



STATE OF CALIFORNIA

DEPARTMENT of TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

MATERIALS ENGINEERING and TESTING SERVICES

5900 Folsom Boulevard
Sacramento, California 95819



Interstate 15 – South Bound
PM 55.7 to PM 53.5

PAVEMENT EVALUATION - Part I

DISTRICT 8
San Bernardino County
Interstate 15 – South Bound

CONTRACT NUMBER: 08-4277U4

July 2001

ACKNOWLEDGEMENTS

The Office of Rigid Pavement and Structural Concrete would like to express our gratitude to the following for their participation, assistance, and support:

DISTRICT 08

Headquarters - Division of Maintenance

Maintenance - Barstow

Materials Engineering

Design - Branch 'C'

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SUMMARY

A recently accepted concrete pavement project on Interstate 15 (I-15), near Barstow in San Bernardino County, widened a segment of I-15 between Powerline Road and WildWash Road in the southbound direction. The project was completed in May 2000.

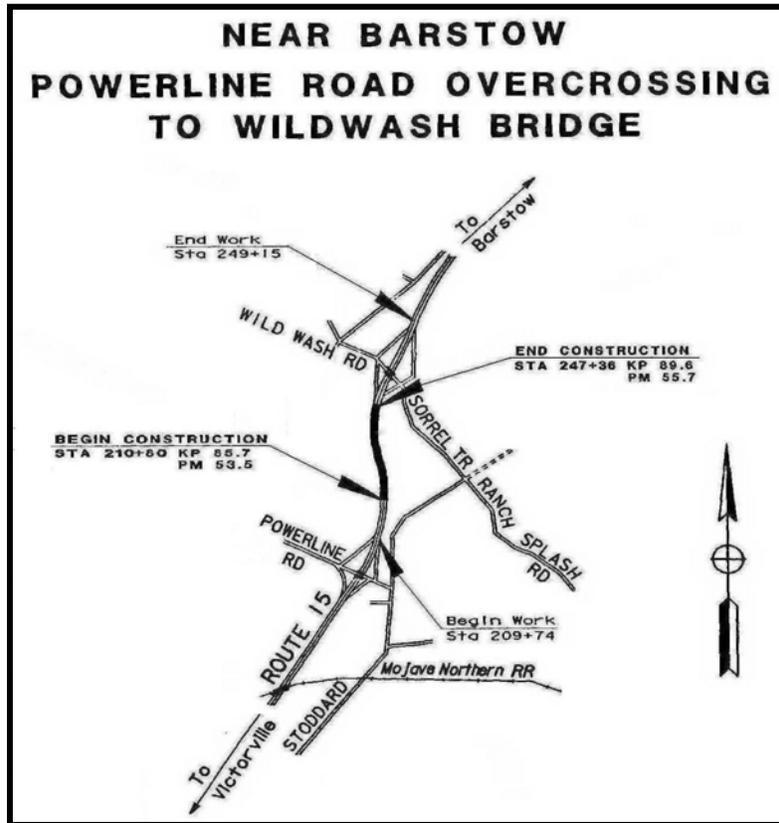


Figure 1. Project Location

District 08 Maintenance expressed concerns over the deterioration of the newly constructed pavement and requested that the Office of Rigid Pavement and Structural Concrete assess the condition of the concrete pavement and make recommendations.

In a meeting with the District's Maintenance Reviewer, the Office of Rigid Pavement and Structural Concrete recommended that a series of six reference points be established alongside the newly widened segment from which the pavement could be monitored and evaluated every four months for one year. The first of these evaluations was performed on March 8, 2001.

The Office of Rigid Pavement and Structural Concrete has released a post construction review report, dated June 2001. The report contains observations, findings, conclusions, and recommendations associated with the construction practices of this project.

INSPECTION TEAM

The pavement inspection was performed by:

Office of Rigid Pavement and Structural Concrete

Doran Glauz	Senior Materials & Research Engineer
Karl Smith	Maintenance Manager I
Raul Alarcon	Transportation Engineer

District 08 Maintenance - Barstow

Armand Silva	Maintenance Superintendent
John Harper	Maintenance Supervisor

District 08 Materials Engineering

Bruce Kean	District Materials Engineer
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District 08 Design C

Ahmad Shah	Project Engineer
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REFERENCE POINTS

A series of six reference points were established from station 218+49 to 239+05.

