

MICHIGAN  
STATE HIGHWAY DEPARTMENT

Interoffice Communication

June 5, 1956

TO: W. W. McLaughlin  
Testing and Research Engineer

SUBJECT: Rigidity Tests on LaClede Dowel Bar Joint Assembly.  
Report No. 259 which supplements Report No. 200  
and 237. Research Project 39 F-1(3).

At the request of C. B. Laird, Assistant Construction Engineer, the Research Laboratory has tested the LaClede dowel bar contraction joint assembly (Laboratory Sample No. 56 MR47) and the results of this testing are reported herein.

Vertical and lateral load-deflection tests on a simply supported 8 foot, 0 inch, span with a concentrated load at mid-span were conducted in accordance with the procedure used previously on other dowel bar joint assemblies and described in Report No. 200.

Figure 1 shows a cross-section of the assembly while Figures 2, 3, and 4 show the assembly and the tests being conducted on it. Figure 5 illustrates the vertical and horizontal load-deflection relationships for the LaClede assembly (Type G contraction) compared to the Bethlehem assembly (Type C contraction) which has been used as a standard of comparison on previous studies (Report No. 200 and 237).

The LaClede assembly is 1.6 times as stiff vertically and 2.2 times as stiff laterally as the Bethlehem assembly. The latter assembly has been considered as the standard of acceptability since this assembly has had satisfactory field performance and it is superior to assemblies used in Michigan prior to 1953.

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Research Engineer

MAF:LTO:rb  
cc: H. S. Rathfoot  
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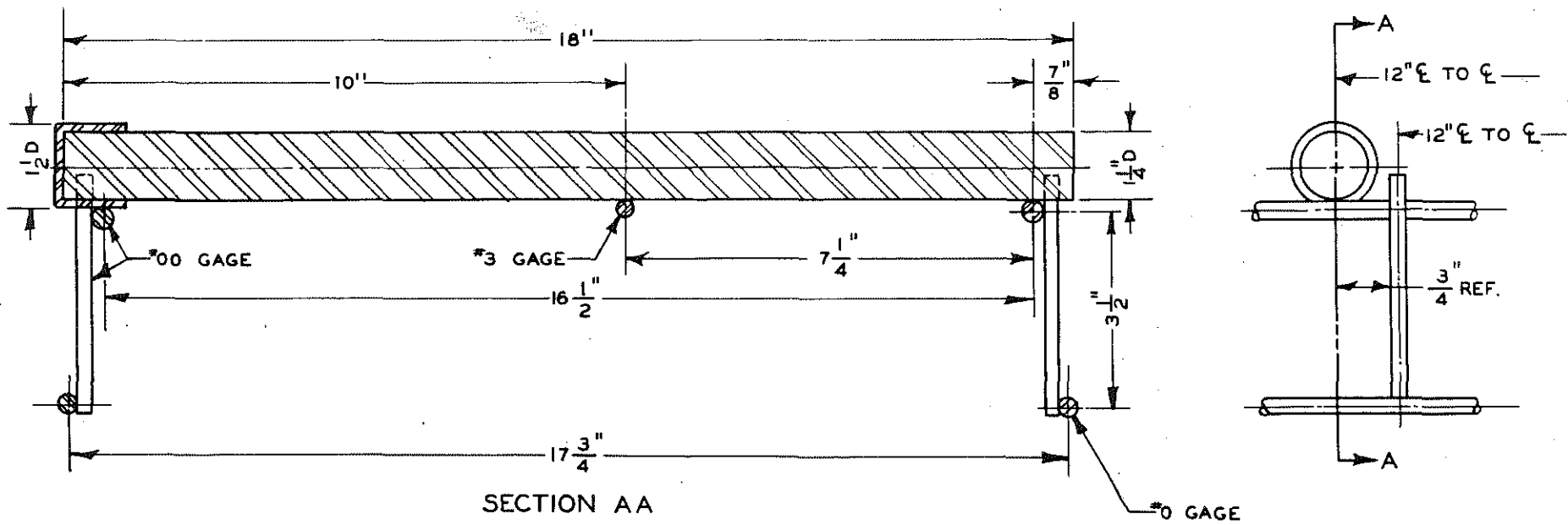


