CRESTON ROAD – OAK MEADOW LANE TO GOLDEN HILL ROAD

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, pavement fabric and a 1-3/4 inch HMA overlay.

Estimated Cost: $370,000 Estimated Life Expectancy: 10-12 Years

For option 2, 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: $371,000 Estimated Life Expectancy: 10-12 Years

Recycle and Mill and Replace Options

For option 1, we recommend milling to a depth of 2 inches, 4 inch digouts of base failure and placing a 2 inch RHMA surface course.

Estimated Cost: $373,000 Estimated Life Expectancy: 12-15 Years

For option 2, we recommend cold in-place recycling to a depth of 4 inches and placing a 2 inch RHMA surface course.

Estimated Cost: $375,000 Estimated Life Expectancy: 12-15 Years

Milling and replacing with HMA is not provided due to the structural deficiency of the northbound lane number 2.

Reconstruction Options

For option 1, we recommend removing the pavement to a depth of 10 inches and placing 10 inches of new HMA. The HMA should be placed in 4 lifts.

Estimated Cost: $867,000 Estimated Life Expectancy: 20 Years

For option 2, we recommend removing 4 inches of the existing structure, lime treating the native soil to a depth of 13 inches and placing 4 inches of new HMA in 2 lifts.

Estimated Cost: $422,000 Estimated Life Expectancy: 20 Years

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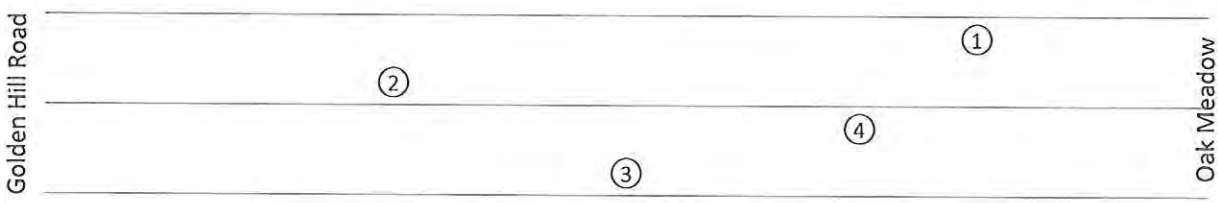

NOTES:
- NTS
- ACTUAL ROAD MAY NOT BE STRAIGHT
- NOT ALL ROADS CONNECTING TO THIS STREET ARE SHOWN
- WIDTH OF ROAD MAY VARY WITHIN THE BOUNDARY SECTION
- ALL LOCATIONS SHOWN ARE APPROXIMATED

Creston Road

[Section of Road ≈ 1000ft]

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

VISUAL DESCRIPTION FOR THIS SECTION OF ROAD

The pavement exhibits moderate weathering and raveling, block shrinkage cracking and alligator cracking. The distresses are more severe in the wheel paths and in the number 2 lanes.

CORING LOG

Symbol	Location	Core Data		R-value
1	North of Oak Meadow Lane 200ft	AC Fabric AB	4.75" YES 12.25"	12
2	North of Oak Meadow Lane 700ft	AC Fabric AB	4.75" YES 15.25"	-
3	North of Oak Meadow Lane 500ft	AC Fabric AB	5.25" YES 13.25"	-
4	North of Oak Meadow Lane 300ft	AC Fabric AB	4.00" YES 9.50"	-

DEFLECTION ANALYSIS

Lane		Tolerable	TI	80th Percentile	Percent Reduction	HMA Overlay
North Bound	1	19	8.0	20.55	7.55	0.12 - inches
	2	19	8.0	28.2	32.62	1.80 - inches
South Bound	1	19	8.0	19.1	0.50	0.00 - inches
	2	19	8.0	20.84	8.85	0.24 - inches
Overlay Required by Reflective Cracking						2.50 - inches

