

MICHIGAN  
STATE HIGHWAY DEPARTMENT  
Charles M. Ziegler  
State Highway Commissioner

FAILURE OF EXPANSION JOINT FILLER ON

JOHN C. LODGE EXPRESSWAY: CONSTRUCTION PROJECT 82-127, C27

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Highway Research Project 39 G-4(7e)

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Research Laboratory  
Testing and Research Division  
Report No. 183  
September 30, 1952

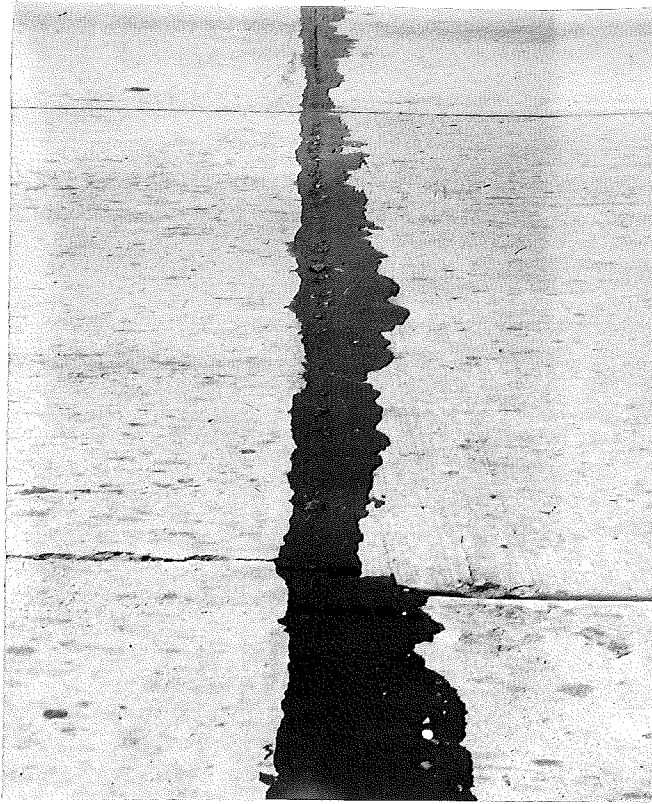
FAILURE OF EXPANSION JOINT FILLER ON  
JOHN C. LODGE EXPRESSWAY; CONSTRUCTION PROJECT 82-127, C27

At the request of W. W. McLaughlin, a field condition survey has been made of failed expansion joint filler material on the John C. Lodge Expressway, Project 82-127, C27. This survey was made on August 13, 1952 by W. C. Broughton, accompanied by T. C. Holmes.

The results of the survey are presented pictorially in attached Figures 1 through 5. In all cases, failure of the joint filler material is exemplified by abnormal extrusion of the material above the surface of the pavement, displacing the joint sealing material. The extruded joint filler is, in turn, flattened out or worn away under traffic. Where this material has been used in concrete base course under bituminous surfacing, the extruded joint filler has ruptured the bituminous surfacing along the joint causing the bituminous surfacing material to ravel. This condition is clearly demonstrated in Figure 3.

Subsequent to the survey on the Lodge Expressway, similar failures of the same type of filler installed in other locations have come to light. One example of such failure is illustrated in Figure 6, which shows filler extrusion from a joint on the South approach to the Main St. bridge in Lansing. Other examples could also be cited.

We understand that the use of this type of joint filler is no longer permitted.