FIGURE 1

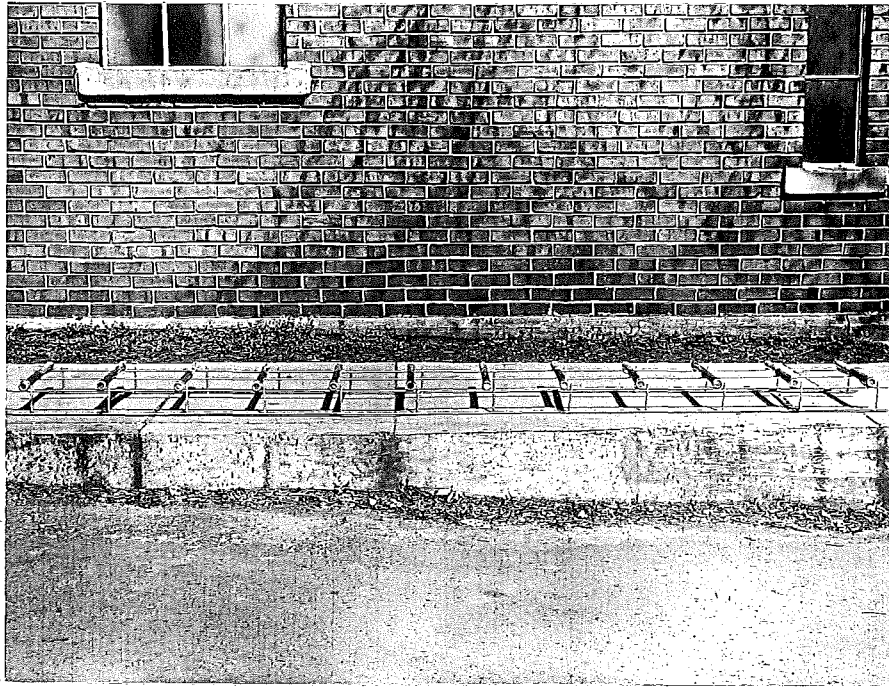


Figure 2 (a) Overall view of dowel basket assembly

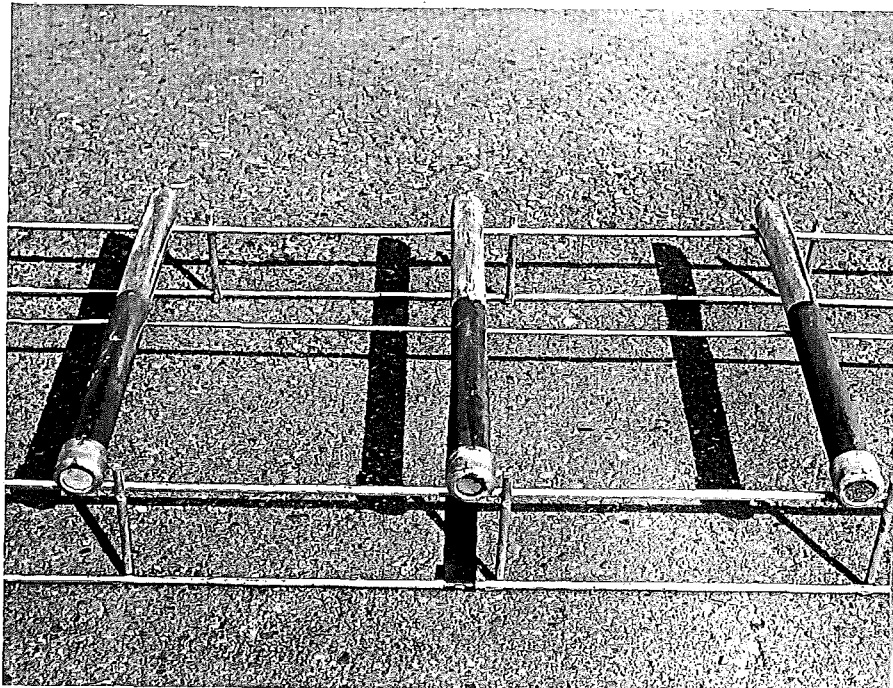


