SDHPT 512-11

JFN-IKM-RN

# TEXAS A&M UNIVERSITY

TEXAS TRANSPORTATION INSTITUTE
COLLEGE STATION TEXAS 77843

750.512-11

HIGHWAY MATERIALS

June 7, 1982

Mr. Phillip L. Wilson
State Planning Engineer, Transportation
State Department of Highways
and Public Transportation
Austin, Texas 78701

Attention: Mr. Ivan K. Mays

Dear Sirs:

Enclosed is a reproducible original and seven copies of the flexible pavement evaluation (visual survey) information on FCIP Study No. 1-10-75-512, "Post Construction Evaluation of U.S. 69 Sulphur Asphalt Pavement Test Sections in Lufkin, Texas". Also enclosed is a set of slides giving views of the test sections.

One change observed to have taken place in the trial sections since October of 1981 is the first slight increase in rutting in Lane R, the travelled lane, for several sections. This rutting or wheel track depression ranges from 1/2 to 3/4 inch and has occurred mainly in the inside wheelpath of the outside (travelled) lane in the following sections:

| Trial Section | Station to Station | Field Trial Material |
|---|---|---|
| Section 10 | 167+00 to 170+50 | 4.8% AC HMAC; |
| Sections 8 & 9 | 170+50 to 177+50 | 5.65% SEA HMAC over 4.8% AC HMAC; |
| Section 7 | 177+50 to 181+00 | 5.4% AC Hot Sand; |
| Sections 2 & 3 | 193+00 to 200+00 | 5.65% SEA HMAC over 6% SEA Hot Sand; |
| Section 1 | 200+00 to 203+50 | 4.8% AC HMAC over 5.4% AC Hot Sand |

The other changes observed are small increases in one or two of the distress types of alligator, longitudinal and transverse cracking for each of several sections. In all but one instance, the distress

magnitude has gone from negligible in the October, 1981, visual evaluation to the first reportable, or least amount category, in the April, 1982, visual evaluation.

Average values of Pavement Rating Scores for the SEA sections and the pure asphalt cement sections at 85 and 84, thus being approximately equal at this time.

All required tasks have been performed. The total project budget is $2,106, and funds spent total approximately $1,800 at this time.

The onset of rutting in four of the SEA and all of the pure asphalt cement sections in the travelled lane is the significant factor presently affecting, only slightly, the performance of the trial sections - SEA Sections 4, 5 and 6 have not experienced this problem. It should also be noted that Sections 5, 6 and 7 are the thin sections - underdesigned in an effort to show early distress.

If you have any questions, please feel free to call.

Sincerely,

Bob M. Gallaway

Bob M. Gallaway
Research Engineer

BMG/bc

Enclosures

# FLEXIBLE PAVEMENT EVALUATION

SYSTEM - ID & CARD - ID: MMS E1 (cols 1-5)

DISTRICT NO.: 11 (cols 6-7)

RATERS:

DENUM JK (cols 8-19)

LYONS D (cols 31-41)

DATE: MONTH 04 (cols 60-61) DAY 27 (cols 62-63) YEAR 1982 (cols 64-67)

## COMMENTS / NOTES

NOTE:
ZERO SHOULD BE INSERTED IN APPROPRIATE PAVEMENT CONDITION COLUMN IF NO VISUAL DEFECT IS NOTED

*1. Most transverse, alligator and longitudinal cracking in these sections seems to be caused by core holes.

