VINE STREET – 1ST STREET TO 12TH 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 3/4 inch HMA leveling course and a 2 inch RHMA overlay.

Estimated Cost: $1,168,000 Estimated Life Expectancy: 10-12 Years

An HMA overlay is not provided because the 4-3/4 inch structural overlay required exceeds the maximum overlay feasible due to geometric constraints such as curb and gutter.

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 11-1/2 inches and replacing 11-1/2 inches of new HMA. The HMA should be placed in 4 lifts.

Estimated Cost: $2,540,000 Estimated Life Expectancy: 20 Years

For option 2, we recommend removing 6 inches of the existing structure, treating the native soil with a lime plus cement additive to a depth of 13-1/2 inches and placing 6 inches of new HMA in 3 lifts.

Estimated Cost: $1,522,000 Estimated Life Expectancy: 20 Years

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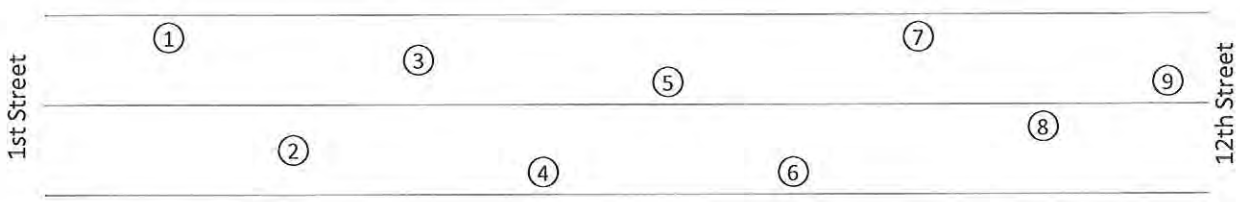

NOTES:
- NTS
- ACTUAL ROAD MAY NOT BE STRAIGHT
- NOT ALL ROADS CONNECTING TO THIS STREET ARE SHOWN
- WIDTH OF ROAD MAY VARY WITHIN THE BOUNDARY SECTION
- ALL LOCATIONS SHOWN ARE APPROXIMATED

Vine Street

[Section of Road ≈ 4200ft]

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

VISUAL DESCRIPTION FOR THIS SECTION OF ROAD

The pavement exhibits moderate raveling, block shrinkage cracking and alligator cracking progressing to base failure. The base failure is concentrated in the wheel paths. The cross gutters will make transitions at the intersections difficult.

CORING LOG

Symbol	Location	Core Data		R-value
1	North of 1st Street 450ft	AC Fabric AB	3.00" NO 6.00"	15
2	North of 1st Street 900ft	AC Fabric AB	3.75" YES 4.00"	-
3	North of 1st Street 1350ft	AC Fabric AB	5.00" YES 2.00"	48
4	North of 1st Street 1800ft	AC Fabric AB	4.50" YES 3.00"	-
5	North of 1st Street 2250ft	AC Fabric AB	5.00" YES 2.00"	12
6	North of 1st Street 2700ft	AC Fabric AB	3.50" YES 2.00"	-
7	North of 1st Street 3150ft	AC Fabric AB	5.00" YES 3.00"	62
8	North of 1st Street 3600ft	AC Fabric AB	4.25" YES 2.00"	-
9	North of 1st Street 4050ft	AC Fabric AB	9.00" YES 3.00"	14

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1st Street

12th Street

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

Vine Street

[Section of Road ≈ 4200ft]

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

DEFLECTION ANALYSIS					
Lane	Tolerable	TI	80th Percentile	Percent Reduction	HMA Overlay
North Bound	20	8.0	38.04	47.42	3.72 - inches
South Bound	20	8.0	43.9	54.45	4.56 - inches
				Overlay Required by Reflective Cracking	2.50 - inches

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City of Paso Robles

Road:	Vine	Survey Date:	03/14/13
From:	1st	Thickness:	0.38
To:	12th	Traffic Index:	8.00
Lane/Line:	NB	Project Number:	130065

Deflection Data Analysis

Deflection Readings (Equivalent Deflectometer Units)

No. of Tests	Low	Mean	High	Std. Dev.
40	11.30	31.11	44.42	8.25

Road Surface

Thickness	Traffic Index
0.38	8.00

Structural Design

Tolerable	80th Percentile	90th Percentile	% Reduction	GE Deficient
20.00	38.04	41.67	47.42	0.58

HMA Overlay
0.31

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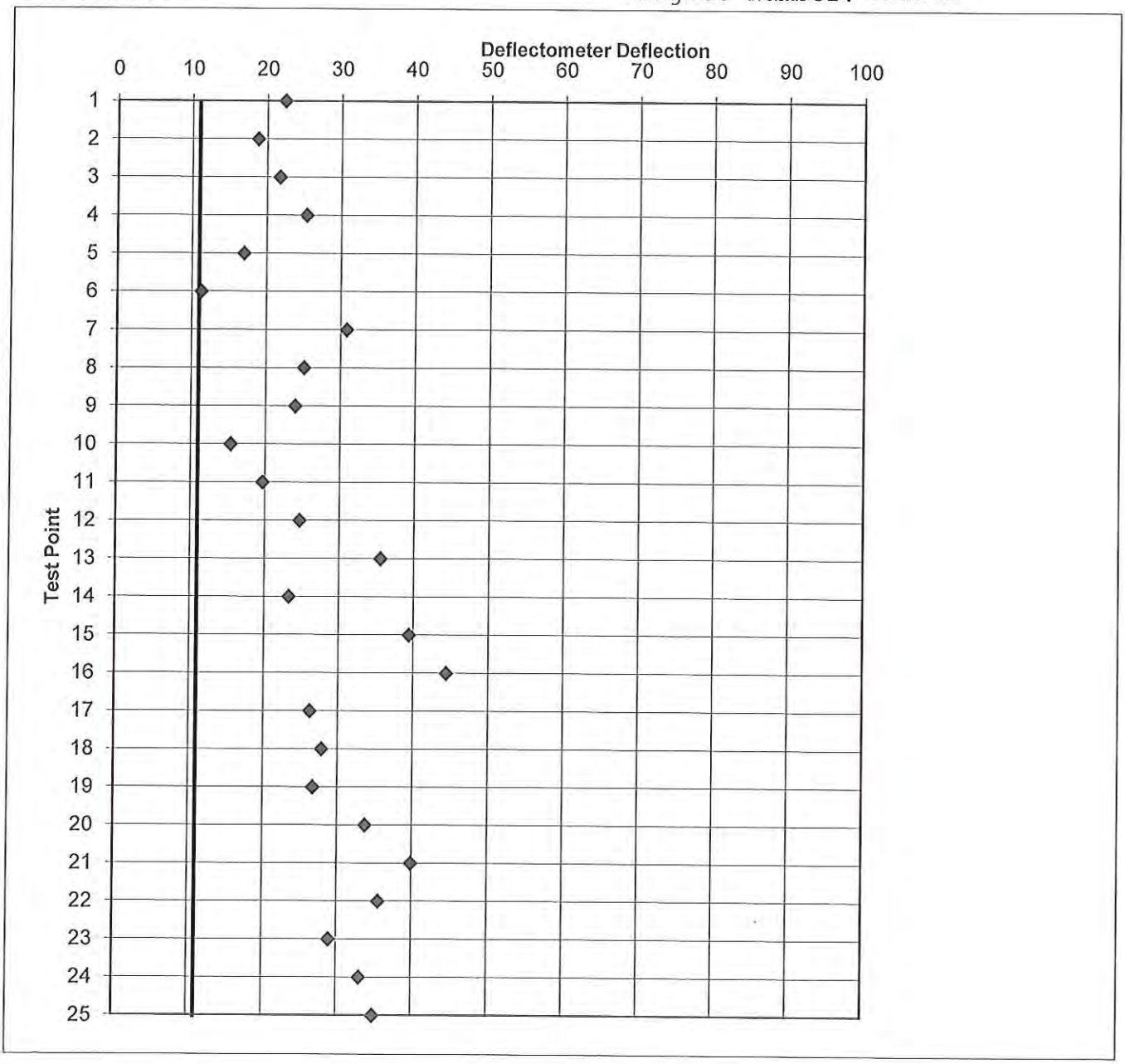
City of Paso Robles

Road: Vine
From: 1st
To: 12th
Lane/Line: NB

Survey Date: 03/14/13
Thickness: 0.38
Traffic Index: 8.00
Project Number: 130065



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Date: 4/1/2013

Client: City of Paso Robles
Road: Vine
From: 1st
To: 12th
Lane/Line: NB

Interval: 100
Survey Date: 3/14/13
Thickness: 0.38
Traffic Index: 8.00
Project Number: 130065

Test Points	Dynaflect	Conditions	Comments	Deflection	Exclude
1	1.01			22.413	
2	0.85			18.784	
3	0.98		2nd	21.733	
4	1.14			25.363	
5	0.77			16.969	
6	0.52			11.297	
7	1.38		3rd	30.808	
8	1.13			25.136	
9	1.08			24.002	
10	0.70		4th	15.381	
11	0.89			19.691	
12	1.11			24.682	
13	1.59			35.572	
14	1.05		5th	23.321	
15	1.76			39.428	
16	1.98			44.419	
17	1.18		6th	26.270	
18	1.25			27.858	
19	1.20			26.724	
20	1.51			33.757	
21	1.78		7th	39.882	
22	1.59			35.572	
23	1.30			28.993	
24	1.48			33.076	
25	1.56		8th	34.891	
26	1.63			36.479	
27	1.42			31.715	
28	1.62			36.252	
29	1.73		9th	38.748	
30	1.81			40.563	
31	1.79			40.109	