Figure 2 (b) Close up view of dowel bar assembly

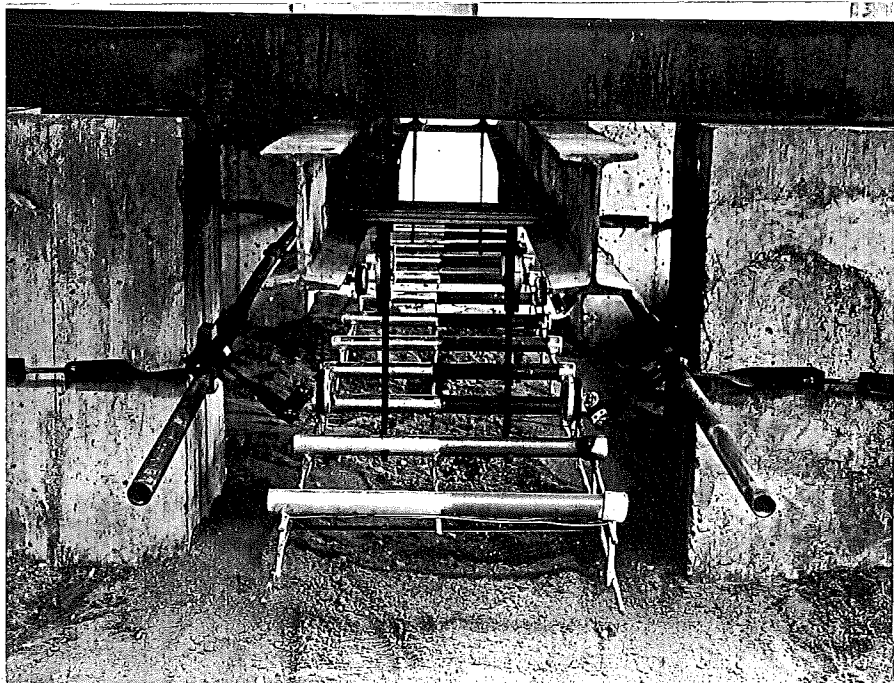
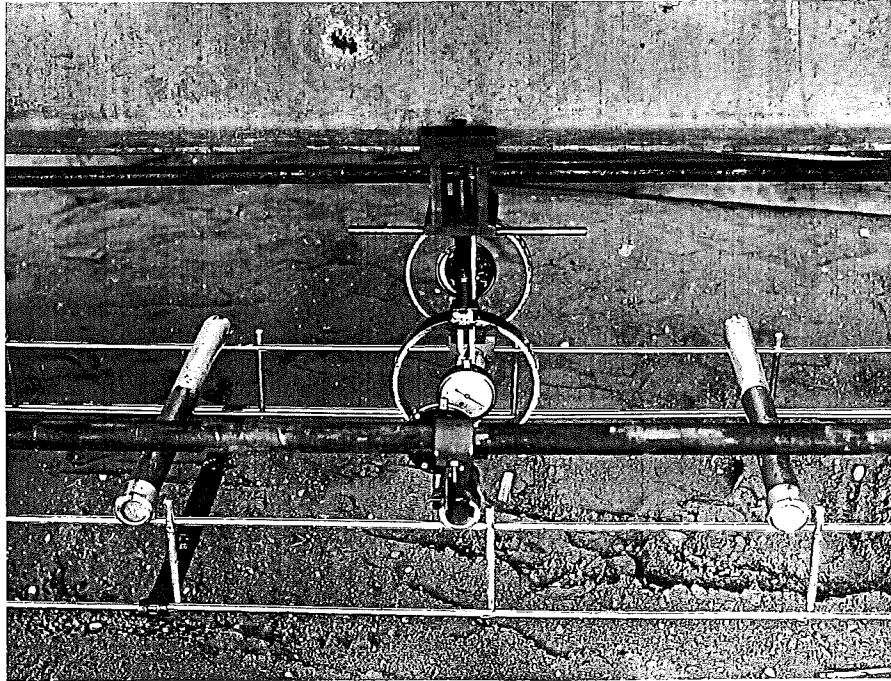


