13TH STREET – CHESTNUT STREET TO VINE STREET

RECOMMENDATIONS

Pavement Maintenance Options (Short-Term)

These options are not available for this street because of structural deficiencies and/or pavement cracking condition.

Pavement Rehabilitation Options (Long-Term)

Overlay Options

For option 1, we recommend 4 inch digouts for base failures, placing a 1/2 inch HMA leveling course and a 1-3/4 inch RHMA overlay.

Estimated Cost: $96,000 Estimated Life Expectancy: 10-12 Years

An overlay using HMA is not recommended because the 4-1/4 inch structural requirement exceeds the 3-1/4 inch maximum overlay that is considered feasible to meet geometric constraints.

Recycle and Mill and Replace Options

These options are not available for this street because of the structural deficiencies and thin pavement layer.

Reconstruction Options

For option 1, we recommend removing the pavement to a depth of 4-1/2 inches and placing 4-1/2 inches of new HMA. The HMA should be placed in 2 lifts.

Estimated Cost: $177,000 Estimated Life Expectancy: 20 Years

Only full depth HMA is provided due to the high R-value of the native soil.

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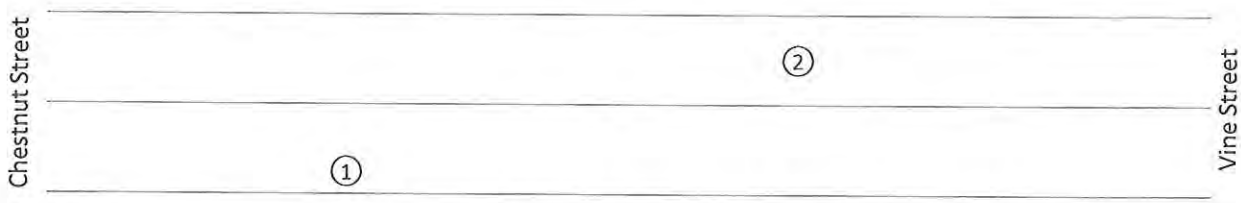

NOTES:
- NTS
- ACTUAL ROAD MAY NOT BE STRAIGHT
- NOT ALL ROADS CONNECTING TO THIS STREET ARE SHOWN
- WIDTH OF ROAD MAY VARY WITHIN THE BOUNDARY SECTION
- ALL LOCATIONS SHOWN ARE APPROXIMATED

13th Street

[Section of Road ≈ 700ft]

TRAFFIC LAYOUT:
- 2-WAY STREET
- 1 LANE EACH WAY

VISUAL DESCRIPTION FOR THIS SECTION OF ROAD

The pavement exhibits mild weathering, block shrinkage cracking progressing to alligator cracking. Some of the pavement edges are unimproved.

CORING LOG

Symbol	Location	Core Data		R-value
1	East of Chestnut Street 200ft	AC AB	2.00" NO BASE	72
2	East of Chestnut Street 500ft	AC AB	4.00" NO BASE	-

DEFLECTION ANALYSIS

Lane	Tolerable	TI	80th Percentile	Percent Reduction	HMA Overlay
West Bound	28	7.0	56.43	50.38	4.08 - inches
East Bound	28	7.0	52.2	46.36	3.48 - inches
				Overlay Required by Reflective Cracking	2.00 - inches

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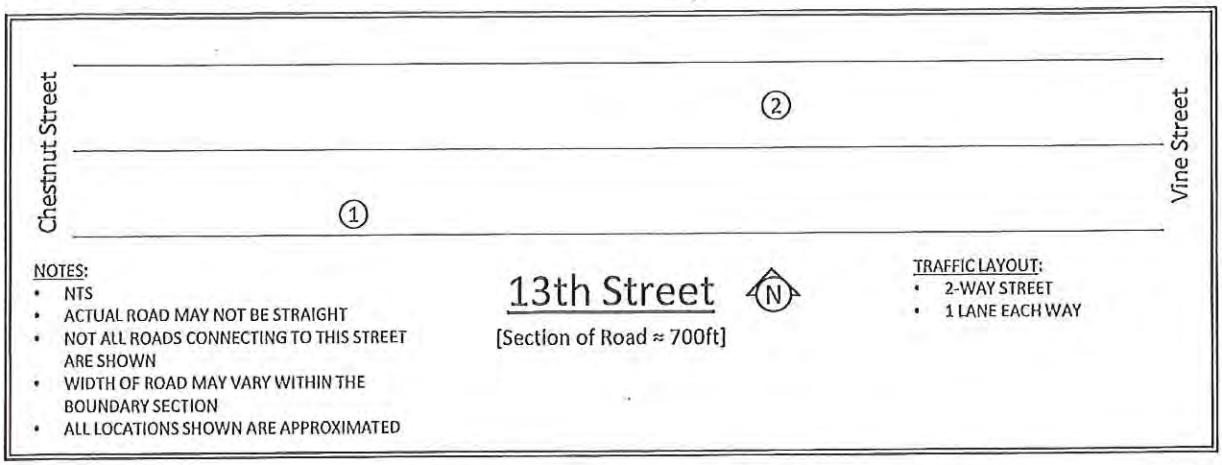