32	1.63			36.479	
33	1.40		10th	31.261	
34	1.59			35.572	
35	1.73			38.748	
36	1.64			36.706	
37	1.85		11th	41.470	
38	1.88			42.151	
39	1.63			36.479	
40	1.59			35.572	

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04/01/13

City of Paso Robles

Road: Vine
From: 12th
To: 1st
Lane/Line: SB

Survey Date: 03/14/13
Thickness: 0.38
Traffic Index: 8.00
Project Number: 130065

Deflection Data Analysis

Deflection Readings (Equivalent Deflectometer Units)

No. of Tests	Low	Mean	High	Std. Dev.
40	16.29	35.11	56.44	10.47

Road Surface

Thickness	Traffic Index
0.38	8.00

Structural Design

Tolerable	80th Percentile	90th Percentile	% Reduction	GE Deficient
20.00	43.90	48.51	54.45	0.73

HMA Overlay
0.38

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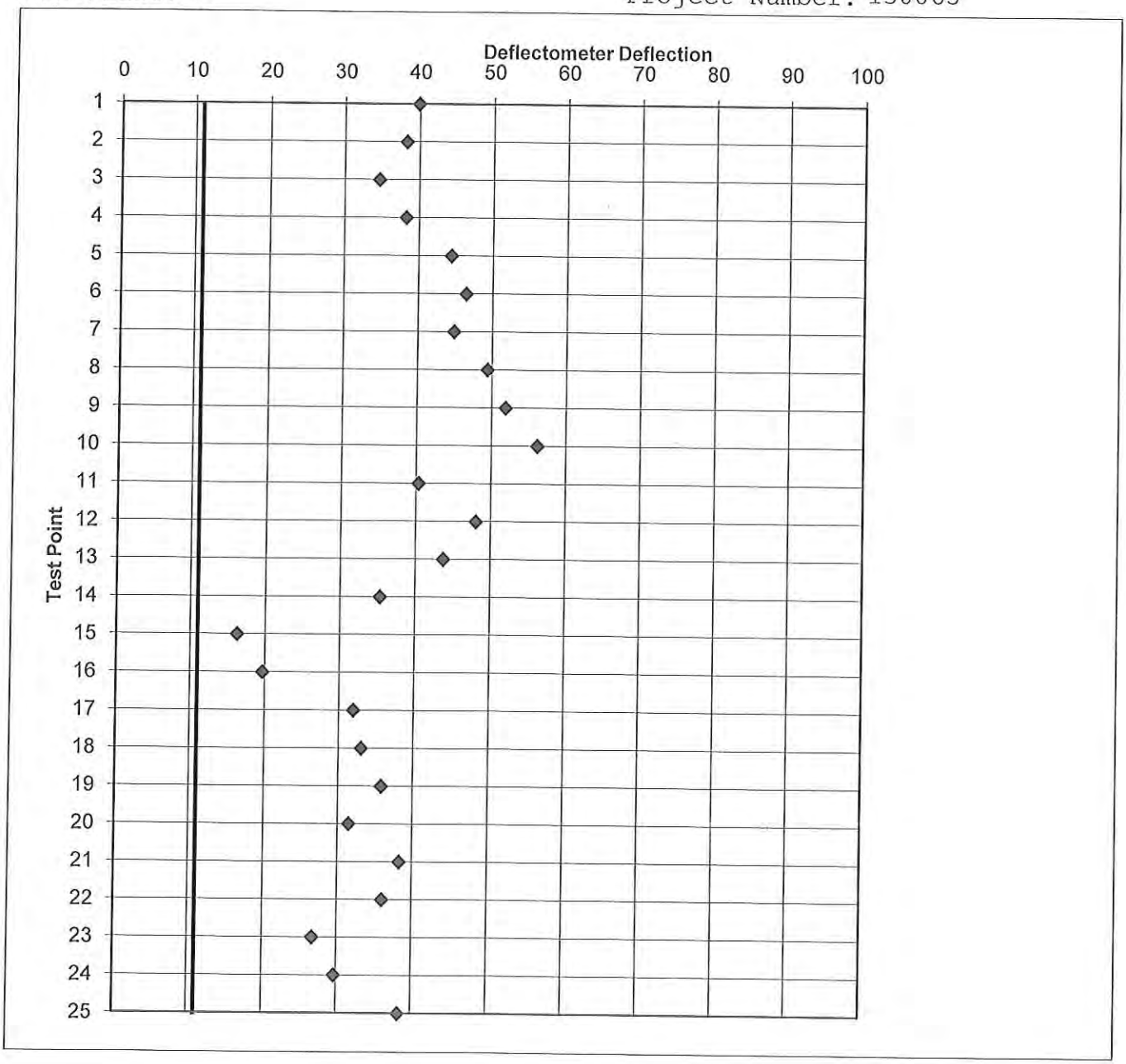
04/01/13

City of Paso Robles

Road: Vine
From: 12th
To: 1st
Lane/Line: SB

Survey Date: 03/14/13
Thickness: 0.38
Traffic Index: 8.00
Project Number: 130065



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Date: 4/1/2013

Client: City of Paso Robles
Road: Vine
From: 12th
To: 1st
Lane/Line: SB

Interval: 100
Survey Date: 3/14/13
Thickness: 0.38
Traffic Index: 8.00
Project Number: 130065

Test Points	Dynaflect	Conditions	Comments	Deflection	Exclude
1	1.78			39.882	
2	1.71			38.294	
3	1.55			34.664	
4	1.71		11th	38.294	
5	1.98			44.419	
6	2.07			46.461	
7	2.00			44.873	
8	2.20		10t	49.411	
9	2.31			51.906	
10	2.50			56.216	
11	1.80		9th	40.336	
12	2.14			48.049	
13	1.95			43.739	
14	1.58		8th	35.345	
15	0.74			16.288	
16	0.89			19.691	
17	1.43			31.942	
18	1.48		7th	33.076	
19	1.60			35.799	
20	1.41			31.488	
21	1.71			38.294	
22	1.61		6th	36.025	
23	1.20			26.724	
24	1.33			29.673	
25	1.71			38.294	
26	1.96		5th	43.966	
27	2.51			56.443	
28	1.64			36.706	
29	1.74			38.975	
30	1.31		4th	29.219	
31	1.81			40.563	

32	1.24			27.631	
33	0.95		3rd	21.052	
34	0.82			18.103	
35	1.10			24.455	
36	1.28		2nd	28.539	
37	1.15			25.590	
38	0.91			20.145	
39	1.00			22.187	
40	0.97			21.506	

VINE STREET – 12TH STREET TO 24TH 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 1/2 inch HMA leveling course, pavement fabric and a 2-1/2 inch HMA overlay.

Estimated Cost: $1,116,000 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 2 inch RHMA overlay.

Estimated Cost: $1,008,000 Estimated Life Expectancy: 10-12 Years

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 11-1/2 inches and replacing 11-1/2 inches of new HMA. The HMA should be placed in 4 lifts.

Estimated Cost: $3,112,000 Estimated Life Expectancy: 20 Years

For option 2, we recommend removing 6 inches of the existing structure, treating the native soil with a lime plus cement additive to a depth of 13-1/2 inches and placing 6 inches of new HMA in 3 lifts.

Estimated Cost: $1,865,000 Estimated Life Expectancy: 20 Years

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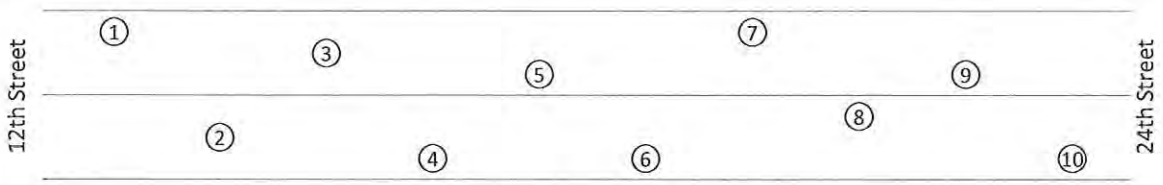

NOTES:
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- NOT ALL ROADS CONNECTING TO THIS STREET ARE SHOWN
- WIDTH OF ROAD MAY VARY WITHIN THE BOUNDARY SECTION
- ALL LOCATIONS SHOWN ARE APPROXIMATED

Vine Street

[Section of Road ≈ 4500ft]

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

VISUAL DESCRIPTION FOR THIS SECTION OF ROAD

The pavement exhibits moderate raveling, block shrinkage cracking and intermittant alligator cracking progressing to base failure.