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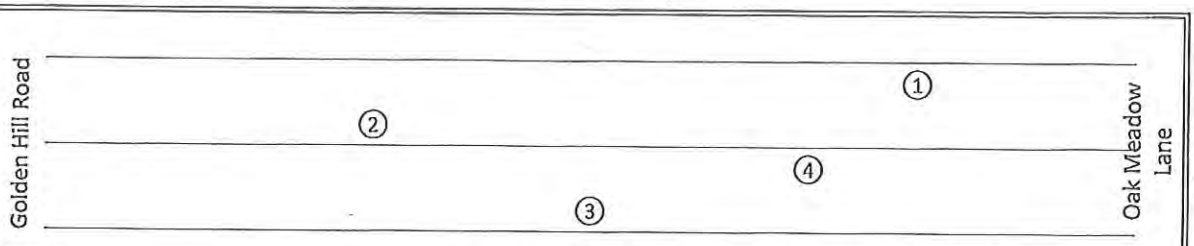

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Creston Road

[Section of Road ≈ 1000ft]

N

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

VISUAL DESCRIPTION FOR THIS SECTION OF ROAD

CORING LOG

Symbol	Location	Core Data		R-value
1	North of Oak Meadow Lane 200ft	AC Fabric AB	4.75" YES 12.25"	12
2	North of Oak Meadow Lane 700ft	AC Fabric AB	4.75" YES 15.25"	-
3	North of Oak Meadow Lane 500ft	AC Fabric AB	5.25" YES 13.25"	-
4	North of Oak Meadow Lane 300ft	AC Fabric AB	4.00" YES 9.50"	-

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
North Bound	1	19	8.0	20.55	7.55	0.12 - Inches
	2	19	8.0	28.2	32.62	1.80 - Inches
South Bound	1	19	8.0	19.1	0.50	0.00 - inches
	2	19	8.0	20.84	8.85	0.24 - Inches
Overlay Required by Reflective Cracking						2.50 - Inches

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City of Paso Robles

Road: Creston
From: Oak Meadow
To: Golden Hill
Lane/Line: N1

Survey Date: 03/13/13
Thickness: 0.40
Traffic Index: 8.00
Project Number: 130065

Deflection Data Analysis

Deflection Readings (Equivalent Deflectometer Units)

No. of Tests	Low	Mean	High	Std. Dev.
10	9.94	17.76	21.96	3.32

Road Surface

Thickness	Traffic Index
0.40	8.00

Structural Design

Tolerable	80th Percentile	90th Percentile	% Reduction	GE Deficient
19.00	20.55	22.01	7.55	0.02

HMA Overlay
0.01

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From: Oak Meadow
To: Golden Hill
Lane/Line: N1