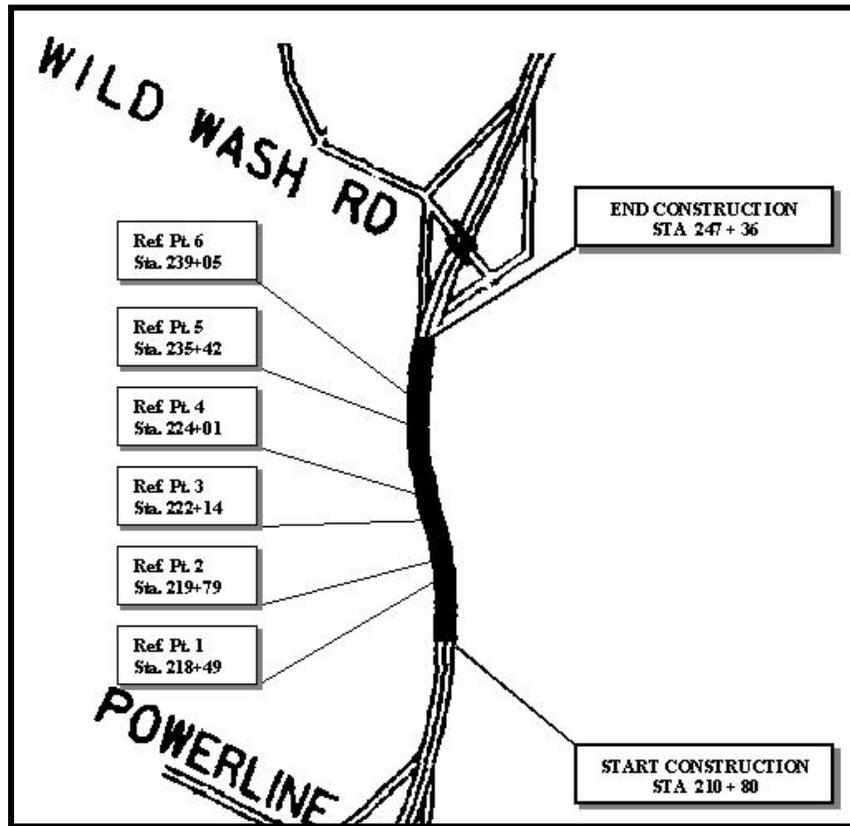


Figure 2. Reference Point Locations

Reference Point #	Station	GPS Coordinates*	
		N	E
1	218 + 49	N	3836912
		E	480669
2	219 + 79	N	3837036
		E	480644
3	222 + 14	N	3837266
		E	480589
4	224 + 01	N	3837446
		E	480546
5	235 + 42	N	3838544
		E	480540
6	239 + 05	N	3838871
		E	480684

*based on NAD-83 datum

The reference points were randomly selected and will be used to monitor the progression of surface distress.