Figure 3 Test set up for vertical loading

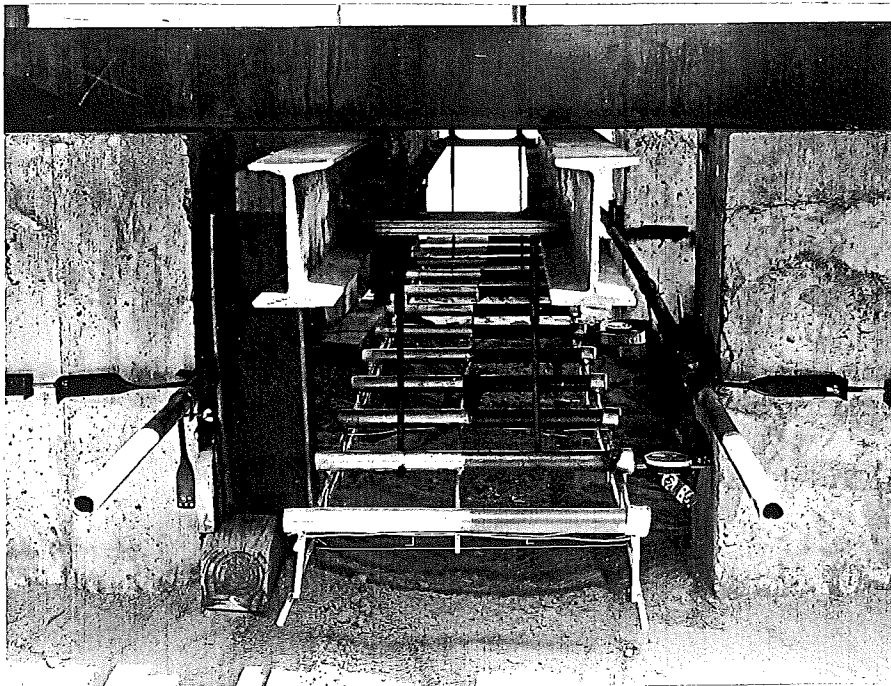
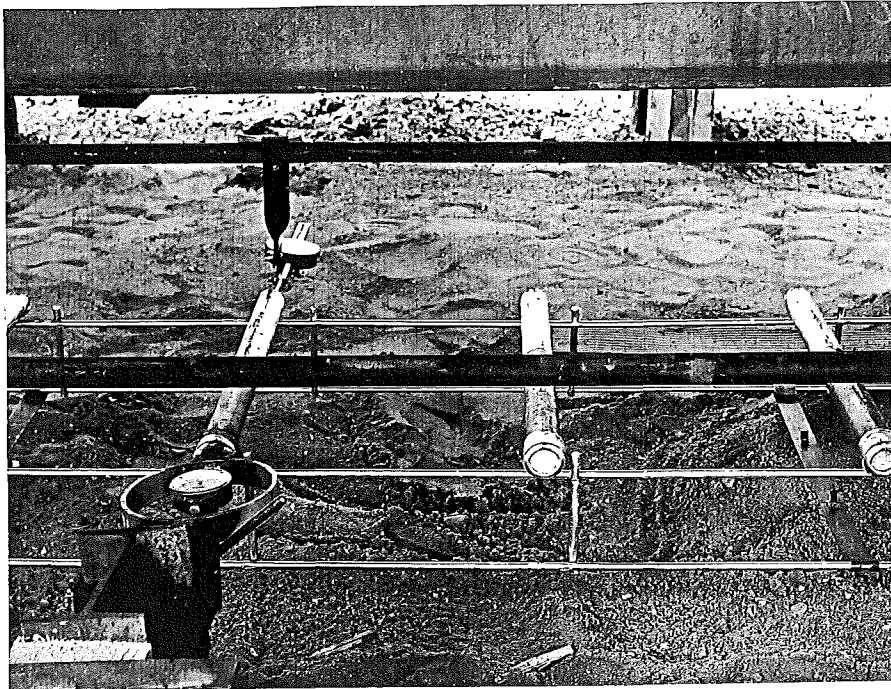


