
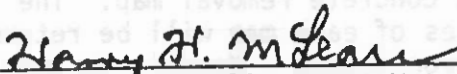


TO: MODIFIED BY EI 77-039 EFFECTIVE 8/26/1977 SUPERSEDED BY EI 77-038 EFFECTIVE 9/1/1977	 ENGINEERING INSTRUCTION NEW YORK STATE DEPARTMENT OF TRANSPORTATION
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APPROVED:  _____ Harry H. McLean, Director, Materials Bureau	<div style="text-align: right; font-size: 1.5em; font-weight: bold;">Sup 77-34</div> Code: <u>EI 77-1</u> Date: <u>1-3-77</u> Supersedes:

The Federal-Aid Highway Program Manual (Vol. 6, Ch.7, Sec. 2, Subsec. 7) requires that a detailed field appraisal be made of any bridge deck to define the inadequacies of the existing deck when restoration of the deck is warranted. The Manual further states that such an appraisal should include delamination detection, determination of reinforcing steel corrosion, determination of areas with inadequate concrete cover, and determination of the extent of chloride contamination. The Materials Bureau has been given the responsibility for developing suitable field procedures, acquiring the necessary equipment, and training Regional personnel to perform bridge deck surveys.

As part of a pilot training program to evaluate a draft field manual and training course, we request that each Regional Director nominate an individual who will be responsible for the supervision and administration of the bridge deck surveys in his Region. That individual should be given a copy of the attached draft of the field manual to read before attending a two day training session to be conducted in Albany sometime in February. Their comments on the manual and the training course will be considered in the preparation of the final versions. Nominations for the pilot training session should be sent to the Materials Bureau by January 24.

The data required by FHWA is used to specify the areas of the deck requiring various types of repair in the design of the reconstruction project. Our experience to date has shown these procedures to be an accurate and valuable predictor of the repairs necessary to restore a deteriorated deck. In addition this data represents a valuable source of historic information for the prediction of bridge deck life, evaluation of deck design alternatives, and forecasting future maintenance needs. In order to provide uniformity in the collection and presentation of this data, it will be entered in the computer for analysis, mapping and storage. Computer storage of the data will be particularly useful in the analysis of the cost effectiveness of experimental reconstruction projects which require periodic resurveys of the deck condition.

The attached field manual presents the current state of the art of the measurement procedures used to determine the condition of a bridge deck. It is specific and contains detailed instructions to be followed by the survey crews in the field. The manual will also be used as the basis for

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a two day training course to be given to the survey crews. We currently expect to issue the final version of the manual, train the survey crews, and distribute the necessary equipment to each Region in April or May. Some Regions have already received some equipment and training but changes in the measurement procedures require that all survey crews be retrained.

The manual makes reference to a computer mapping program for the preparation of concrete removal maps which will be available through the Materials Bureau. The program will produce six contour maps for each slab-span surveyed showing the depth of cover, corrosion potential, the three classes of concrete removal and a combined concrete removal map. The 11" x 17" original and four 8½" x 11" copies of each map will be returned to the Region for use in the "Deck Evaluation Report - Monolithic Deck Reconstruction Projects" required by the Structures Subdivision. In addition to the savings to be realized in the man-hours required to produce such maps, use of the computer produced maps will standardize the format of the maps both within and between Regions. It is hoped that the program will be available at the time the survey crews are being trained. However, if the program is not available at that time, the survey crews will still be required to use the "Bridge Deck Condition Survey" form to record data in the field. The original of the form is forwarded to the Materials Bureau and the copy is retained by the Region.

Further information on the exact dates of the pilot training program to be held in February will be forthcoming.

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