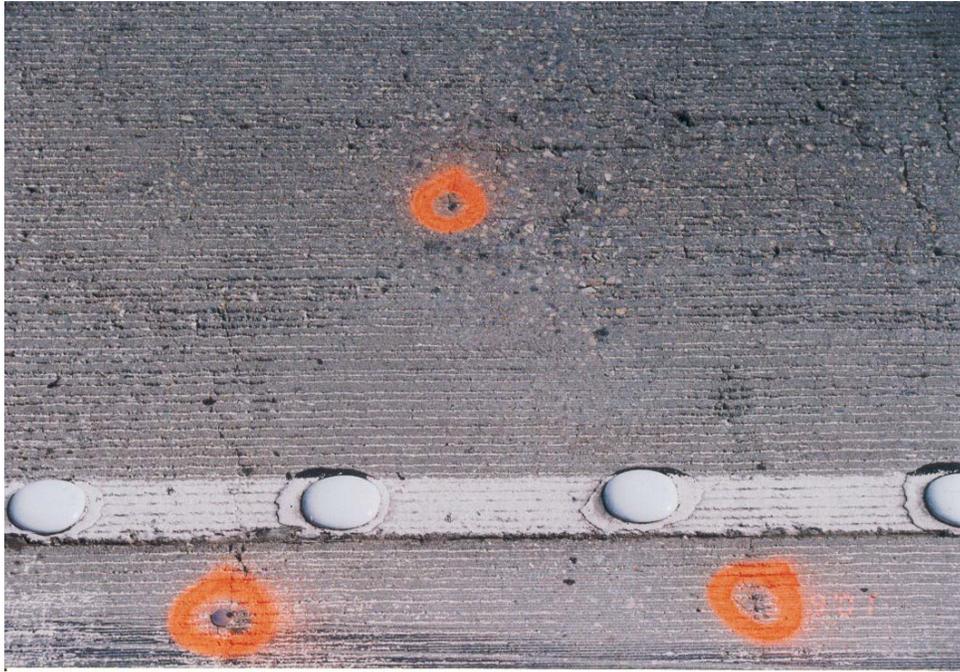


Figure 3. Reference Point #1

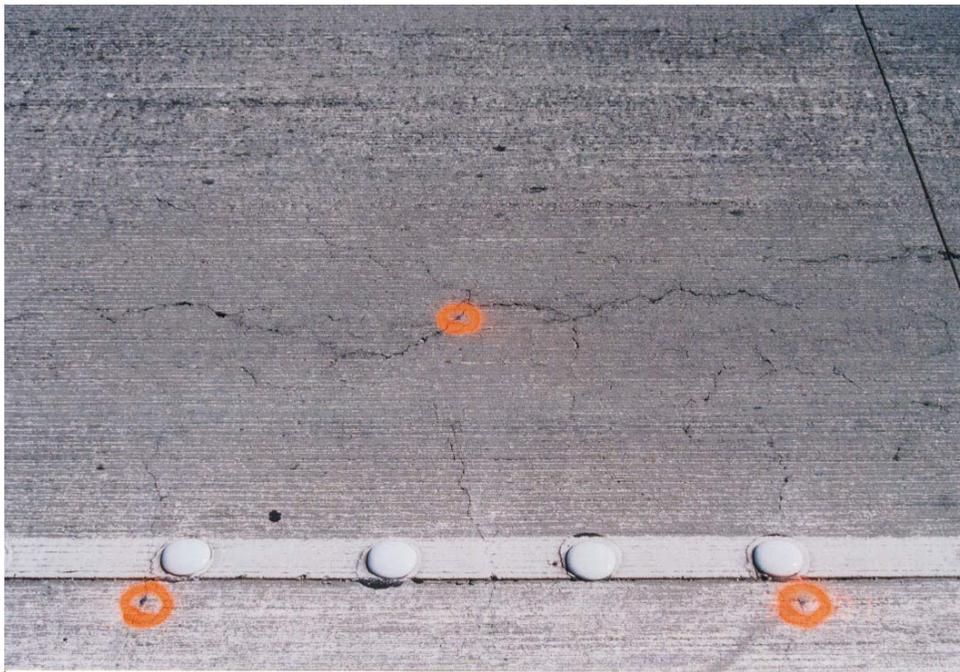


Figure 4. Reference Point #2

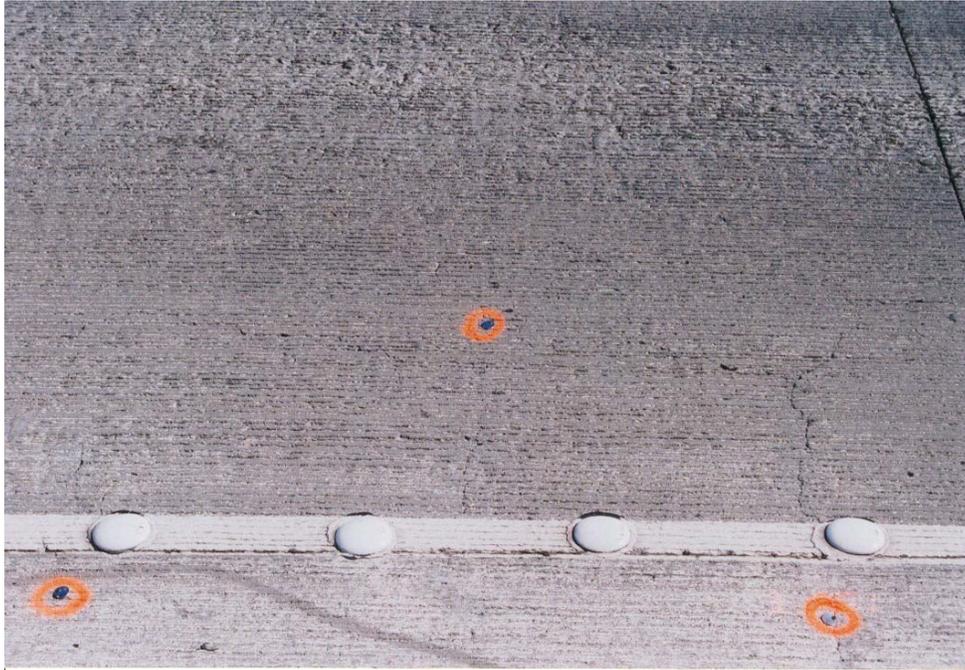


Figure 5. Reference Point #3



Figure 6. Reference Point #4



Figure 7. Reference Point #5



Figure 8. Reference Point #6

OBSERVATIONS

The inspection began at station 218+00 and proceeded to 247+36 (north end). Several panels along the widened segment were examined. Figures 9 through 18 show typical distresses observed in various panels from stations 218+00 to 233+00.



Figure 9. Panels near Station 218+50



Figure 10. Panel near Station 220+00



Figure 11. Panels near Station 220+45



Figure 12. Panels near station 225+20



Figure 13. Panels near Station 229+19



Figure 14. Panels near Station 232+89

Spalls and punchouts were also observed at the transverse joints of several panels.