Survey Date: 03/13/13
Thickness: 0.40
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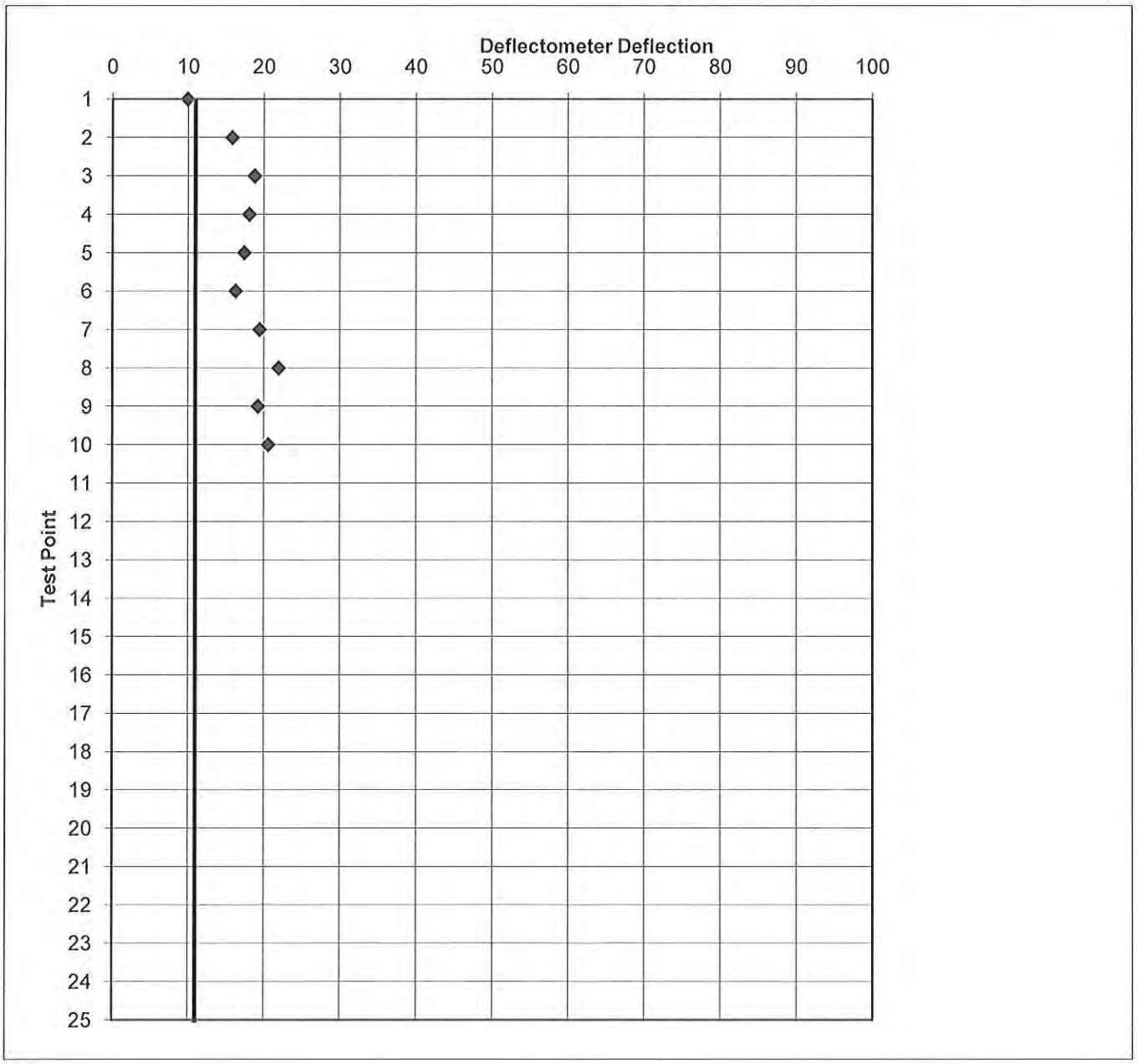
Project Number: 130065



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Date: 4/1/2013

Client:	City of Paso Robles	Interval:	100
Road:	Creston	Survey Date:	3/13/13
From:	Oak Meadow	Thickness:	0.40
To:	Golden Hill	Traffic Index:	8.00
Lane/Line:	N1	Project Number:	130065

Test Points	Dynaflect	Conditions	Comments	Deflection	Exclude
1	0.46			9.936	
2	0.72			15.834	
3	0.85			18.784	
4	0.82			18.103	
5	0.79			17.422	
6	0.74		Grand Canyon	16.288	
7	0.88			19.464	
8	0.99			21.960	
9	0.87			19.237	
10	0.93			20.599	

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City of Paso Robles

Road: Creston
From: Oak Meadow
To: Golden Hill
Lane/Line: N2

Survey Date: 03/13/13
Thickness: 0.40
Traffic Index: 8.00
Project Number: 130065

Deflection Data Analysis

Deflection Readings (Equivalent Deflectometer Units)

No. of Tests	Low	Mean	High	Std. Dev.
10	11.07	20.89	39.88	8.70

Road Surface

Thickness	Traffic Index
0.40	8.00

Structural Design

Tolerable	80th Percentile	90th Percentile	% Reduction	GE Deficient
19.00	28.20	32.03	32.62	0.29