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CORING LOG

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1	East of Chestnut Street 200ft	AC AB	2.00" NO BASE	72
2	East of Chestnut Street 500ft	AC AB	4.00" NO BASE	-

PHOTO LOG

Symbol	Location	Comments
A	_____ of _____ _____ft	
B	_____ of _____ _____ft	
C	_____ of _____ _____ft	

DEFLECTION ANALYSIS

Lane	Tolerable	TI	80th Percentile	Percent Reduction	HMA Overlay
West Bound	28	7.0	56.43	50.38	4.08 - inches
East Bound	28	7.0	52.2	46.36	3.48 - inches
				Overlay Required by Reflective Cracking	2.00 - inches

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City of Paso Robles

Road:	13th	Survey Date:	03/15/13
From:	Chestnut	Thickness:	0.25
To:	Vine	Traffic Index:	7.00
Lane/Line:	EB	Project Number:	130065

Deflection Data Analysis

Deflection Readings (Equivalent Deflectometer Units)

No. of Tests	Low	Mean	High	Std. Dev.
10	27.86	45.05	56.44	8.50

Road Surface

Thickness	Traffic Index
0.25	7.00

Structural Design

Tolerable	80th Percentile	90th Percentile	% Reduction	GE Deficient
28.00	52.20	55.94	46.36	0.56