CORING LOG

Symbol	Location	Core Data		R-value
1	North of 12th Street 300ft	AC Fabric AB	5.50" NO 2.00"	-
2	North of 12th Street 750ft	AC Fabric AB	6.50" YES 3.00"	10
3	North of 12th Street 1200ft	AC Fabric AB	5.00" YES NO BASE	-
4	North of 12th Street 1650ft	AC Fabric AB	7.00" YES NO BASE	28
5	North of 12th Street 2100ft	AC Fabric AB	4.00" YES 3.00"	-
6	North of 12th Street 2550ft	AC Fabric AB	6.00" YES 2.00"	13
7	North of 12th Street 3000ft	AC Fabric AB	3.00" NO 2.00"	-
8	North of 12th Street 3450ft	AC Fabric AB	7.25" YES NO BASE	15
9	North of 12th Street 3900ft	AC Fabric AB	4.00" YES 2.00"	-
10	North of 12th Street 4350ft	AC Fabric AB	4.00" YES 3.00"	31

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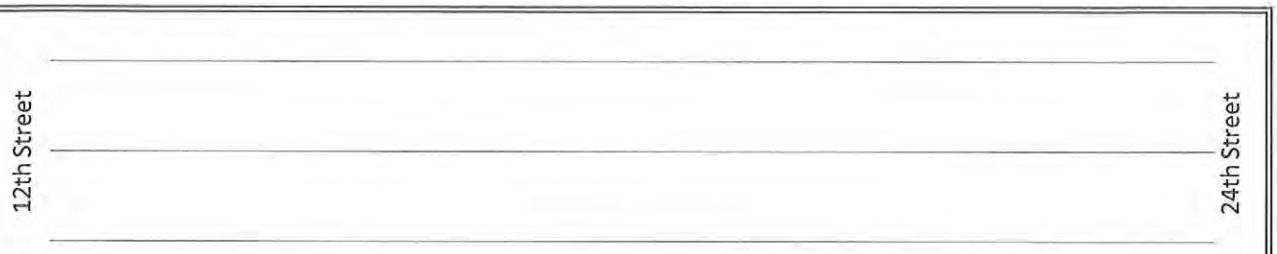

NOTES:
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- ALL LOCATIONS SHOWN ARE APPROXIMATED

Vine Street

[Section of Road ≈ 4500ft]

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

DEFLECTION ANALYSIS

Lane	Tolerable	TI	80th Percentile	Percent Reduction	HMA Overlay
North Bound	21	8.0	33.71	37.71	2.28 - inches
South Bound	21	8.0	36.31	42.16	3.00 - inches
				Overlay Required by Reflective Cracking	2.50 - inches

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04/01/13

City of Paso Robles

Road: Vine
From: 24th
To: 12th
Lane/Line: SB

Survey Date: 03/14/13
Thickness: 0.33
Traffic Index: 8.00
Project Number: 130065

Deflection Data Analysis

Deflection Readings (Equivalent Deflectometer Units)

No. of Tests	Low	Mean	High	Std. Dev.
43	11.98	27.43	47.14	10.57

Road Surface

Thickness	Traffic Index
0.33	8.00

Structural Design

Tolerable	80th Percentile	90th Percentile	% Reduction	GE Deficient
21.00	36.31	40.96	42.16	0.47

HMA Overlay
0.25

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04/01/13

City of Paso Robles

Road: Vine
From: 24th
To: 12th
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Survey Date: 03/14/13
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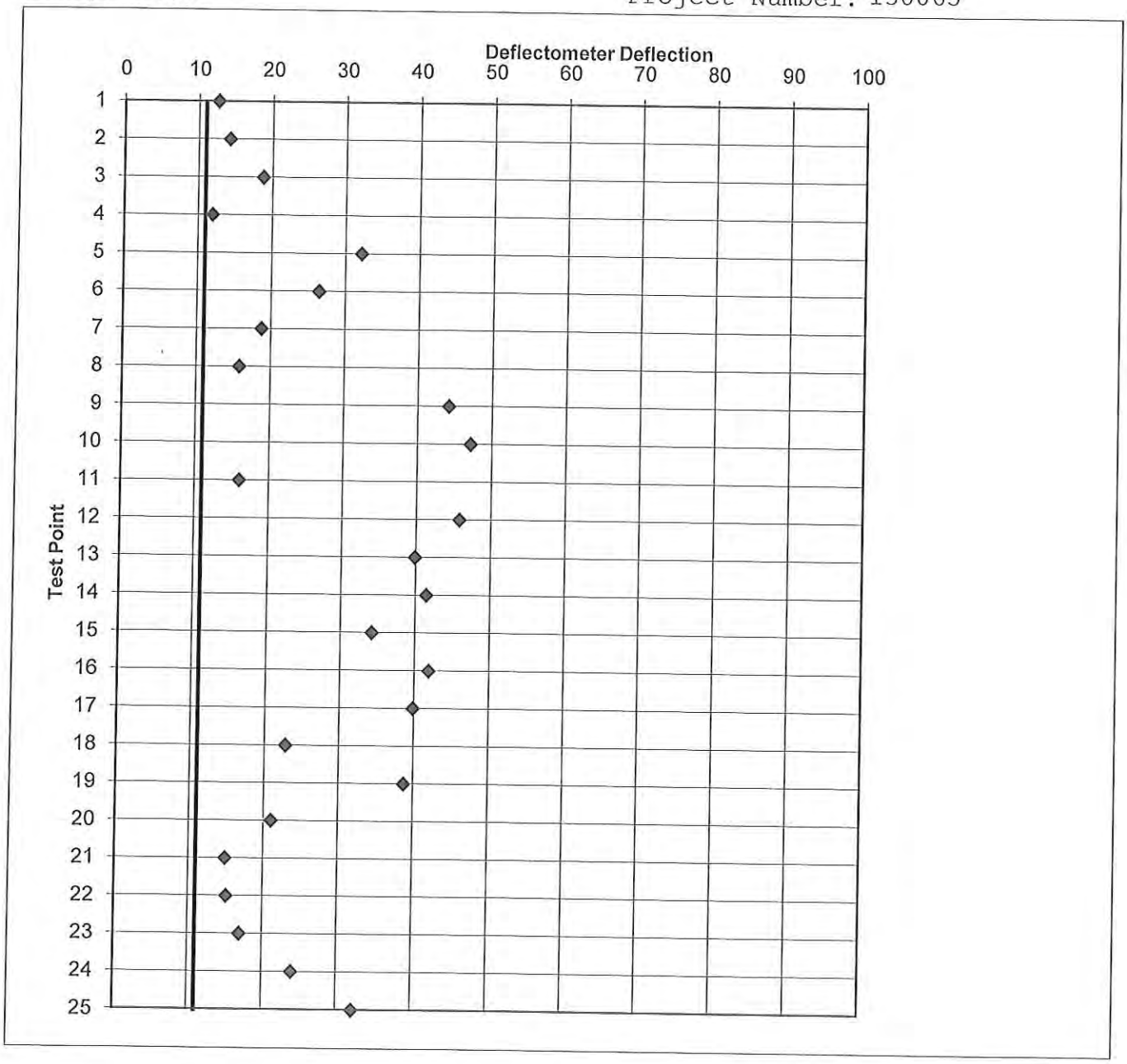
Project Number: 130065



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Date: 4/1/2013

Client: City of Paso Robles
Road: Vine
From: 24th
To: 12th
Lane/Line: SB

Interval: 100
Survey Date: 3/14/13
Thickness: 0.33
Traffic Index: 8.00
Project Number: 130065

Test Points	Dynaflect	Conditions	Comments	Deflection	Exclude
1	0.58			12.658	
2	0.65			14.246	
3	0.85			18.784	
4	0.55			11.978	
5	1.44			32.169	
6	1.19			26.497	
7	0.85			18.784	
8	0.72		22nd	15.834	
9	1.97			44.193	
10	2.10			47.142	
11	0.73		21st	16.061	
12	2.04			45.781	
13	1.78			39.882	
14	1.85			41.470	
15	1.53		20th	34.211	
16	1.87			41.924	
17	1.78			39.882	
18	1.03		19th	22.867	
19	1.73			38.748	
20	0.95			21.052	
21	0.68			14.927	
22	0.69		18th	15.154	
23	0.77			16.969	
24	1.08			24.002	
25	1.44			32.169	
26	1.26		17th	28.085	
27	1.34			29.900	
28	1.18			26.270	
29	0.81			17.876	
30	1.50		16th	33.530	
31	2.10			47.142	

32	1.03			22.867	
33	0.69		15th	15.154	
34	0.59			12.885	
35	0.84			18.557	
36	1.12			24.909	
37	1.45		14th	32.396	
38	1.38			30.808	
39	1.65			36.933	
40	1.00		13th	22.187	
41	1.58			35.345	
42	1.26			28.085	
43	1.31			29.219	

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City of Paso Robles

Road: Vine
From: 12th
To: 24th
Lane/Line: NB

Survey Date: 03/14/13
Thickness: 0.33
Traffic Index: 8.00
Project Number: 130065

Deflection Data Analysis

Deflection Readings (Equivalent Deflectometer Units)

No. of Tests	Low	Mean	High	Std. Dev.
43	9.71	24.04	55.76	11.51

Road Surface

Thickness	Traffic Index
0.33	8.00

Structural Design

Tolerable	80th Percentile	90th Percentile	% Reduction	GE Deficient
21.00	33.71	38.78	37.71	0.37