Figure 4. Test set up for lateral loading.

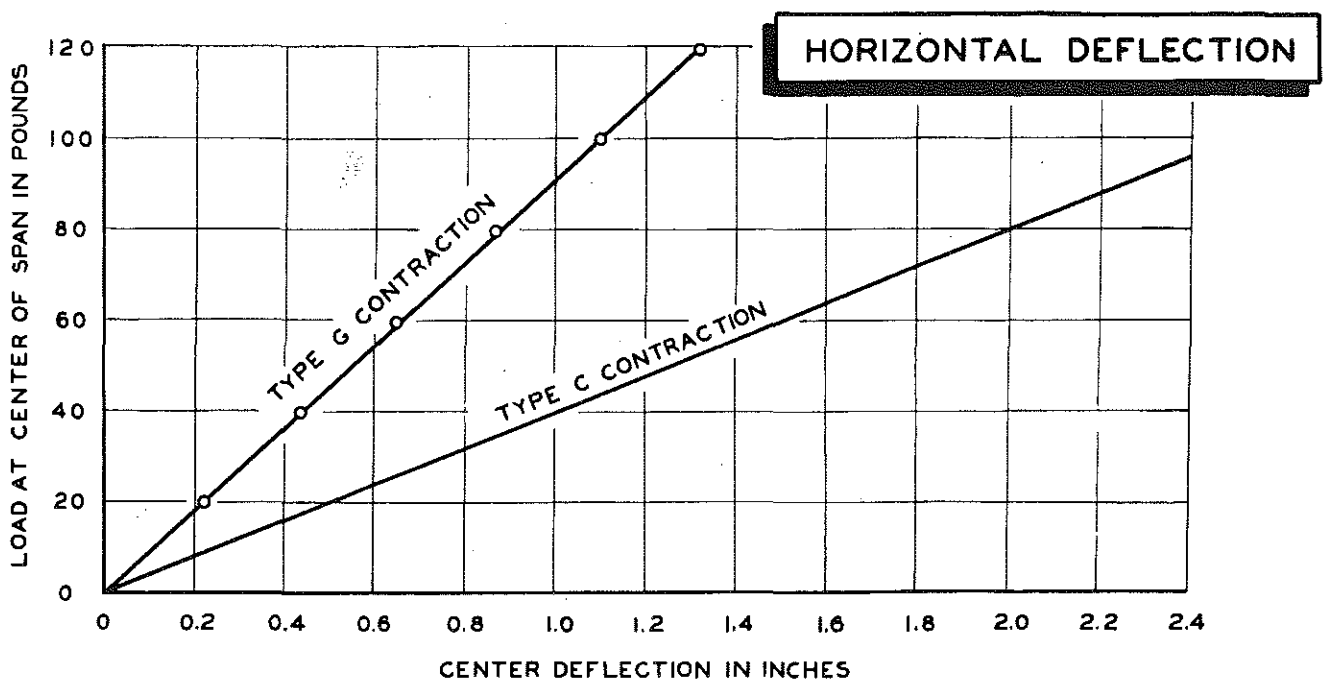