HMA Overlay
0.29

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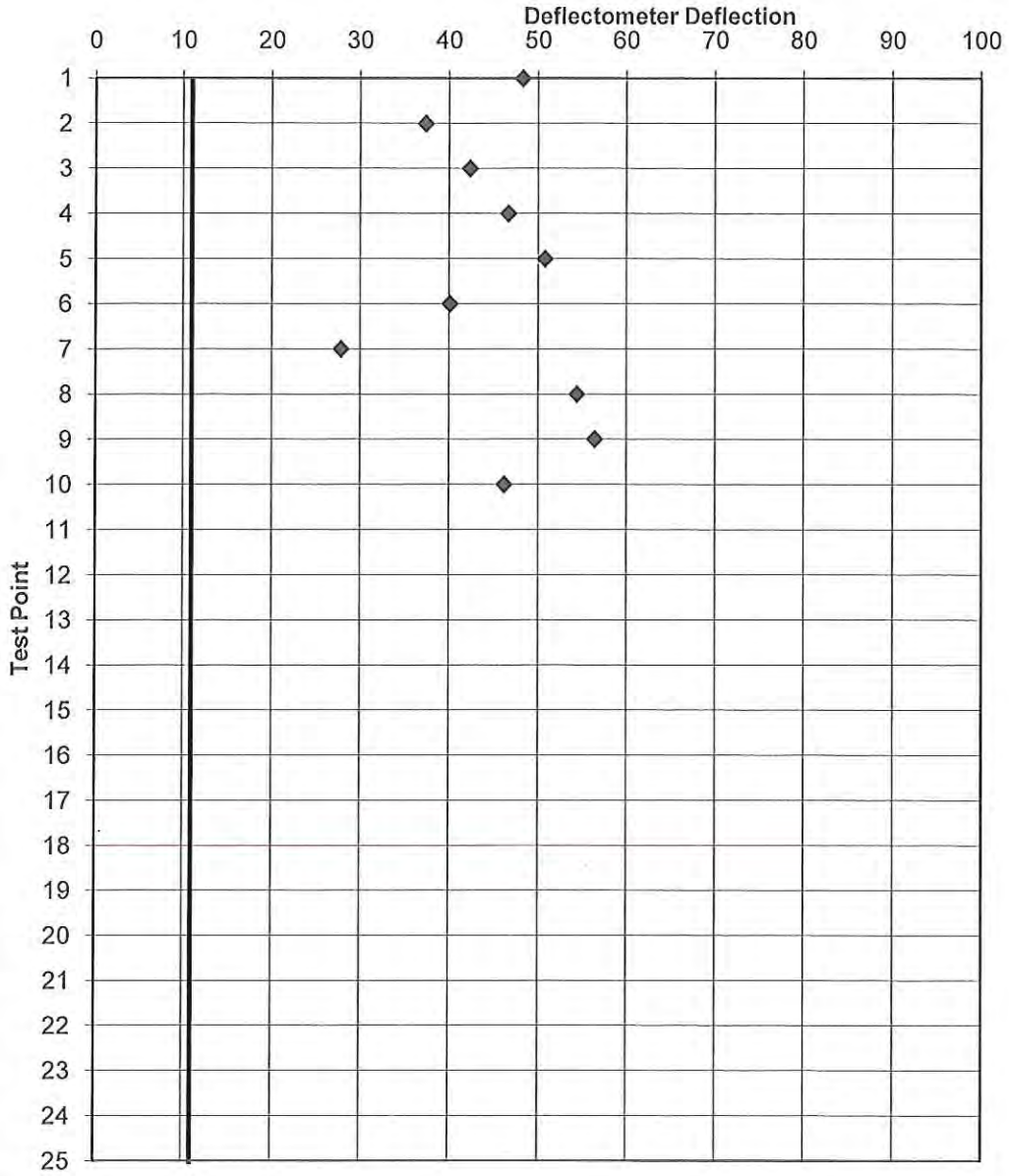
City of Paso Robles

Road: 13th
From: Chestnut
To: Vine
Lane/Line: EB

Survey Date: 03/15/13
Thickness: 0.25
Traffic Index: 7.00
Project Number: 130065



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Date: 3/27/2013

Client: City of Paso Robles
Road: 13th
From: Chestnut
To: Vine
Lane/Line: EB

Interval: 75
Survey Date: 3/15/13
Thickness: 0.25
Traffic Index: 7.00
Project Number: 130065

Test Points	Dynaflect	Conditions	Comments	Deflection	Exclude
1	2.15			48.276	
2	1.67			37.387	
3	1.89			42.378	
4	2.08			46.688	
5	2.26		Olive	50.772	
6	1.79			40.109	
7	1.25			27.858	
8	2.42			54.402	
9	2.51			56.443	
10	2.06			46.234	

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03/27/13

City of Paso Robles

Road: 13th
From: Vine
To: Chestnut
Lane/Line: Wb

Survey Date: 03/15/13
Thickness: 0.25
Traffic Index: 7.00
Project Number: 130065

Deflection Data Analysis

Deflection Readings (Equivalent Deflectometer Units)

No. of Tests	Low	Mean	High	Std. Dev.
10	36.48	48.32	64.38	9.65

Road Surface

Thickness	Traffic Index
0.25	7.00

Structural Design

Tolerable	80th Percentile	90th Percentile	% Reduction	GE Deficient
28.00	56.43	60.68	50.38	0.64

