Form PR-33A (Rev. 5-60) Wald	INTERMEDIATE	U. S. DEPARTMENT OF COMMERCE BUREAU OF PUBLIC ROADS CONSTRUCTION INSPEC	Brok TION REPO	Walde	o-Hancock bridge an E. Jackson ,994.85
Region No.	Report No.	County Waldo-Hancock		State Maine	
Date of inspection Nov. 9, 1961	Inspection made by	. W. Hove, Bridge Engineer		Project No. F-042-1(9)	
In company with Mr. Cl	harles Whitten and	Mr. Oscar Bunker, M.	S.H.C.		
Quality of work	Progress of work	78/200 = 39 %	Work completed 33	8	Est. compl. end of month 37

Although the time elapsed percentage exceeds slightly the work completed percentage on this project. I still consider the progress of work to be satisfactory.

1. Completed Work

All of the superstructure widening that was planned to be done this year has been completed. This amounts to 710 feet which has been widened and paved with a bituminous concrete wearing surface. The south side of the east abutment has been widened. The forms for the west abutment have been erected up to elevation 121.56, and approximately 5 feet of concrete has been placed in these forms over the abutment footing. All of the column footings in the westerly abutment widening have been placed, and approximately 7 to 8 feet of concrete has been placed in four of these columns. The one short column has been completed entirely. The bridge is now open to traffic two-way with the exception of a small construction at the west end which is still being controlled by a traffic officer. The Resident Engineer anticipates that this will not be necessary for a much longer time since the construction of the west abutment widening will have proceeded to a point whereto traffic can be permitted throughout the rest of the year and the winter.

2. Work in Progress

During my inspection the contractor was in the process of erecting forms and reinforcing steel for the wing wall and columns involved in the widening of the west abutment approach.

3. Comments

a. Materials: During my inspection I made a review of the concrete cylinder test reports to ascertain what strength concrete has been obtained on this project to date. Of the 28 day test reports, 87% of these reports indicated an average concrete strength of 3,000 psi or more. The average strength of all of the 28 day test reports was 3,267 psi which is considered to be entirely adequate. The Resident Engineer has also maintained an average strength for the 7 and 14 day tests; and these were 2,338 psi and 2,856 psi, respectively.

Some calcium chloride (CaCl2-2%) to attain early strengths in some of the last slab panels placed on the superstructure was added to the concrete mix. This was done to attain a high strength in these slabs as soon as possible so as to permit the paving operation to proceed before the weather became too cold to permit this operation.

(more)

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Description: Intermediate Construction Inspection Report for the Waldo Hancock

Bridge

I also reviewed a copy of a progress test made on the bituminous wearing surface placed on the bridge superstructure. In addition I reviewed certificates for cement. I also asked the Resident Engineer if he had received the results of the tests that were to be run on the reinforcing steel which I had recommended be sampled during an earlier inspection. He informed me that these results have not yet been received. Mr. Whitten indicated that he would follow up these tests to see if they have been made to date. We had suggested during a previous inspection that some of the reinforcing steel which appeared to be Norwegian steel that has shown up on some other projects should be tested.

b. Progress: At the present time the contractor plans to place concrete up to the construction joint in the west abutment and then suspend his operations for the winter. It would not be practical to go above this point because of the extreme care and expense involved in placing winter concrete. He does hope to get the abutment constructed up to the point where it will be ready for the placing of steel beams next spring, however.

c. Overruns and Underruns: The Resident Engineer anticipates an overrun in the traffic officer item of the project, as has been indicated in a previous inspection report. The Engineer's estimate allowed 10,000 man hours for this item, and the Resident Engineer informed me that over 8,000 man hours have already been used, and the project is only 33% complete.

The Resident Engineer also anticipates a slight overrun in the bituminous concrete wearing surface. He stated that the estimate for the wearing surface placed to date was 142 tons, whereas 168 tons were actually placed. He has been unable to explain this overrun but does not feel that it is unusual. Apparently the thickness in the wearing surface due to some irregularities in the concrete deck perhaps has varied somewhat from the plan dimension of 12 inches.

d. Change Orders and Extra Work Orders: None are anticipated at the present time.

e. General: During our inspection Mr. Bunker, Mr. Whitten, and I carefully inspected the completed portion of the widened superstructure. We noted during our inspection that a good number of the slab panels indicate cracks in the safety walk surface in the area which overlies the steel angle attached to the existing railing. This location is 2 to 3 inches from the outside edge of the safety walk. The reason for these cracks appears to be the fact that the bridge does carry traffic during the placing of concrete and being a suspension bridge is subject to considerable vibration and movement. Such movement could cause this type of cracking, and it appears that it has in this case. Since the cracking seemed to be of considerable magnitude, I suggested to Mr. Whitten that perhaps we ought to review the design details for this particular portion of the superstructure in the hope that perhaps we could come up with an alternate design which would satisfactorily serve the purpose that the safety walk would and yet avoid this cracking which seems to be inherent. He agreed and will urge the designers in the Bridge Division to do so this winter prior to the start of construction next spring. I recommended to Mr. Whitten that some scheme could perhaps be devised which would completely separate the safety walk concrete from the steel angle attached to the existing railing, thereby preventing vibration from affecting the thin concrete slab in this area.

Submitted by: Kogul Ame Arabana Sauca Sauc

cc: State(2)

RWHove:slc