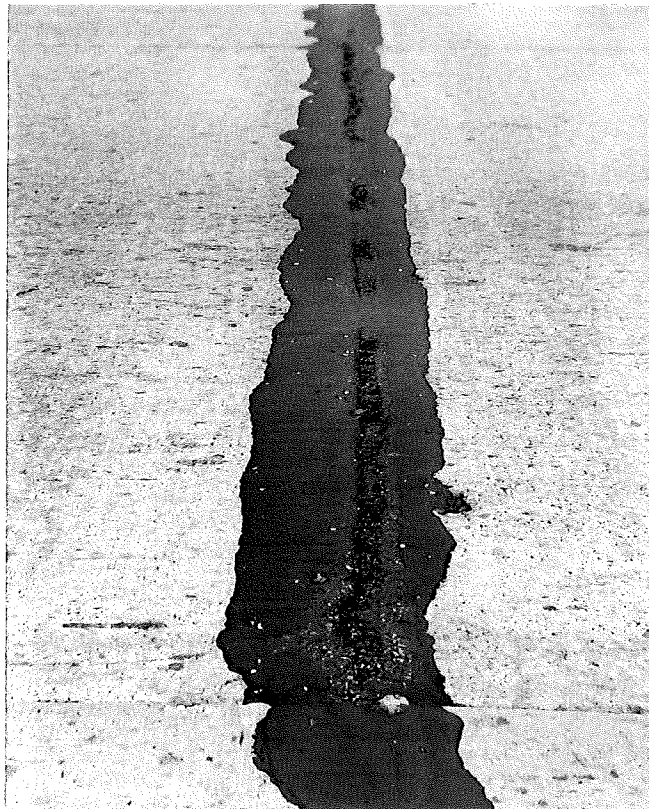
A. View of joint at Station 633+20, Northbound lane, showing extruded and displaced filler.



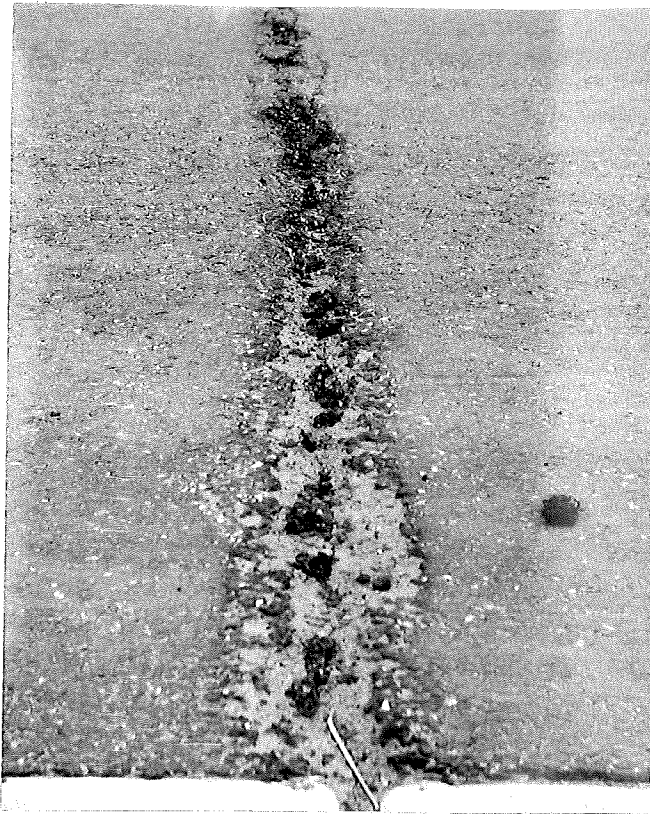
B. Close-up of joint at Station 633+20, Southbound lane, to show extrusion and displacement of joint material.