HMA Overlay
0.19

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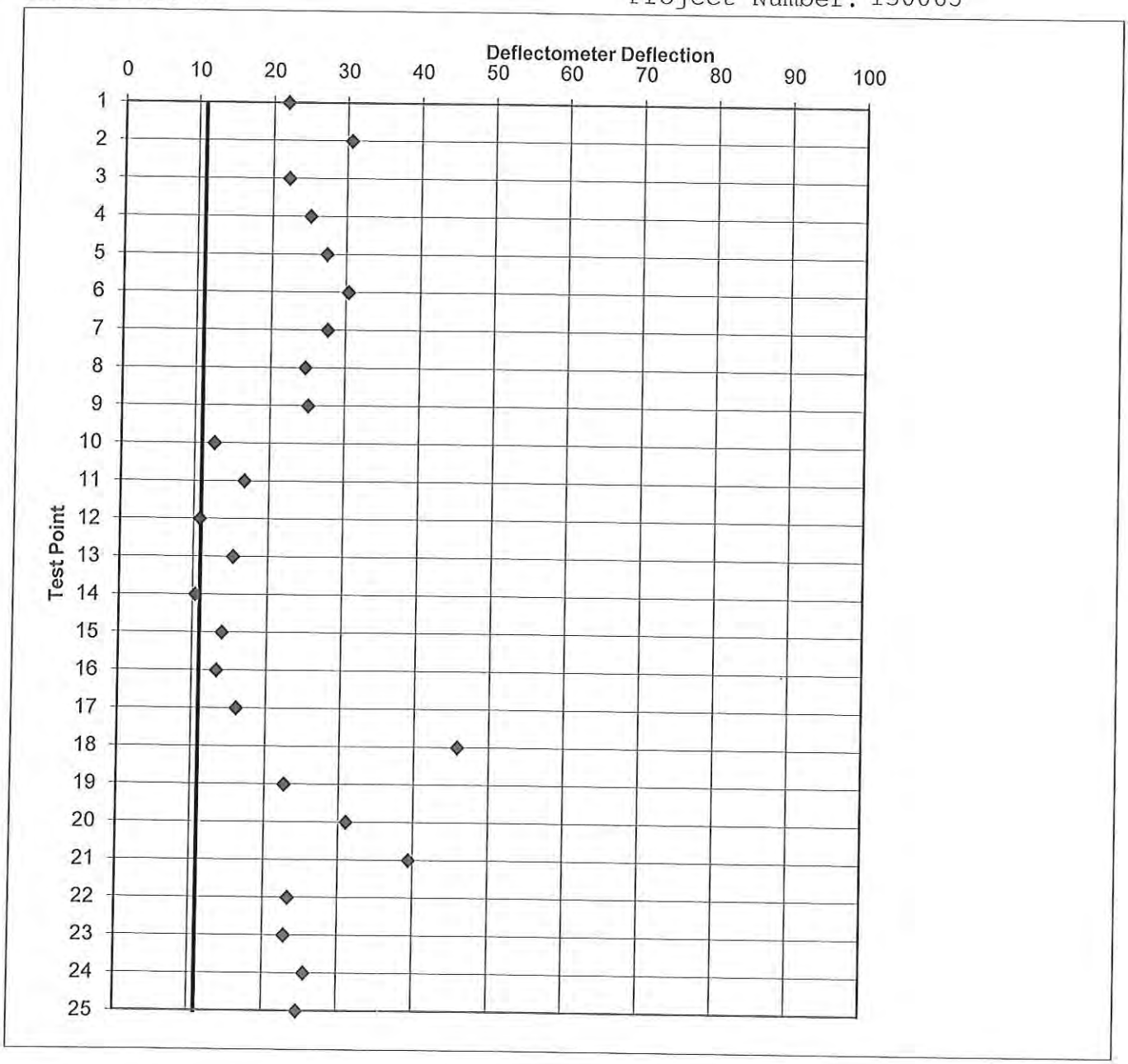
04/01/13

City of Paso Robles

Road: Vine
From: 12th
To: 24th
Lane/Line: NB

Survey Date: 03/14/13
Thickness: 0.33
Traffic Index: 8.00
Project Number: 130065



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Date: 4/1/2013

Client: City of Paso Robles
Road: Vine
From: 12th
To: 24th
Lane/Line: NB

Interval: 100
Survey Date: 3/14/13
Thickness: 0.33
Traffic Index: 8.00
Project Number: 130065

Test Points	Dynaflect	Conditions	Comments	Deflection	Exclude
1	0.99			21.960	
2	1.37			30.581	
3	1.00			22.187	
4	1.13			25.136	
5	1.23			27.405	
6	1.36			30.354	
7	1.24			27.631	
8	1.11			24.682	
9	1.13			25.136	
10	0.58			12.658	
11	0.76			16.742	
12	0.50			10.843	
13	0.70			15.381	
14	0.48			10.390	
15	0.64			14.019	
16	0.61			13.339	
17	0.73			16.061	
18	2.04			45.781	
19	1.02			22.640	
20	1.39			31.034	
21	1.76			39.428	
22	1.05			23.321	
23	1.03			22.867	
24	1.15			25.590	
25	1.11			24.682	
26	1.03			22.867	
27	1.09			24.228	
28	1.35			30.127	
29	2.10			47.142	
30	2.21			49.637	
31	2.48			55.763	

32	2.14			48.049	
33	1.25			27.858	
34	0.88			19.464	
35	0.58			12.658	
36	0.62			13.566	
37	0.83			18.330	
38	0.91			20.145	
39	0.63			13.793	
40	0.73			16.061	
41	0.61			13.339	
42	0.45			9.709	
43	0.51			11.070	

VINE STREET – 24TH STREET TO 36TH STREET

RECOMMENDATIONS

Pavement Maintenance Options (Short-Term)

For Option 1, we recommend 4 inch digouts of base failures and placing a 1-1/4 inch TMO (thin maintenance overlay).

Estimated Cost: $234,000 Estimated Life Expectancy: 3-5 Years

For Option 2, we recommend 4 inch digouts of base failures and placing a Cape Seal.

Estimated Cost: $211,000 Estimated Life Expectancy: 3-5 Years

For Option 3, we recommend 4 inch digouts of base failures, placing a 1/2 inch leveling course and a 1-1/4 inch TMO (thin maintenance overlay).

Estimated Cost: $299,000 Estimated Life Expectancy: 5-7 Years

For Option 4, we recommend 4 inch digouts of base failures, placing a 1/2 inch leveling course and placing a Cape Seal.

Estimated Cost: $276,000 Estimated Life Expectancy: 5-7 Years

Pavement Rehabilitation Options (Long-Term)

Overlay Options

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

Estimated Cost: $321,000 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: $323,000 Estimated Life Expectancy: 10-12 Years

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 11-1/2 inches and replacing 11-1/2 inches of new HMA. The HMA should be placed in 5 lifts.

Estimated Cost: $1,529,000 Estimated Life Expectancy: 20 Years

For option 2, we recommend removing 6 inches of the existing structure, lime treating the native soil to a depth of 13-1/2 inches and placing 6 inches of new HMA in 3 lifts.

Estimated Cost: $916,000 Estimated Life Expectancy: 20 Years

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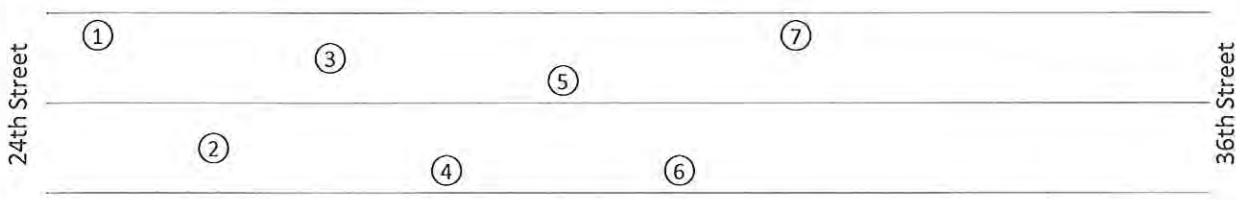

NOTES:
- NTS
- ACTUAL ROAD MAY NOT BE STRAIGHT
- NOT ALL ROADS CONNECTING TO THIS STREET ARE SHOWN
- WIDTH OF ROAD MAY VARY WITHIN THE BOUNDARY SECTION
- ALL LOCATIONS SHOWN ARE APPROXIMATED

Vine Street

[Section of Road ≈ 4500ft]

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

VISUAL DESCRIPTION FOR THIS SECTION OF ROAD

The pavement exhibits moderate raveling, block shrinkage cracking and intermittant alligator cracking. It should be noted that the road north of 32nd Street to just south of 36th Street is gravel.

CORING LOG

Symbol	Location	Core Data		R-value
1	North of 24th Street 200ft	AC Fabric AB	4.00" YES 3.00"	-
2	North of 24th Street 650ft	AC Fabric AB	3.75" YES 2.00"	19
3	North of 24th Street 1100ft	AC Fabric AB	4.00" YES 3.00"	-
4	North of 24th Street 1550ft	AC AB	3.00" NO BASE	15
5	North of 24th Street 2000ft	AC AB	2.00" 2.00"	-
6	North of 24th Street 2450ft	AC AB	2.25" 3.00"	10
7	North of 24th Street 2900ft	AC AB	2.75" 8.00"	-

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24th Street

36th Street

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

Vine Street

[Section of Road ≈ 4500ft]

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

DEFLECTION ANALYSIS

Lane	Tolerable	TI	80th Percentile	Percent Reduction	HMA Overlay
North Bound	22	8.0	23.72	7.24	0.12 - inches
South Bound	22	8.0	24.31	9.52	0.24 - inches
				Overlay Required by Reflective Cracking	1.50 - inches

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04/01/13

City of Paso Robles

Road: Vine
From: 36th
To: 24th
Lane/Line: SB

Survey Date: 03/14/13
Thickness: 0.30
Traffic Index: 8.00
Project Number: 130065

Deflection Data Analysis

Deflection Readings (Equivalent Deflectometer Units)