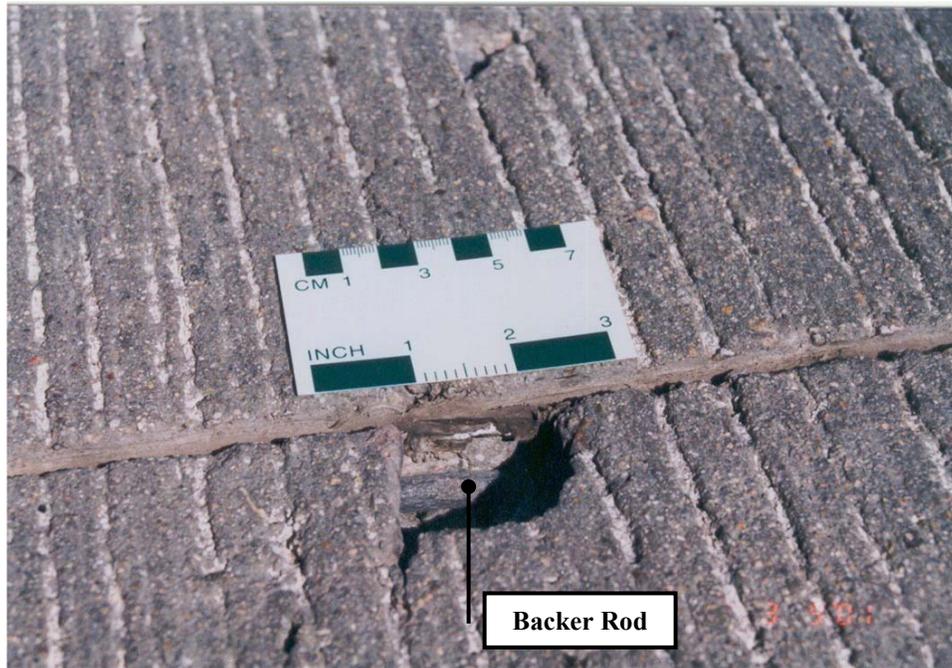


Figure 15. Near Station 220



Figure 16. Near Station 223

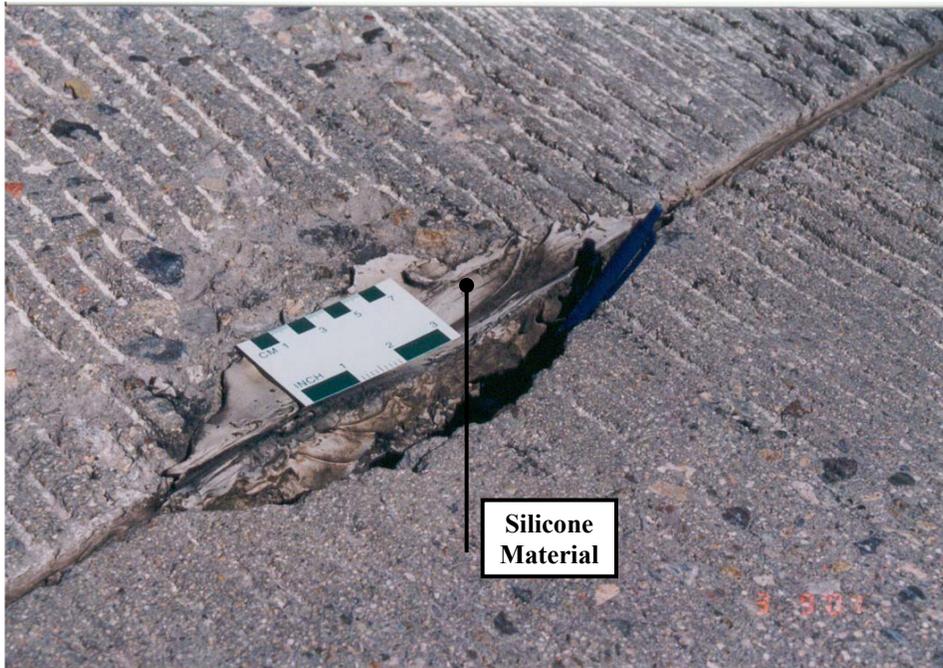


Figure 17. Near Station 225

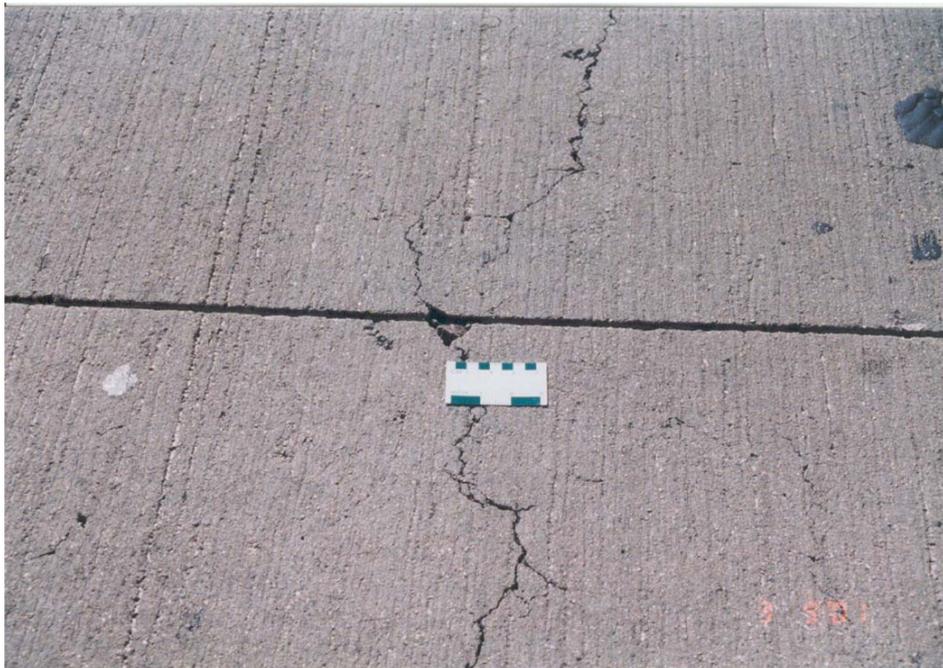


Figure 18. Near Station 229

During the inspection, District 08-Design C informed us that the section of pavement from station 210+80 to approximately 218+00 would be removed to correct the roadway profile.



Figure 19. Near Station 218+50

Initially, surface cracks in new pavement may not be visible. However, after the pavement has been opened to traffic and subjected to loads, surface cracks may become more visible and give the appearance of increased cracking.

CONCLUSIONS

From the established reference points, the pavement can be effectively monitored.

RECOMMENDATIONS

Follow-up pavement evaluations will be performed on or about the following dates:

1. July 9, 2001
2. November 9, 2001
3. March 9, 2002

POINTS OF CONTACT

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