



REPUBLIC OF THE PHILIPPINES  
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS  
OFFICE OF THE SECRETARY  
MANILA

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3-21-89

REC'D. MARCH 21, 1989

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February 20, 1989

DEPARTMENT ORDER

No. **29** *7<sup>m</sup> 3/21*  
Series of 1989

SUBJECT: Guidelines and Instructions on  
Bridge Inspection

1. Introduction

Bridges which represents a high percentage of investment in the Philippines road network play a vital role in the economic development of our nation. It is essential therefore that inspection to determine the actual condition of these bridges are carried out in a consistent manner.

2. Purpose

- 2.1 to identify actual and potential damage and/or deterioration of the bridge at the earliest possible stage.
- 2.2 to provide assurance that the bridge is structurally safe.
- 2.3 to provide immediate remedial measures when damage occur.

3. Coverage

Inclusive of bridges along national road.

4. Inspection Classification and Frequency

4.1 Routine Inspection

The District/City Offices shall undertake the routine inspection to be carried out by the maintenance foreman when opportunity arises such as during routine road and bridge maintenance. The defects/deficiencies noted that may tend to endanger the stability of the bridge structures shall be reported to the Regional Office immediately.

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#### 4.2 Periodic Inspection

Periodic inspection is divided into two categories referred to as General and Major Inspection. The General inspection shall be carried out periodically by trained engineers from the Designing and Maintenance Division of the Regional Office at an interval of one year, to provide assurance that the bridges are safe to traffic, while the Major inspection shall be the responsibility of the Bureau of Maintenance to be carried out at an interval of two (2) years. The purpose is to update the records in the data base and make rating and assessment of the current bridge condition.

#### 4.3 Special Inspection

This inspection shall be carried out by the Regional Team undertaking the General inspection during occurrence of collapse, accidental damage of bridge members due to traffic or intentional collapse by rebels. For purposes of gathering information on the extent of damage, assessing the bridge stability and recommending course of action.

### 5. Inspection Procedures and Checklist

#### 5.1 Routine Inspection

- 5.1.1 Pavement or deck slab: Check for existence of cracks and exposed R-bars. Check the travelling condition.
- 5.1.2 Curb and Railing: Check for existence of cracks, spalls and other deterioration of concrete or steel members.
- 5.1.3 Expansion Joint: Check for existence of abnormal sound and travelling condition.
- 5.1.4 Drainage: Check drainage hole of any obstruction.
- 5.1.5 Bridge Connection: Check existence of gap or ununiform settlement of the bridge.

#### 5.2 Periodic Inspection

##### 5.2.1 General Inspection

- a) Pavement or deck slab: Check condition of waving, abrasion, cracks and pothole.
- b) Curve and Railing: Condition of damage and deterioration.

137 14/5

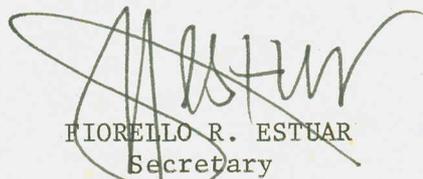
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- c) Expansion Joint: Condition of leakage, difference in level and noise.
- d) Concrete Beam: Condition of crack, of the exposed R-bar, spalling deformation.
- e) Steel Beam: Condition of crack, corrosion and deformation.
- f) Painting: Condition of discoloration due to rust.
- g) Shoe Bearing: Condition of shoe and shoe base.
- h) Abutment: Condition of crack, of expose R-bar, settlement, movement, declining and scouring.
- i) Pier: Condition of racker, of expose R-bar settlement, movement, declining and scouring.
- j) Slope Protection: Condition of drain outlet and gullies.
- k) Drainage: Condition of drain outlet and gullies.
- l) River Course: Condition of scouring and sedimentation.

5.2.2 Major Inspection

- a) Assessment of Concrete strength
- b) Assessment of concrete cover
- c) Assessment of expose reinforcement bar
- d) Assessment of pile length
- e) Assessment of steel crack and strength
- f) Assessment of load-carrying capacity
- g) Assessment of underwater.

Immediate compliance is hereby enjoined.

  
FIORELLO R. ESTUAR  
Secretary

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