HMA Overlay
0.15

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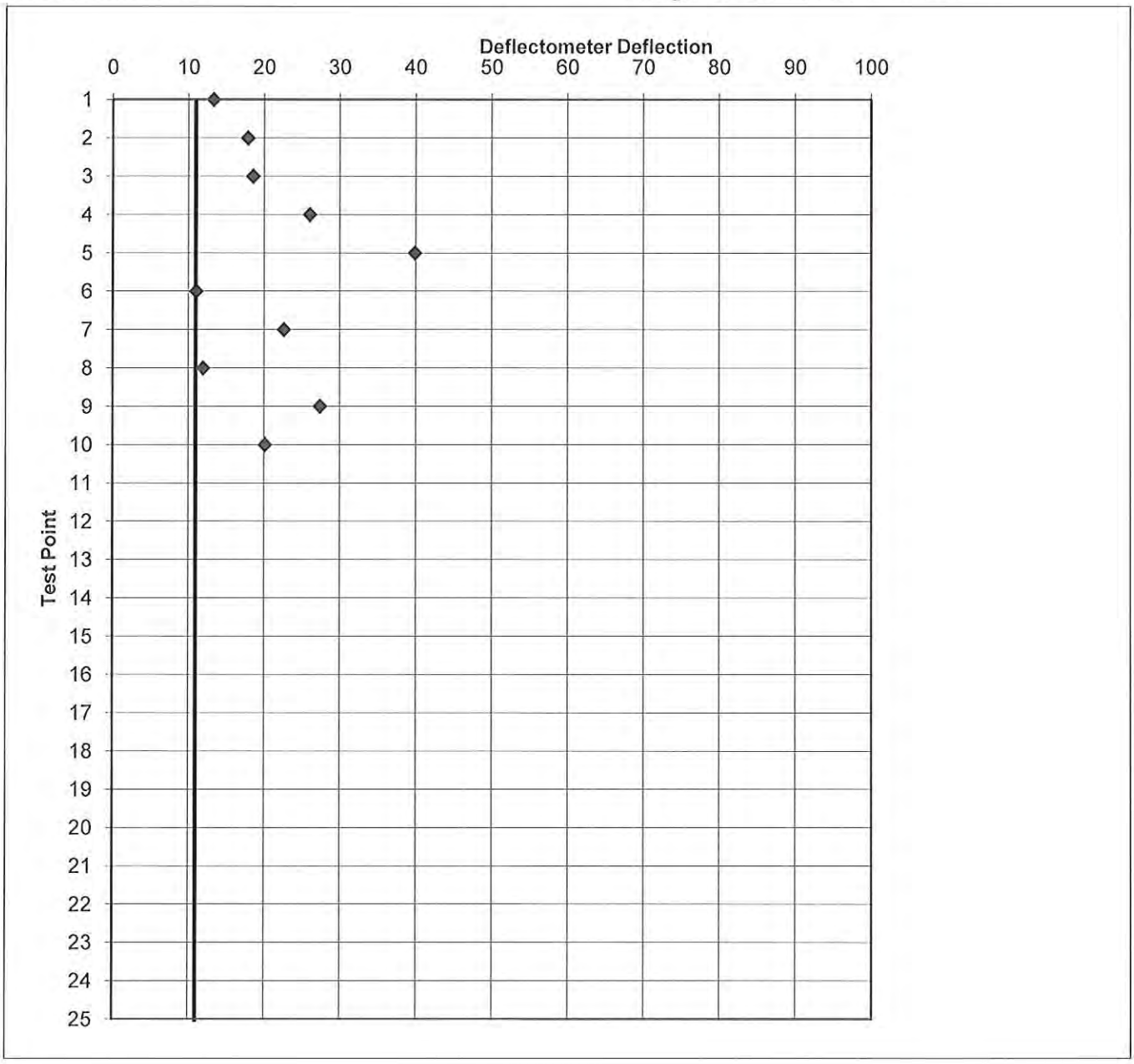
City of Paso Robles

Road: Creston
From: Oak Meadow
To: Golden Hill
Lane/Line: N2

Survey Date: 03/13/13
Thickness: 0.40
Traffic Index: 8.00
Project Number: 130065



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Date: 4/1/2013

Client:	City of Paso Robles	Interval:	100
Road:	Creston	Survey Date:	3/13/13
From:	Oak Meadow	Thickness:	0.40
To:	Golden Hill	Traffic Index:	8.00
Lane/Line:	N2	Project Number:	130065

