPHICAL SURVEYS**

UDC 69'003 12'627'82:528.42

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## FOREWORD

This Indian Standard ( Part 12 ) was adopted by the Bureau of Indian Standards, after the draft finalized by the Measurement of Works of River Valley Projects Sectional Committee had been approved by the River Valley Division Council.

In measurement of works of river projects a large diversity of methods exist at present according to local practices. This lack of uniformity creates complications regarding measurements and payments. Keeping in view the large amount of financial outlay involved in river valley projects and also the fact that the authorities responsible for completing these projects, are of the state level or national level, it is felt that a suitable methodology is needed for adopting uniform practices towards the measurement of works so that the scope of complications and misinterpretation of items of work is reduced, as far as possible. This standard is intended to provide a uniform basis for measuring the work done in respect of topographical surveys for river valley projects.

For the purpose of deciding whether a particular requirement of this standard is complied with the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values ( *revised* )'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

*Indian Standard*

# METHOD OF MEASUREMENT OF WORKS IN RIVER VALLEY PROJECTS ( DAMS AND APPURTENANT STRUCTURES )

## PART 12 TOPOGRAPHICAL SURVEYS

### 1 SCOPE

1.1 This standard covers the methods of measurement in respect of topographical surveys to be carried out for river valley projects.

### 2 REFERENCES

2.1 The Indian Standard listed below is a necessary adjunct to this standard:

<i>IS No.</i>	<i>Title</i>
IS 5497 : 1983	Guide for topographical surveys for river valley projects ( <i>first revision</i> )

### 3 GENERAL

#### 3.1 Clubbing of Items

Items may be clubbed together provided the detailed description of the surveys carried out in accordance with the items enumerated in IS 5497 : 1983.

#### 3.2 Booking of Dimensions

In booking dimensions the sequence order shall be consistent and generally in the sequence of length, breadth or width and height or depth or thickness.

#### 3.3 Units of Measurement

All works shall be measured net in decimal systems subject to the following limitations unless otherwise stated:

- i) Linear measurements to the nearest 0.01 m; and
- ii) Areas to the nearest 0.01 hectare.

3.4 The following work shall not be measured separately and allowance for the same shall be deemed to have been made in the description of the main item:

- i) Control surveys including control points;
- ii) Laying and fixing of permanent bench marks to be linked up with the nearest Survey of India bench mark ( *see* IS 5497 : 1983 );

iii) Collection of appropriate and adequate field data;

iv) Field control charts and records;

v) List of survey bench marks and stations, duly identified. Topographical survey plans as submitted/shown, should clearly indicate the reduced level of railways PWD, CPWD, Geological Survey of India or Survey of India wherever each references are available ( *see* IS 5497 : 1983 );

vi) Maintenance of proper survey records, including sketches and survey computations;

vii) Topographical and other surveys as required;

viii) Survey and other maps to requisite scale;

ix) L-sections and cross section of rivers, canals or highways, etc; and

x) Handing over all the above records in a complete manner including the originals.

## 4 MEASUREMENTS OF RIVER VALLEY SURVEYS

### 4.1 Area Survey

The measurement of area surveys shall be done in hectares and it shall include all items as mentioned in 3.4. These surveys shall include reservoir survey, site survey, flood control survey, catchment area survey, command area survey, and other similar surveys.

### 4.2 Longitudinal Section Survey

The measurement of longitudinal section survey shall be done on linear basis and it shall include all items as mentioned in 3.4. These surveys shall include alignment of canals, drains, highways and other similar features.

### 4.3 Cross Section Survey

The measurement of cross section survey shall be done on linear basis and it shall include all items as mentioned in 3.4. These surveys shall include alignment of canals, drains, highways and other similar features.

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Doc : No. RVD 23 ( 4412 )

#### Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

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**AMENDMENT NO. 1 AUGUST 2000  
TO  
IS 9401 (PART 12) : 1992 METHOD OF  
MEASUREMENT OF WORKS IN RIVER VALLEY  
PROJECTS (DAMS AND APPURTENANT STRUCTURES)  
PART 12 TOPOGRAPHICAL SURVEYS**

[ *Page 1, clause 3.3(ii)* ] — Substitute '10 m<sup>2</sup>' for '0.01' hectare.

( WRD 23 )

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