No. of Tests	Low	Mean	High	Std. Dev.
43	9.26	19.25	35.34	6.03

Road Surface

Thickness	Traffic Index
0.30	8.00

Structural Design

Tolerable	80th Percentile	90th Percentile	% Reduction	GE Deficient
22.00	24.31	26.97	9.52	0.03

HMA Overlay
0.02

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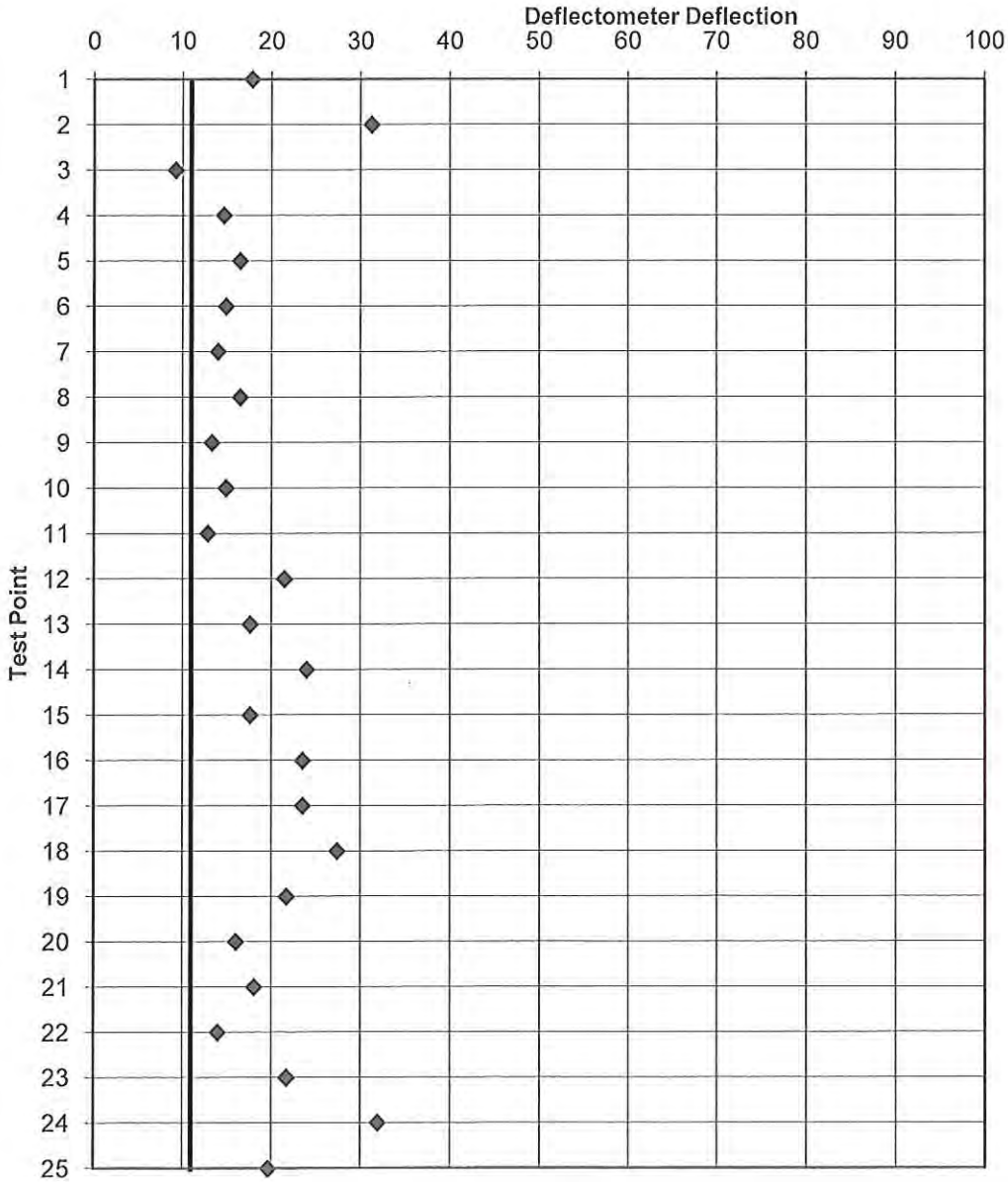
City of Paso Robles

Road: Vine
From: 36th
To: 24th
Lane/Line: SB

Survey Date: 03/14/13
Thickness: 0.30
Traffic Index: 8.00
Project Number: 130065



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Date: 4/1/2013

Client: City of Paso Robles
Road: Vine
From: 36th
To: 24th
Lane/Line: SB

Interval: 100
Survey Date: 3/14/13
Thickness: 0.30
Traffic Index: 8.00
Project Number: 130065

Test Points	Dynaflect	Conditions	Comments	Deflection	Exclude
1	0.81			17.876	
2	1.40			31.261	
3	0.43		Caballo	9.255	
4	0.67			14.700	
5	0.75		Start dirt road	16.515	
6	0.68			14.927	
7	0.64			14.019	
8	0.75			16.515	
9	0.61			13.339	
10	0.68			14.927	
11	0.59		End Dirt Road	12.885	
12	0.97			21.506	
13	0.80		Arleen	17.649	
14	1.08			24.002	
15	0.80		32nd	17.649	
16	1.06			23.548	
17	1.06		Bonita	23.548	
18	1.23			27.405	
19	0.98			21.733	
20	0.73		Beverly	16.061	
21	0.82			18.103	
22	0.64		30th	14.019	
23	0.98			21.733	
24	1.43			31.942	
25	0.89			19.691	
26	0.82			18.103	
27	1.33			29.673	
28	0.71			15.608	
29	0.83			18.330	
30	0.59		28th	12.885	
31	0.61			13.339	

32	0.65			14.246	
33	1.02			22.640	
34	0.65			14.246	
35	0.74			16.288	
36	0.66		Fair View	14.473	
37	1.16			25.816	
38	1.58			35.345	
39	0.71			15.608	
40	1.01			22.413	
41	1.34			29.900	
42	0.89			19.691	
43	0.65			14.246	

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City of Paso Robles

Road: Vine
From: 24th
To: 36th
Lane/Line: NB

Survey Date: 03/14/13
Thickness: 0.30
Traffic Index: 8.00
Project Number: 130065

Deflection Data Analysis

Deflection Readings (Equivalent Deflectometer Units)

No. of Tests	Low	Mean	High	Std. Dev.
43	10.39	19.05	35.34	5.55

Road Surface

Thickness	Traffic Index
0.30	8.00

Structural Design

Tolerable	80th Percentile	90th Percentile	% Reduction	GE Deficient
22.00	23.72	26.16	7.24	0.02

HMA Overlay
0.01

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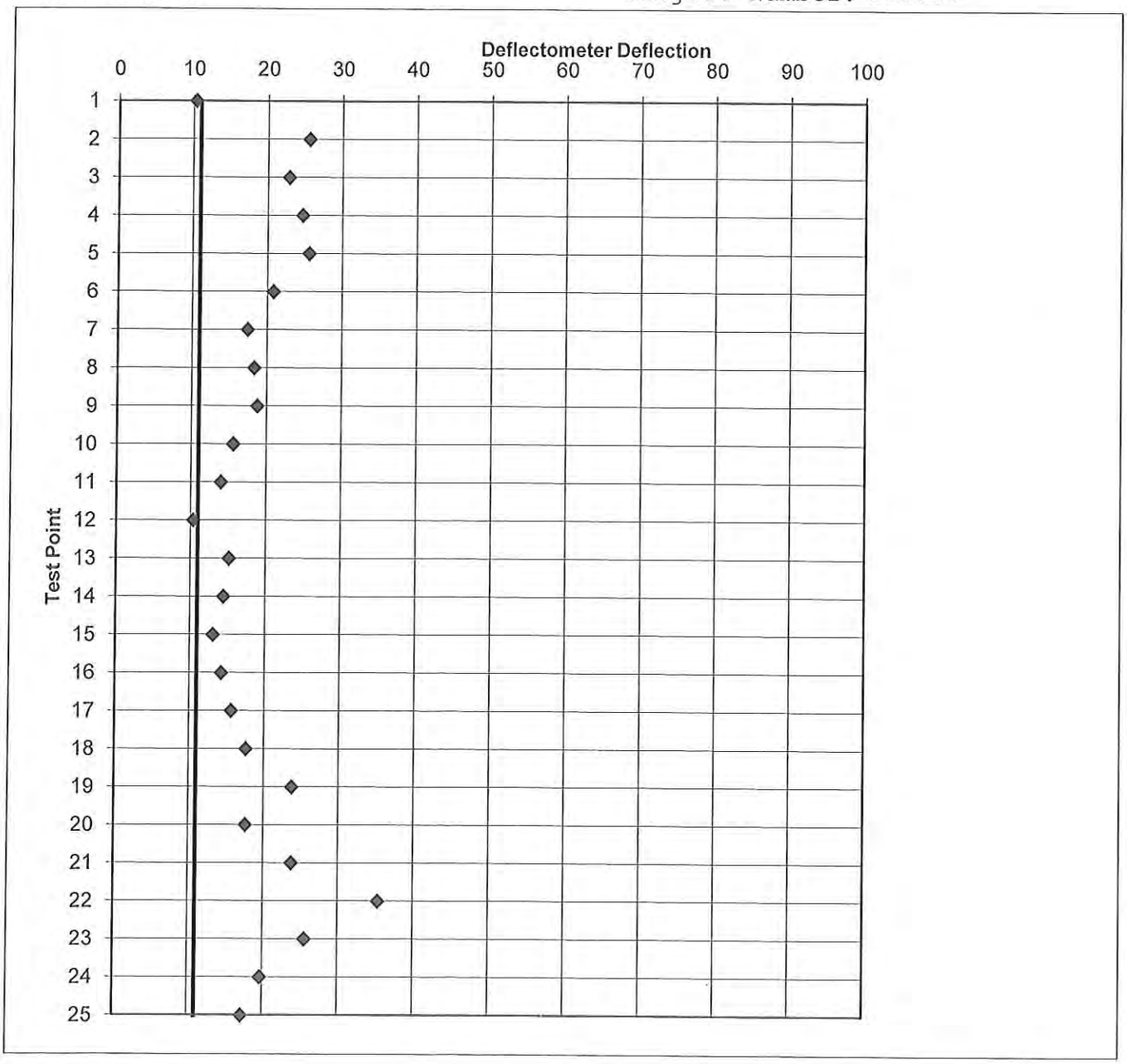
City of Paso Robles