Test Points	Dynaflect	Conditions	Comments	Deflection	Exclude
1	0.61			13.339	
2	0.81			17.876	
3	0.84			18.557	
4	1.17			26.043	
5	1.78		Grandcanyon	39.882	
6	0.51			11.070	
7	1.02			22.640	
8	0.55			11.978	
9	1.23			27.405	
10	0.91			20.145	

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City of Paso Robles

Road: Creston
From: Golden Hill
To: Oak Meadow
Lane/Line: S1

Survey Date: 03/13/13
Thickness: 0.40
Traffic Index: 8.00
Project Number: 130065

Deflection Data Analysis

Deflection Readings (Equivalent Deflectometer Units)

No. of Tests	Low	Mean	High	Std. Dev.
10	13.34	17.26	20.37	2.18

Road Surface

Thickness	Traffic Index
0.40	8.00

Structural Design

Tolerable	80th Percentile	90th Percentile	% Reduction	GE Deficient
19.00	19.10	20.06	0.50	0.00

HMA Overlay
0.00

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City of Paso Robles

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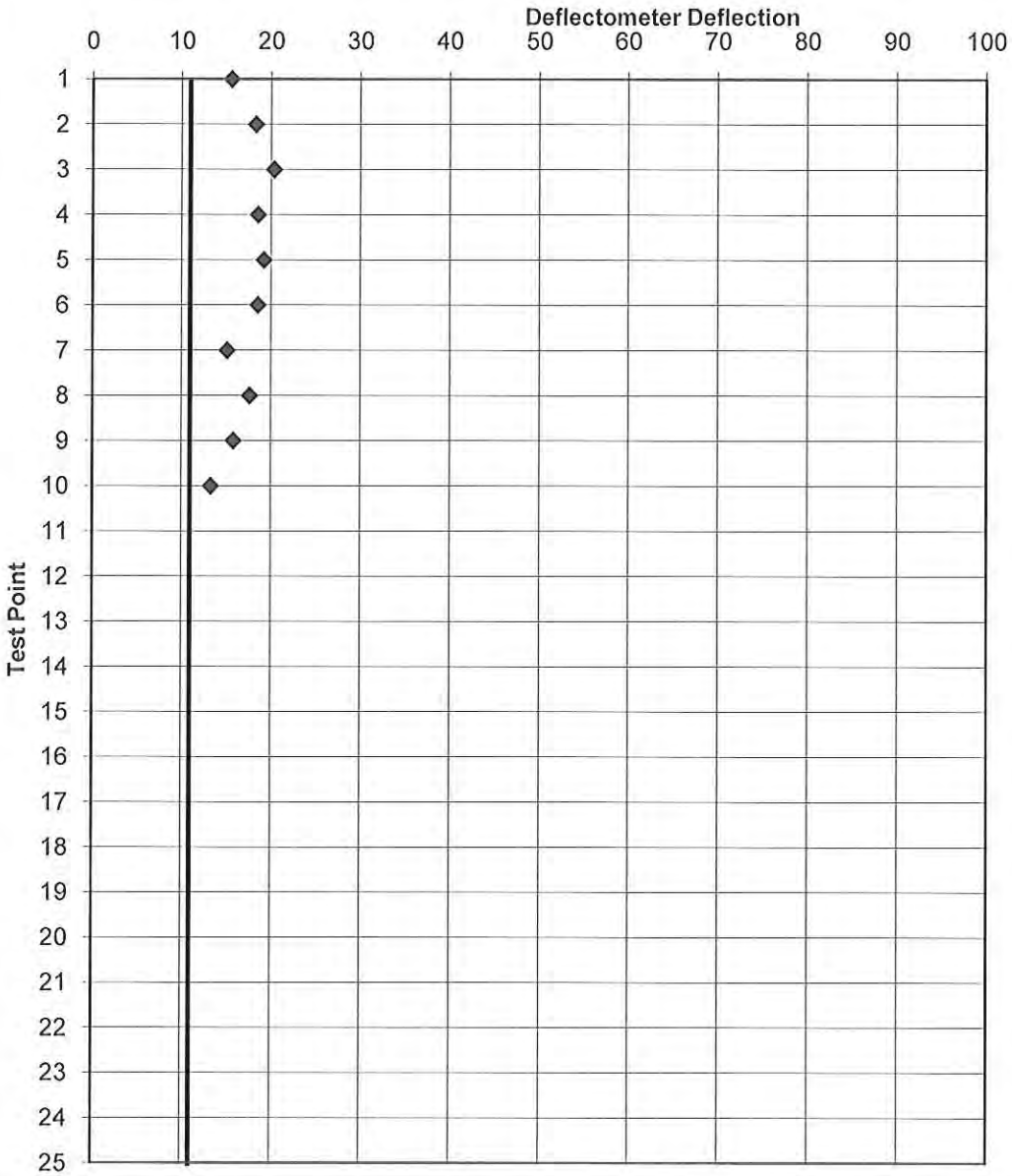
From: Golden Hill
To: Oak Meadow
Lane/Line: S1