2. Most of rutting in R lane is occurring in the inside wheel paths with rut depths ranging from 1/2" to 3/4".

| SYSTEM ID | CARD - ID | COUNTY NO | FOREMAN NO | HIGHWAY NO | FROM MILEPOST | FROM DISPLACEMENT | TO MILEPOST | TO DISPLACEMENT | LANE | PAVEMENT CONDITIONS: RUTTING 1/2"-1" = 1, >1" = 2 % AREA (1-25, 26-50, >50) | RAVELING % AREA (1-25, 26-50, >50) | FLUSHING % AREA (1-25, 26-50, >50) | FAILURES NO. PER LN. MI. (1-5, 6-10, >10) | ALLIGATOR CRACKING % AREA (1-10, 11-50, >50) | LONGITUDINAL CRACKING LIN FT PER STA/LN (10-99, 100-200, >200) | TRANSVERSE CRACKING NO PER STA (1-4, 5-10, >10) | COMMENT CODE | SPEED LIMIT | Pavement Type | COMMENTS / NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MMS | E2 | 003 | 06 | US 69 | | + − | | + − | R | 1 | 0 | 0 | 0 | 1 | 1 | 1 | | 55 | | 167+00 - 170+50 - Sec. 10 |
| MMS | E2 | | | | | | | | S | 0 | 0 | 0 | 0 | 1 | 1 | 0 | | 55 | | |
| MMS | E2 | | | | | | | | R | 1 | 0 | 0 | 0 | 1 | 1 | 1 | | 55 | | 170+50 - 177+50 - Sec 9&8 |
| MMS | E2 | | | | | | | | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 55 | | |
| MMS | E2 | | | | | | | | R | 1 | 0 | 0 | 0 | 0 | 0 | 0 | * | 55 | | 177+50 - 181+00 - Sec 7 |
| MMS | E2 | | | | | | | | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 55 | | |
| MMS | E2 | | | | | | | | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | * | 55 | | 181+00 - 184+50 - Sec 6 |
| MMS | E2 | | | | | | | | S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 55 | | |
| MMS | E2 | | | | | | | | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | * | 55 | | 184+50 - 188+00 - Sec 5 |
| MMS | E2 | | | | | | | | S | 0 | 0 | 0 | 0 | 1 | 0 | 0 | | 55 | | |
| MMS | E2 | | | | | | | | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | * | 55 | | 188+00 - 193+00 - Sec 4 |
| MMS | E2 | | | | | | | | S | 0 | 0 | 0 | 0 | 1 | 0 | 1 | | 55 | | |
| MMS | E2 | | | | | | | | R | 0 | 1 | 0 | 0 | 1 | 1 | 1 | | 55 | | 193+00 - 200+00 - Sec 3&2 |
| MMS | E2 | | | | | | | | S | 0 | 0 | 0 | 0 | 0 | 1 | 1 | | 55 | | |
| MMS | E2 | | | | | | | | | | | | | | | | | | | |

# FLEXIBLE PAVEMENT EVALUATION

SYSTEM - ID & CARD - ID: MMS (1 2 3) E (4) 1 (5)

DISTRICT NO. (6 7)

RATERS: DENUM JK (8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29)

LYONS D (31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51)

DATE: MONTH 04 (60 61) DAY 27 (62 63) YEAR 1982 (64 65 66 67)

## COMMENTS / NOTES

NOTE:
ZERO SHOULD BE INSERTED IN APPROPRIATE PAVEMENT CONDITION COLUMN IF NO VISUAL DEFECT IS NOTED

## LOCATION

## PAVEMENT CONDITIONS

| SYSTEM ID / CARD - ID | COUNTY NO | FOREMAN NO | HIGHWAY NO | FROM MILEPOST | FROM DISPLACEMENT (+ −) | TO MILEPOST | TO DISPLACEMENT (+ −) | LANE | RUTTING (1/2"–1" = 1, 1" = 2, % AREA) 1 – 25, 26 – 50, >50 | RAVELING (% AREA) 1 – 25, 26 – 50, > 50 | FLUSHING (% AREA) 1 – 25, 26 – 50, >50 | FAILURES (NO. PER LN. MI.) 1 – 5, 6 – 10, >10 | ALLIGATOR CRACKING (% AREA) 1 – 10, 11 – 50, > 50 | LONGITUDINAL CRACKING (LIN FT PER STA/LN) 10 – 99, 100 – 200, > 200 | TRANSVERSE CRACKING (NO PER STA) 1 – 4, 5 – 10, >10 | COMMENT CODE | SPEED LIMIT | Pavement Type |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MMSE2 | | | US 69 | | | | | R | 1 | 0 | 0 | 0 | 1 | 1 | 1 | | 55 | 200+00 - 203+50 Sec 1 |
| MMSE2 | | | | | | | | S | 0 | 0 | 0 | 0 | 1 | 1 | 1 | | 55 | |
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