Road: Vine
From: 24th
To: 36th
Lane/Line: NB

Survey Date: 03/14/13
Thickness: 0.30
Traffic Index: 8.00
Project Number: 130065



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Date: 4/1/2013

Client: City of Paso Robles
Road: Vine
From: 24th
To: 36th
Lane/Line: NB

Interval: 100
Survey Date: 3/14/13
Thickness: 0.30
Traffic Index: 8.00
Project Number: 130065

Test Points	Dynaflect	Conditions	Comments	Deflection	Exclude
1	0.48			10.390	
2	1.15			25.590	
3	1.03			22.867	
4	1.11			24.682	
5	1.15			25.590	
6	0.94			20.825	
7	0.79			17.422	
8	0.83		Fairview	18.330	
9	0.85			18.784	
10	0.71			15.608	
11	0.64			14.019	
12	0.48			10.390	
13	0.69			15.154	
14	0.66		28th	14.473	
15	0.60			13.112	
16	0.65			14.246	
17	0.71			15.608	
18	0.80			17.649	
19	1.07			23.775	
20	0.80			17.649	
21	1.07			23.775	
22	1.58		30th	35.345	
23	1.15			25.590	
24	0.89		Beverly	19.691	
25	0.78			17.196	
26	1.24		Bonita	27.631	
27	0.98			21.733	
28	0.67			14.700	
29	0.60		32nd	13.112	
30	0.90			19.918	
31	0.88		Arleen	19.464	

32	1.08			24.002	
33	1.02		before dirt road	22.640	
34	0.60			13.112	
35	0.54			11.751	
36	1.25			27.858	
37	1.21			26.951	
38	0.71			15.608	
39	0.93			20.599	
40	0.83			18.330	
41	0.70		End of Dirt road	15.381	
42	0.49		Caballo	10.616	
43	0.82			18.103	

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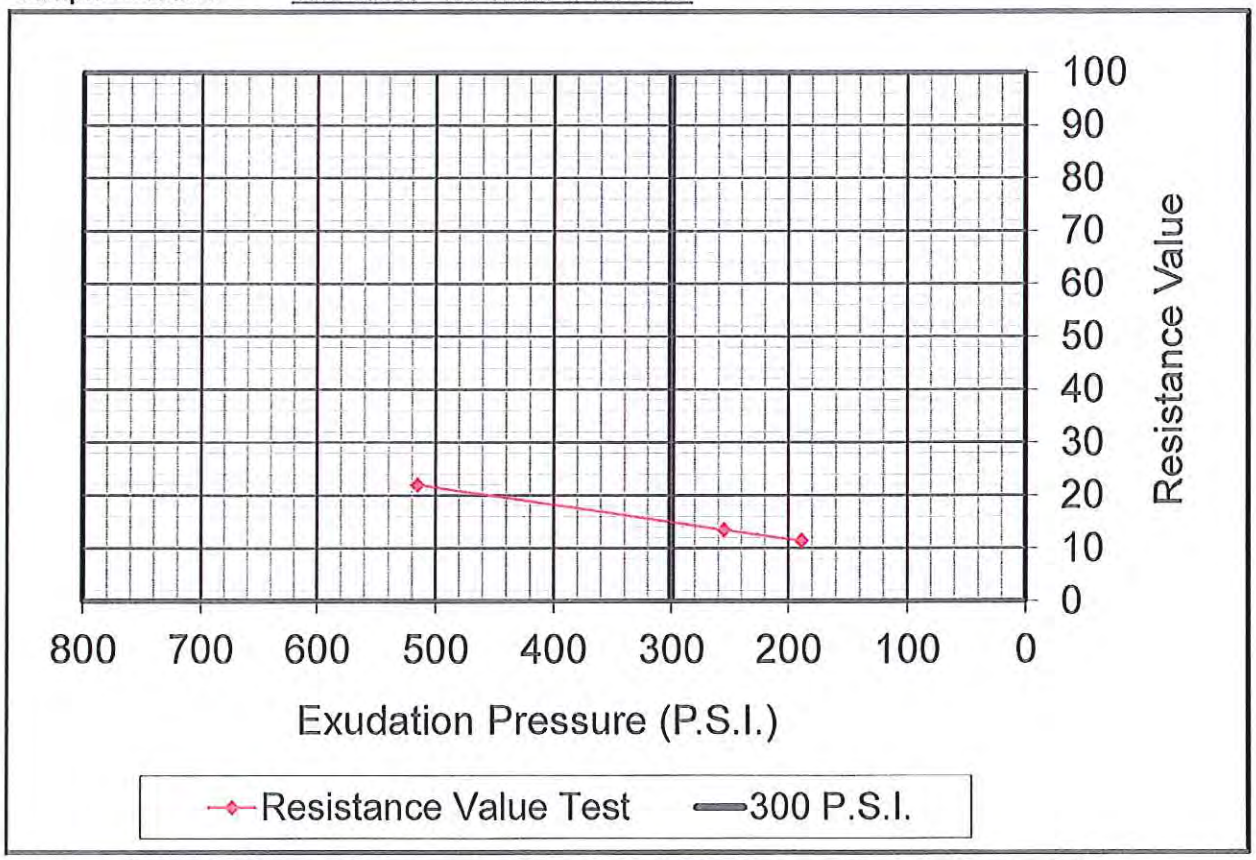
RESISTANCE (R) VALUE TEST

ASTM D 2844

Laboratory No.: L130083BC
Project No.: 130065
Sample Date: March 15, 2013
Report Date: April 12, 2013
Client: City of Paso Robles
Project Name: City of Paso Robles 2013 Pavement Analysis
Sample Description: Brown Clayey Silt with Sand
Sample Location: Vine Street - 450' North of 1st Street



Specimen No.	1	2	3
Moisture Content (%)	25.5	27.1	27.6
Dry Density (PCF)	93.6	92.8	92.2
Resistance Value (R)	22	13	11
Exudation Pressure (PSI)	516	256	189
Expansion Pressure	0	0	0

RESISTANCE VALUE AT 300 P.S.I. 15

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Craig W. Long
Laboratory Operations Manager

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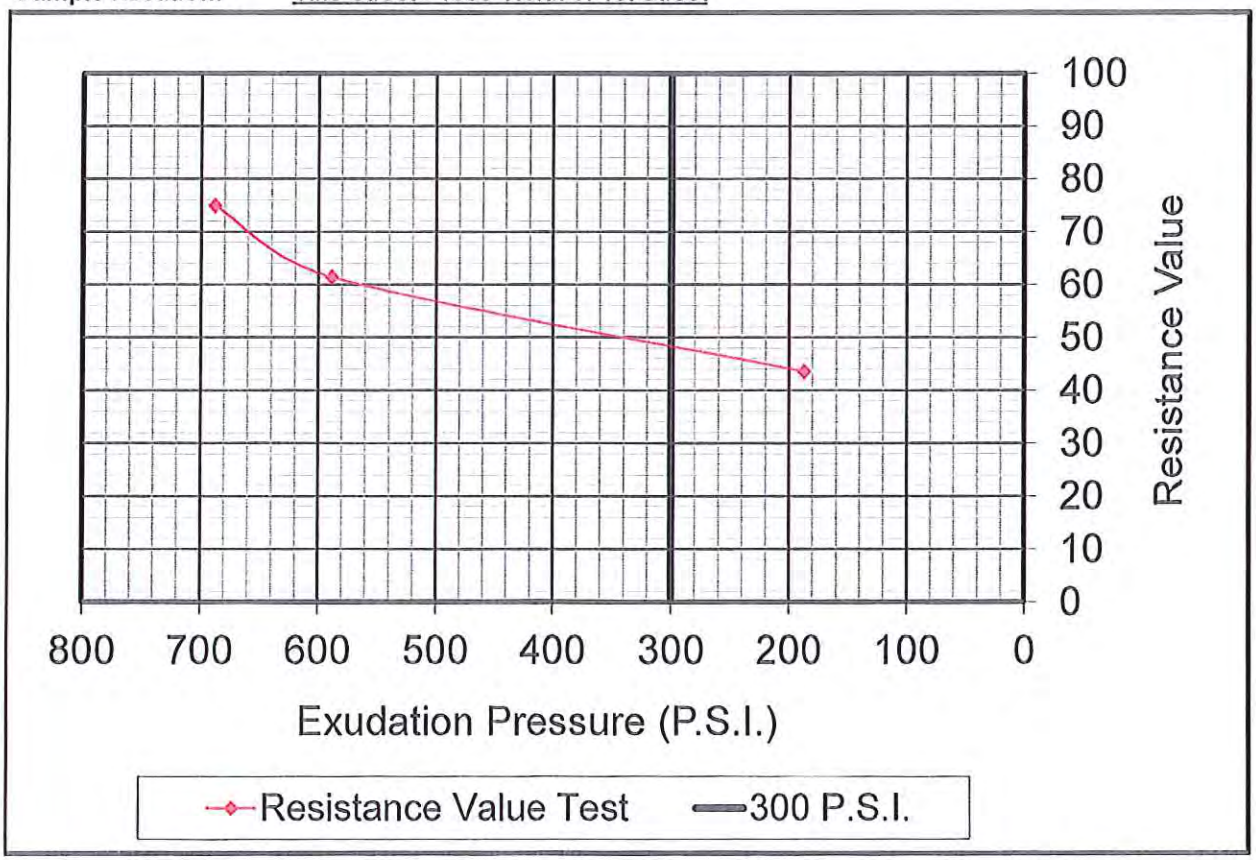
RESISTANCE (R) VALUE TEST
ASTM D 2844