Survey Date: 03/13/13
Thickness: 0.40
Traffic Index: 8.00
Project Number: 130065



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Date: 4/1/2013

Client:	City of Paso Robles	Interval:	100
Road:	Creston	Survey Date:	3/13/13
From:	Golden Hill	Thickness:	0.40
To:	Oak Meadow	Traffic Index:	8.00
Lane/Line:	S1	Project Number:	130065

Test Points	Dynaflect	Conditions	Comments	Deflection	Exclude
1	0.71			15.608	
2	0.83			18.330	
3	0.92			20.372	
4	0.84		Grandcanyon	18.557	
5	0.87			19.237	
6	0.84			18.557	
7	0.69			15.154	
8	0.80			17.649	
9	0.72			15.834	
10	0.61			13.339	

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City of Paso Robles

Road: Creston
From: Oak Meadow
To: Golden Hill
Lane/Line: S2

Survey Date: 03/13/13
Thickness: 0.40
Traffic Index: 8.00
Project Number: 130065

Deflection Data Analysis

Deflection Readings (Equivalent Deflectometer Units)

No. of Tests	Low	Mean	High	Std. Dev.
10	12.43	17.99	22.87	3.40

Road Surface

Thickness	Traffic Index
0.40	8.00

Structural Design

Tolerable	80th Percentile	90th Percentile	% Reduction	GE Deficient
19.00	20.84	22.34	8.85	0.03