HMA Overlay
0.34

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From: Vine
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Survey Date: 03/15/13
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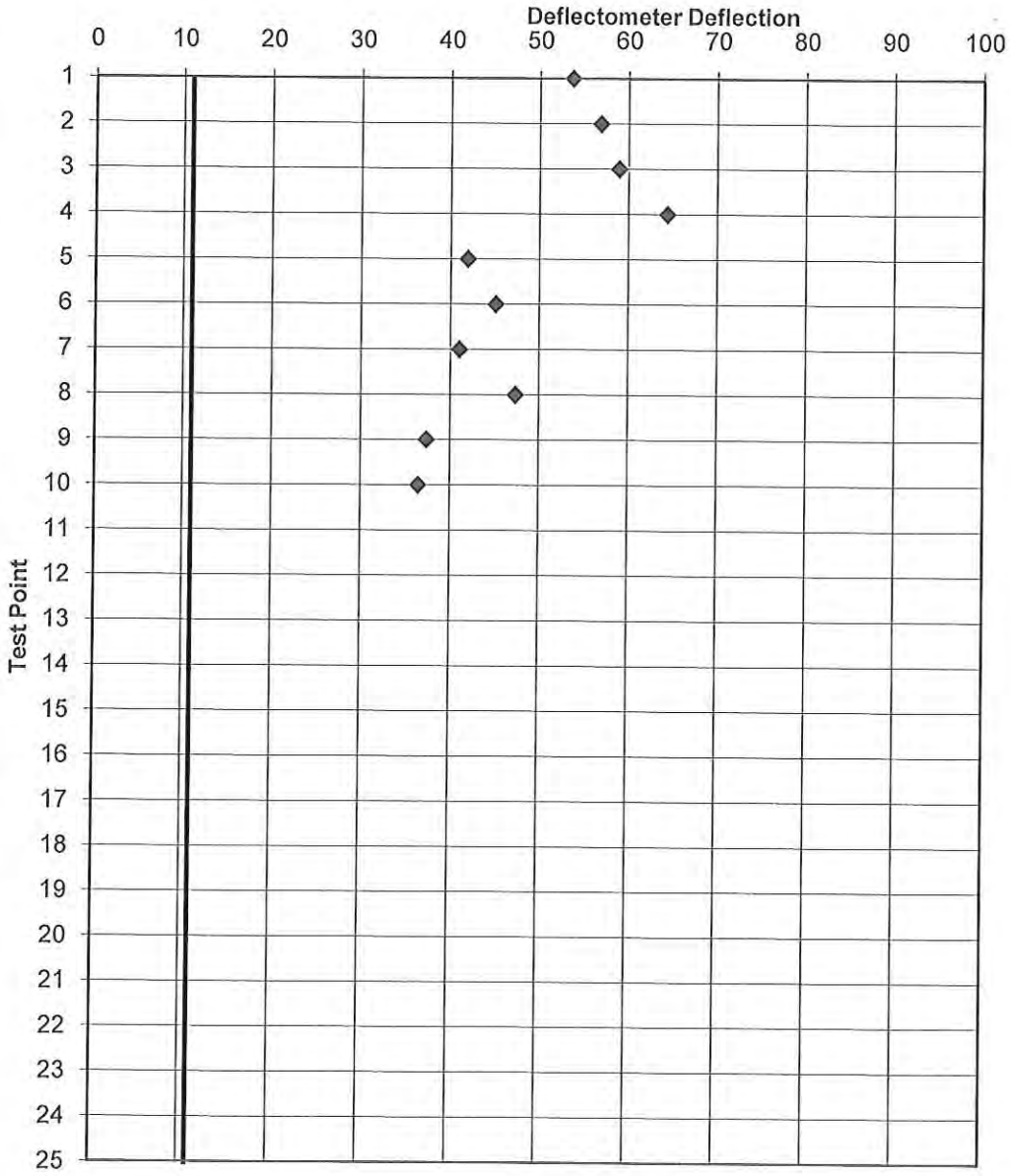

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Date: 3/27/2013

Client: City of Paso Robles
Road: 13th
From: Vine
To: Chestnut
Lane/Line: Wb

Interval: 75
Survey Date: 3/15/13
Thickness: 0.25
Traffic Index: 7.00
Project Number: 130065

Test Points	Dynaflect	Conditions	Comments	Deflection	Exclude
1	2.39			53.721	
2	2.53			56.897	
3	2.62			58.939	
4	2.86		Olive	64.384	
5	1.87			41.924	
6	2.01			45.100	
7	1.83			41.016	
8	2.11			47.369	
9	1.67			37.387	
10	1.63			36.479	