Laboratory No.: L130083BD
Project No.: 130065
Sample Date: March 15, 2013
Report Date: April 12, 2013
Client: City of Paso Robles
Project Name: City of Paso Robles 2013 Pavement Analysis
Sample Description: Dark Brown Silty Sand
Sample Location: Vine Street - 1350' North of 1st Street



Specimen No.	1	2	3
Moisture Content (%)	32.3	34.5	36.7
Dry Density (PCF)	81.4	80.7	79.4
Resistance Value (R)	75	61	44
Exudation Pressure (PSI)	688	589	188
Expansion Pressure	78	39	0

RESISTANCE VALUE AT 300 P.S.I. 48

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Laboratory Operations Manager

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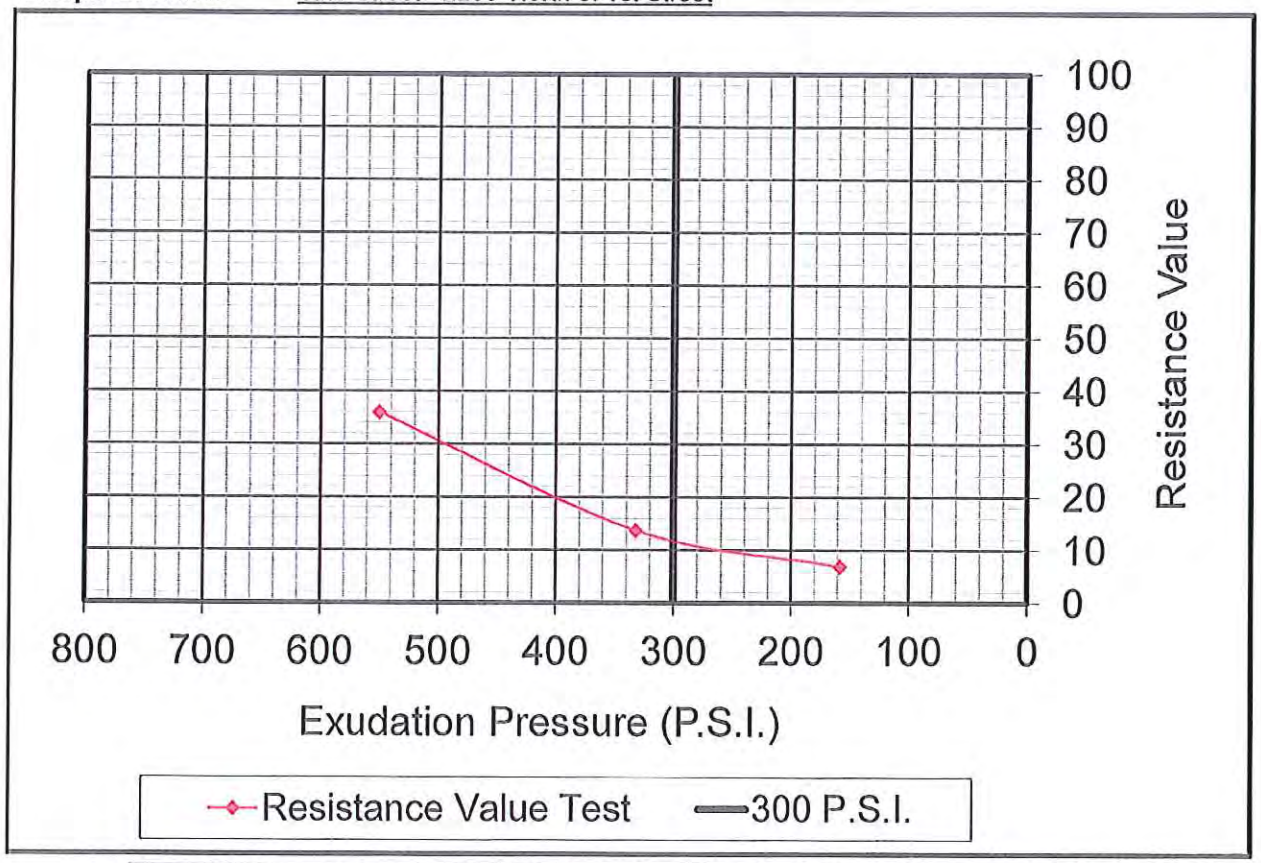
RESISTANCE (R) VALUE TEST
ASTM D 2844

Laboratory No.: L130083AN
Project No.: 130065
Sample Date: March 14, 2013
Report Date: April 10, 2011
Client: City of Paso Robles
Project Name: City of Paso Robles 2013 Pavement Analysis
Sample Description: Brown Clayey Silt with Sand
Sample Location: Vine Street - 2250' North of 1st Street



Specimen No.	1	2	3
Moisture Content (%)	20.8	21.9	19.8
Dry Density (PCF)	100.8	99.4	102.4
Resistance Value (R)	14	7	36
Exudation Pressure (PSI)	332	158	550
Expansion Pressure	0	0	22

RESISTANCE VALUE AT 300 P.S.I. 12

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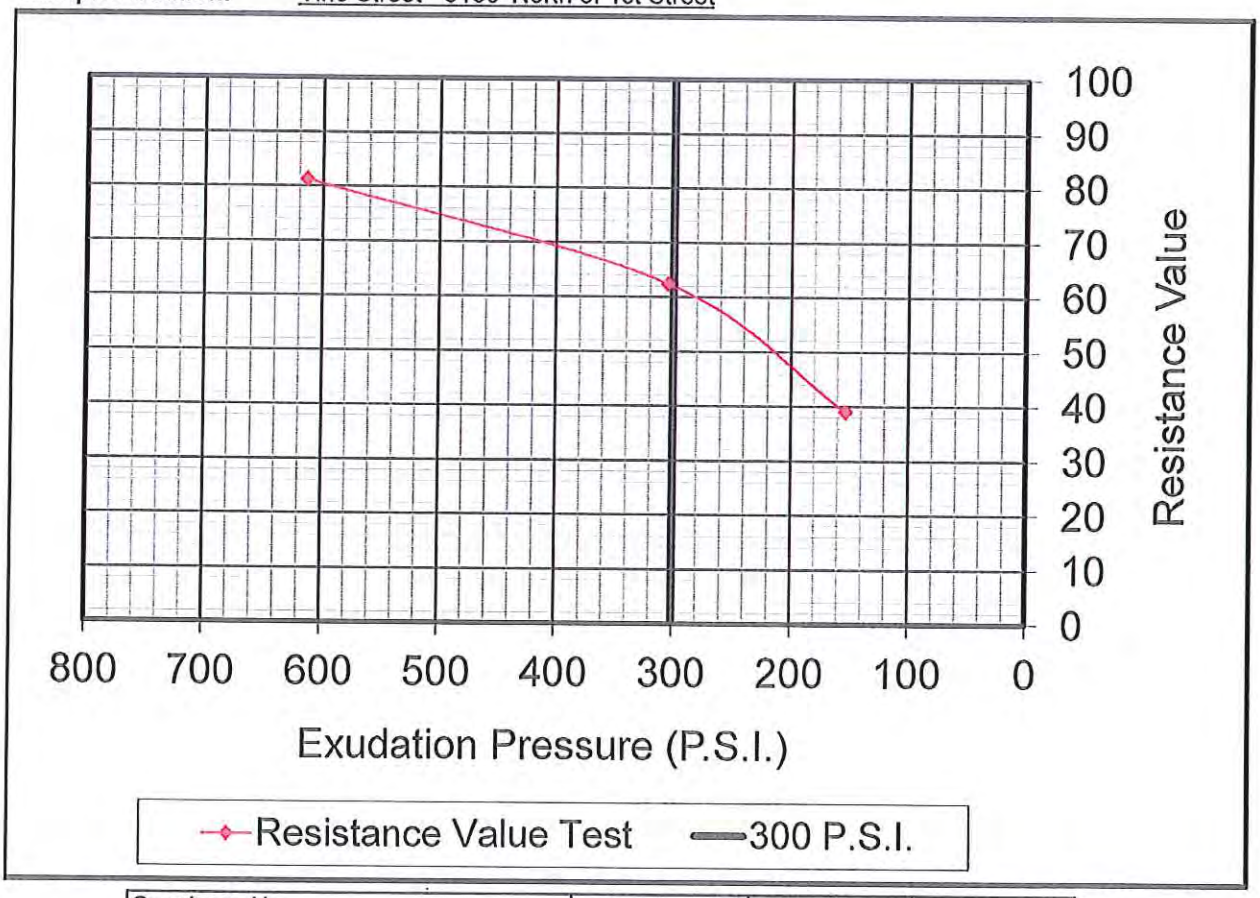
RESISTANCE (R) VALUE TEST
ASTM D 2844