HMA Overlay
0.02

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City of Paso Robles

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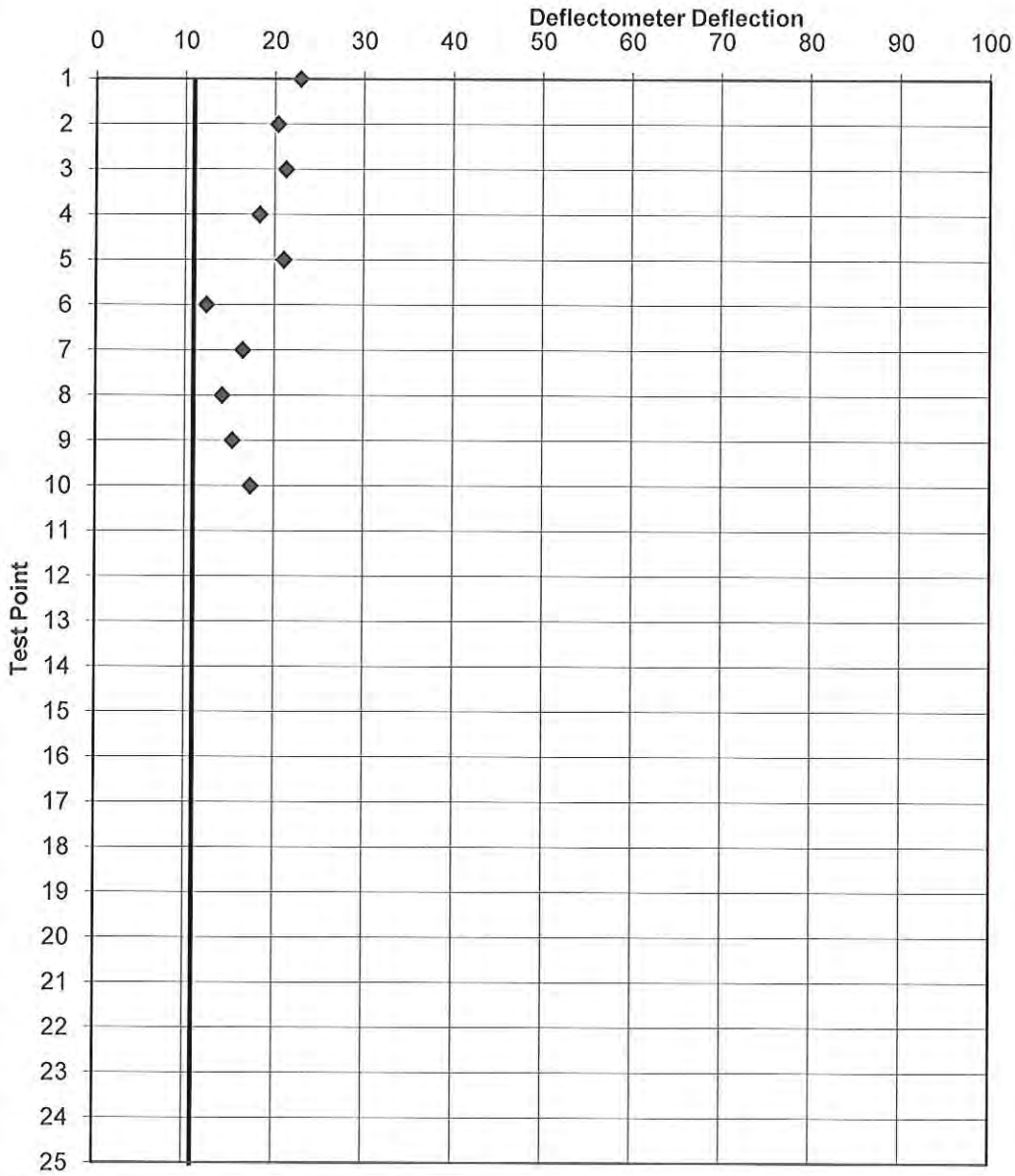
To: Golden Hill
Lane/Line: S2

Survey Date: 03/13/13
Thickness: 0.40
Traffic Index: 8.00
Project Number: 130065



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Date: 4/1/2013

Client:	City of Paso Robles	Interval:	100
Road:	Creston	Survey Date:	3/13/13
From:	Oak Meadow	Thickness:	0.40
To:	Golden Hill	Traffic Index:	8.00
Lane/Line:	S2	Project Number:	130065

Test Points	Dynaflect	Conditions	Comments	Deflection	Exclude
1	1.03			22.867	
2	0.92			20.372	
3	0.96			21.279	
4	0.83		Grandcanyon	18.330	
5	0.95			21.052	
6	0.57			12.431	
7	0.75			16.515	
8	0.65			14.246	
9	0.70			15.381	
10	0.79			17.422	