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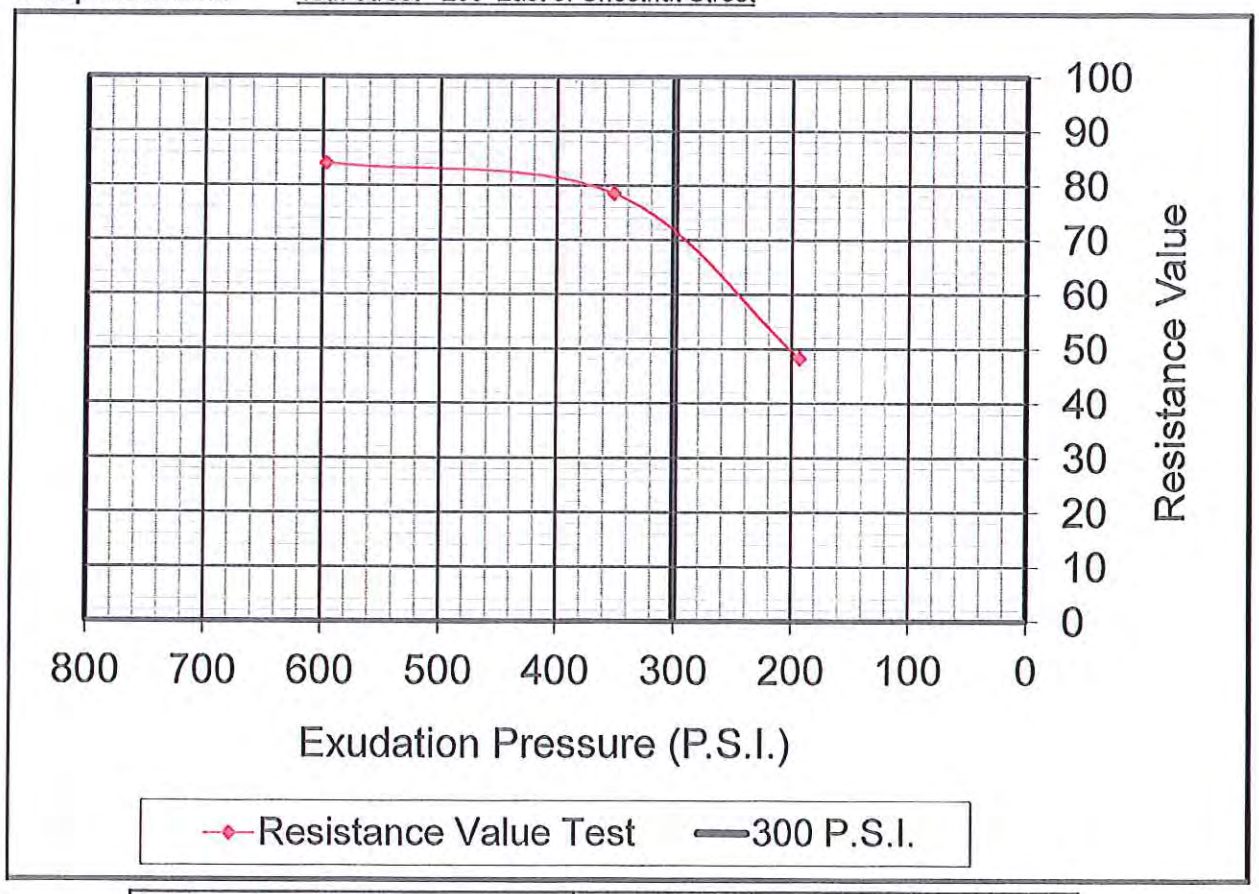
RESISTANCE (R) VALUE TEST
ASTM D 2844

Laboratory No.: L130083O
Project No.: 130065
Sample Date: March 14, 2013
Report Date: March 25, 2013
Client: City of Paso Robles
Project Name: City of Paso Robles 2013 Pavement Analysis
Sample Description: Brown Silty Sand with Gravel
Sample Location: 13th Street - 200' East of Chestnut Street



Specimen No.	1	2	3
Moisture Content (%)	35.2	36.1	34.6
Dry Density (PCF)	77.0	76.8	76.0
Resistance Value (R)	79	48	84
Exudation Pressure (PSI)	352	194	598
Expansion Pressure	0	0	17

RESISTANCE VALUE AT 300 P.S.I. 72

AASHTO R18

Reviewed By: Craig Long
Craig W. Long
Laboratory Operations Manager

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13TH STREET – CHESTNUT STREET TO VINE STREET
Vine Street looking Westbound

13TH STREET – CHESTNUT STREET TO VINE STREET
Olive Street looking Westbound