A. Joint in southbound lane, Station 637+20.



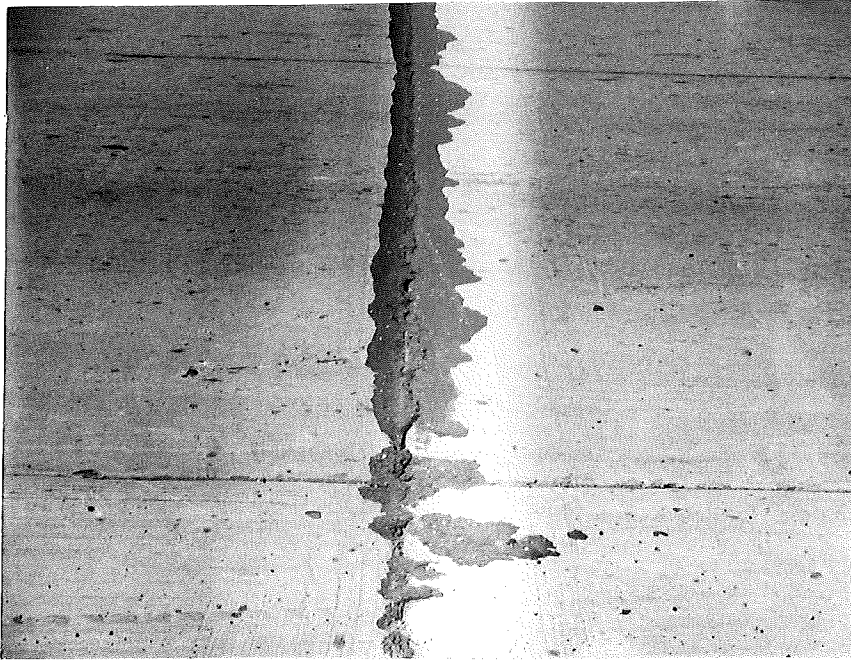
B. Joint in southbound lane, Station 639+80.



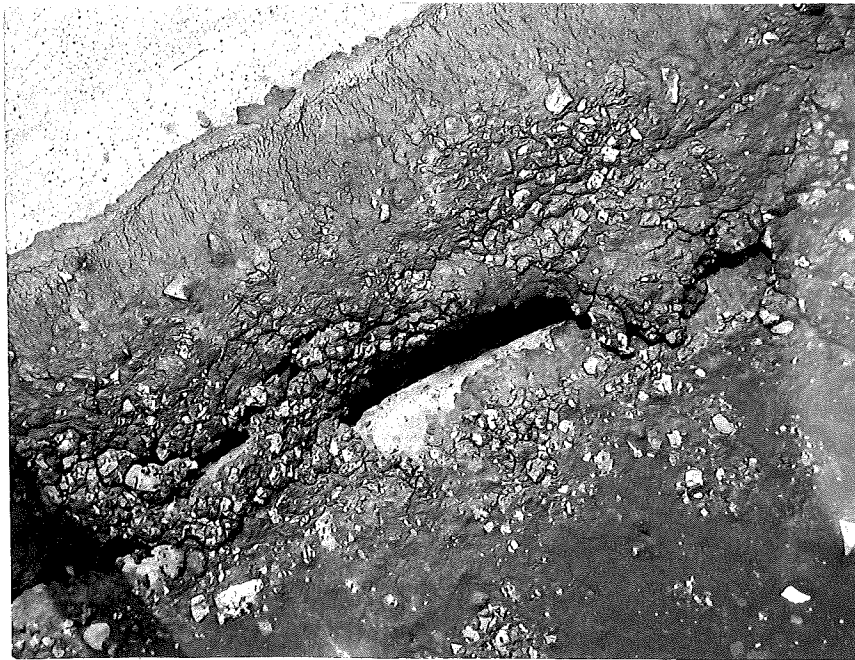
A. View of joint at Station 649+90 of approach showing effect of joint filler extrusion on bituminous surfacing.