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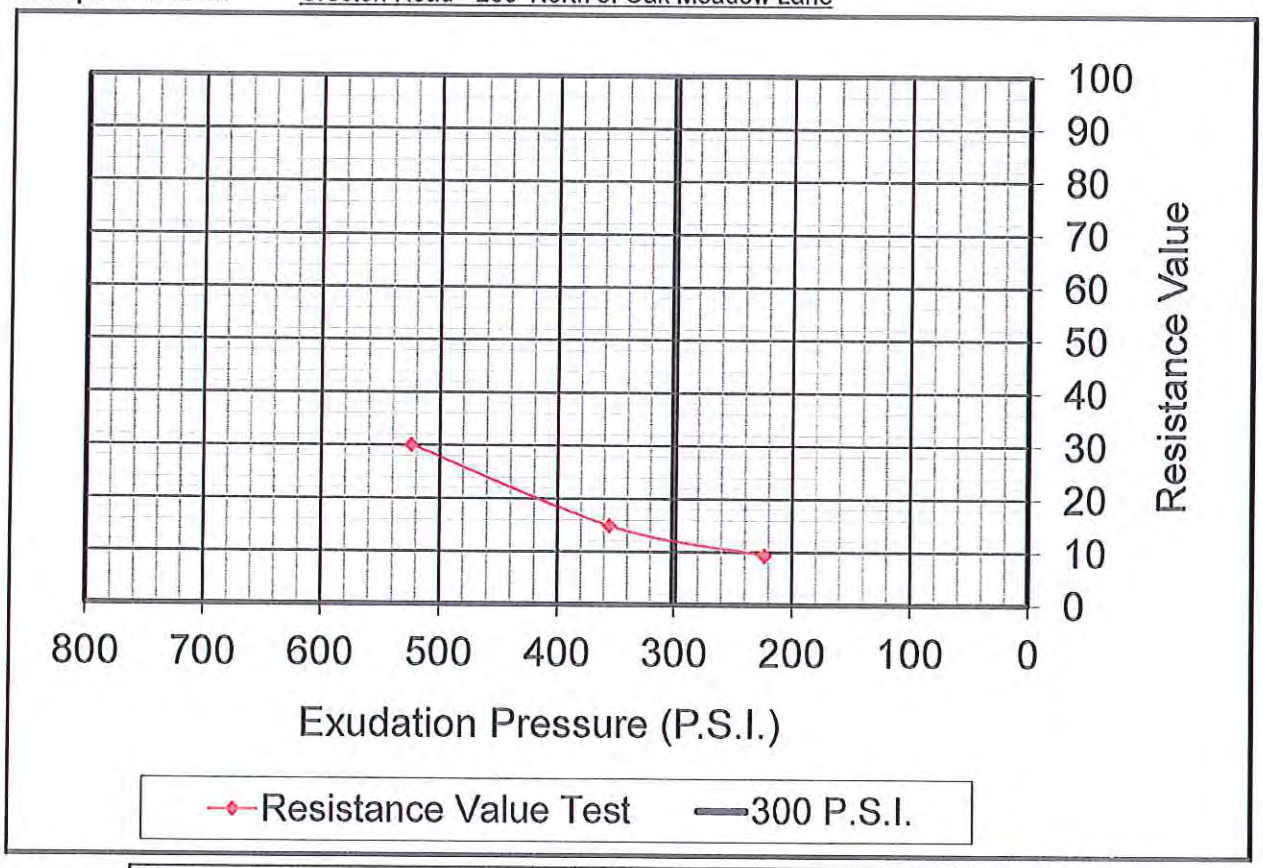
CalTrans/AMRL QC/QA ° Construction Management

RESISTANCE (R) VALUE TEST
ASTM D 2844

Laboratory No.:	L130083AQ
Project No.:	130065
Sample Date:	March 13, 2013
Report Date:	April 11, 2013
Client:	City of Paso Robles
Project Name:	City of Paso Robles 2013 Pavement Analysis
Sample Description:	Brown Sandy Clay
Sample Location:	Creston Road - 200' North of Oak Meadow Lane



Specimen No.	1	2	3
Moisture Content (%)	10.4	11.3	11.7
Dry Density (PCF)	128.5	126.4	126.7
Resistance Value (R)	30	15	9
Exudation Pressure (PSI)	525	356	224
Expansion Pressure	0	0	0

RESISTANCE VALUE AT 300 P.S.I. 12

AAP® AASHTO R18

Reviewed By: Craig Long

Craig W. Long
Laboratory Operations Manager

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CRESTON ROAD – OAK MEADOW LANE TO GOLDEN HILL ROAD
Oak Meadow Lane looking Northbound

CRESTON ROAD – OAK MEADOW LANE TO GOLDEN HILL ROAD
Grand Canyon Street looking Southbound

CRESTON ROAD – OAK MEADOW LANE TO GOLDEN HILL ROAD
Golden Hill Road looking Southbound