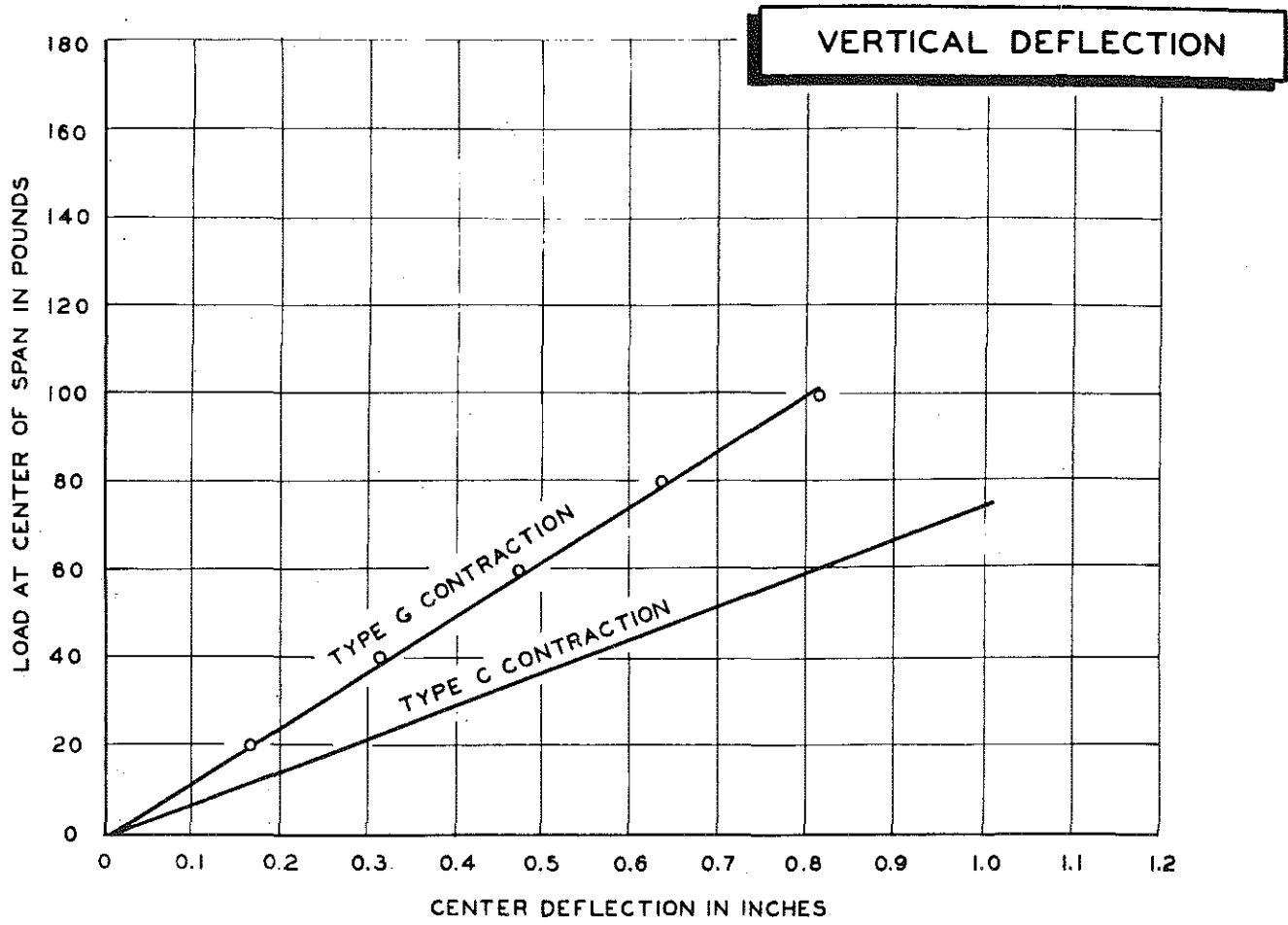


FIGURE 5