B. Close-up of a section of above joint showing destruction of bituminous surface by extruded filler.

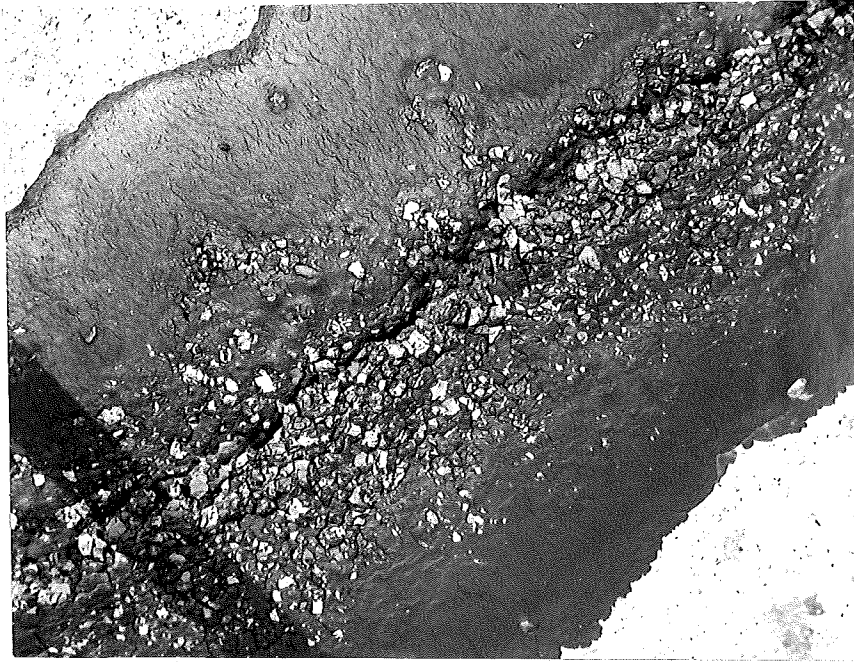


A. View of joint on northbound lane, Station 649+90, showing extrusion and displacement of joint filler.

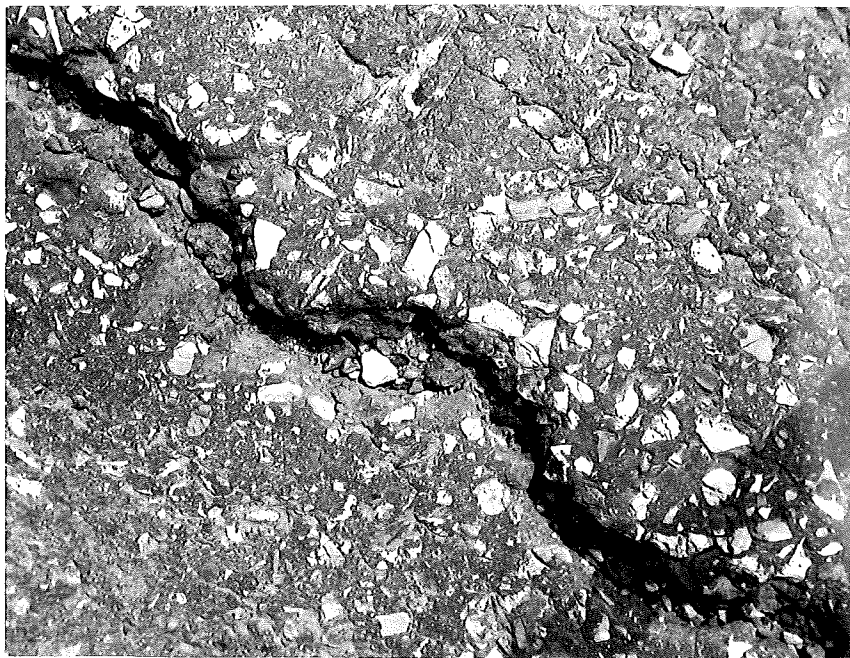


B. Close-up of section of above joint to show extruded joint material.





A. Close-up of section of joint, southbound lane, Station 650+1.0, showing extrusion and displacement of filler material.



B. Close-up of section of joint in approach ramp from Milwaukee Avenue to southbound lane to show joint destruction, Station 650+10.



A. Expansion joint in south approach to Main St. Bridge, Lansing; Project U 33-66, Cl. Note extrusion and breakdown of filler.



B. Close-up of above joint,