Laboratory No.: L130083S
Project No.: 130065
Sample Date: March 14, 2013
Report Date: March 28, 2013
Client: City of Paso Robles
Project Name: City of Paso Robles 2013 Pavement Analysis
Sample Description: Brown Silty Sand with Gravel
Sample Location: Vine Street - 3150' North of 1st Street



Specimen No.	1	2	3
Moisture Content (%)	30.7	31.6	30.2
Dry Density (PCF)	83.6	83.0	81.4
Resistance Value (R)	62	39	81
Exudation Pressure (PSI)	305	153	614
Expansion Pressure	0	0	13

RESISTANCE VALUE AT 300 P.S.I. 62

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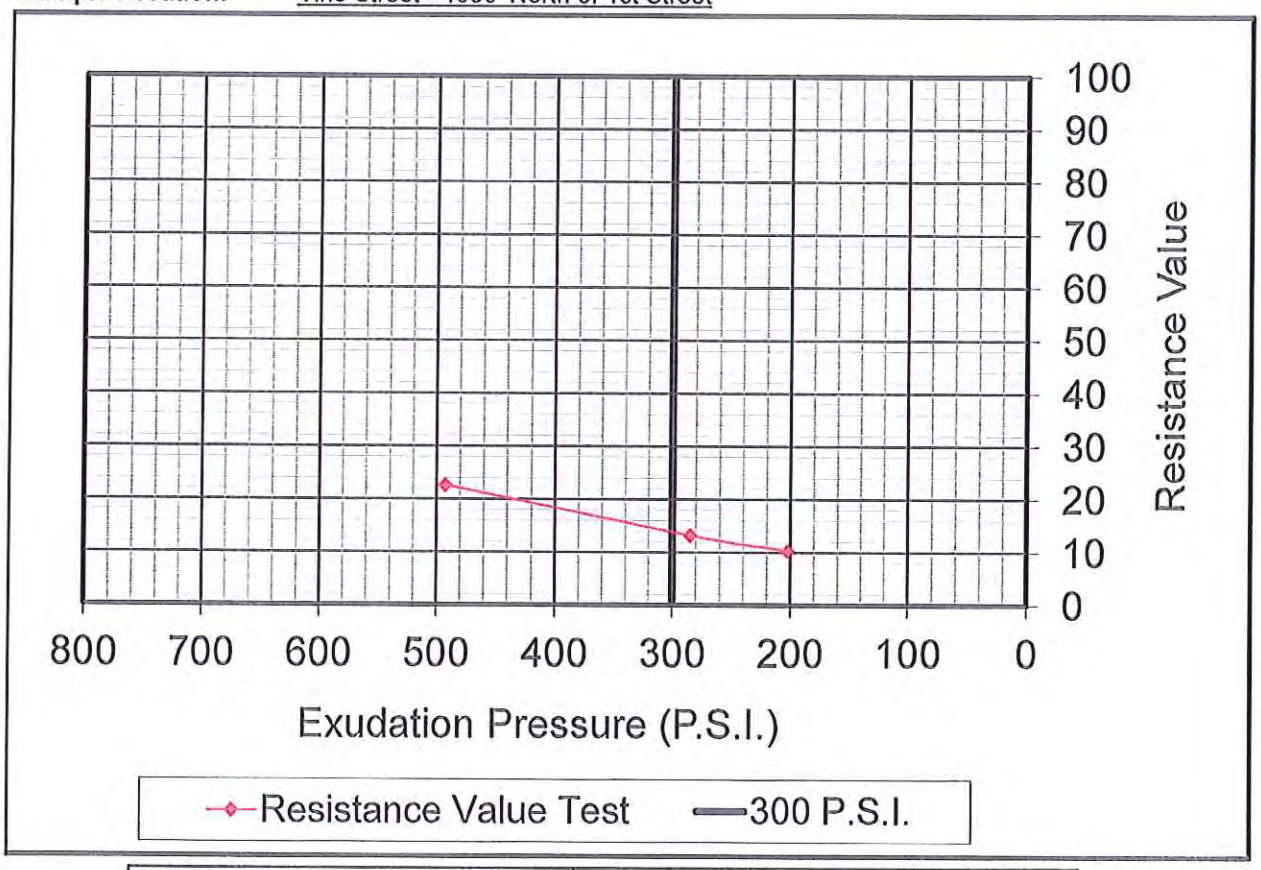
RESISTANCE (R) VALUE TEST
ASTM D 2844

Laboratory No.: L130083AV
Project No.: 130065
Sample Date: March 14, 2013
Report Date: April 11, 2013
Client: City of Paso Robles
Project Name: City of Paso Robles 2013 Pavement Analysis
Sample Description: Dark Brown Silt with Sand and Gravel
Sample Location: Vine Street - 4050' North of 1st Street



Specimen No.	1	2	3
Moisture Content (%)	26.7	26.8	28.3
Dry Density (PCF)	89.0	88.3	87.5
Resistance Value (R)	23	13	10
Exudation Pressure (PSI)	493	285	203
Expansion Pressure	0	0	0

RESISTANCE VALUE AT 300 P.S.I. 14

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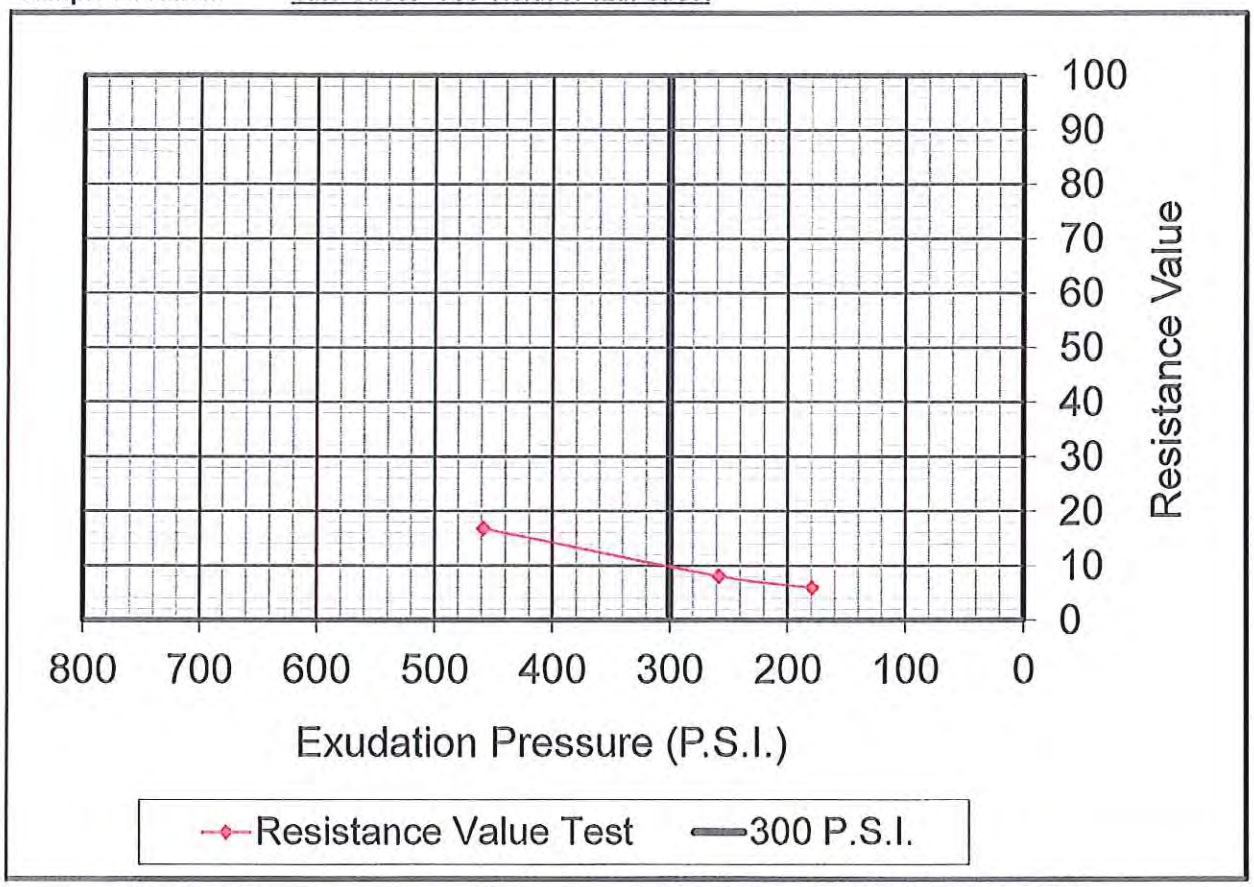
RESISTANCE (R) VALUE TEST

ASTM D 2844

Laboratory No.: L130083G
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: Dark Brown Sandy Clayey with Gravel
Sample Location: Vine Street - 750' North of 12th Street



Specimen No.	1	2	3
Moisture Content (%)	29.4	30.5	30.9
Dry Density (PCF)	86.4	84.9	85.3
Resistance Value (R)	17	8	6
Exudation Pressure (PSI)	459	258	180
Expansion Pressure	0	0	0

RESISTANCE VALUE AT 300 P.S.I. 10

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Laboratory Operations Manager

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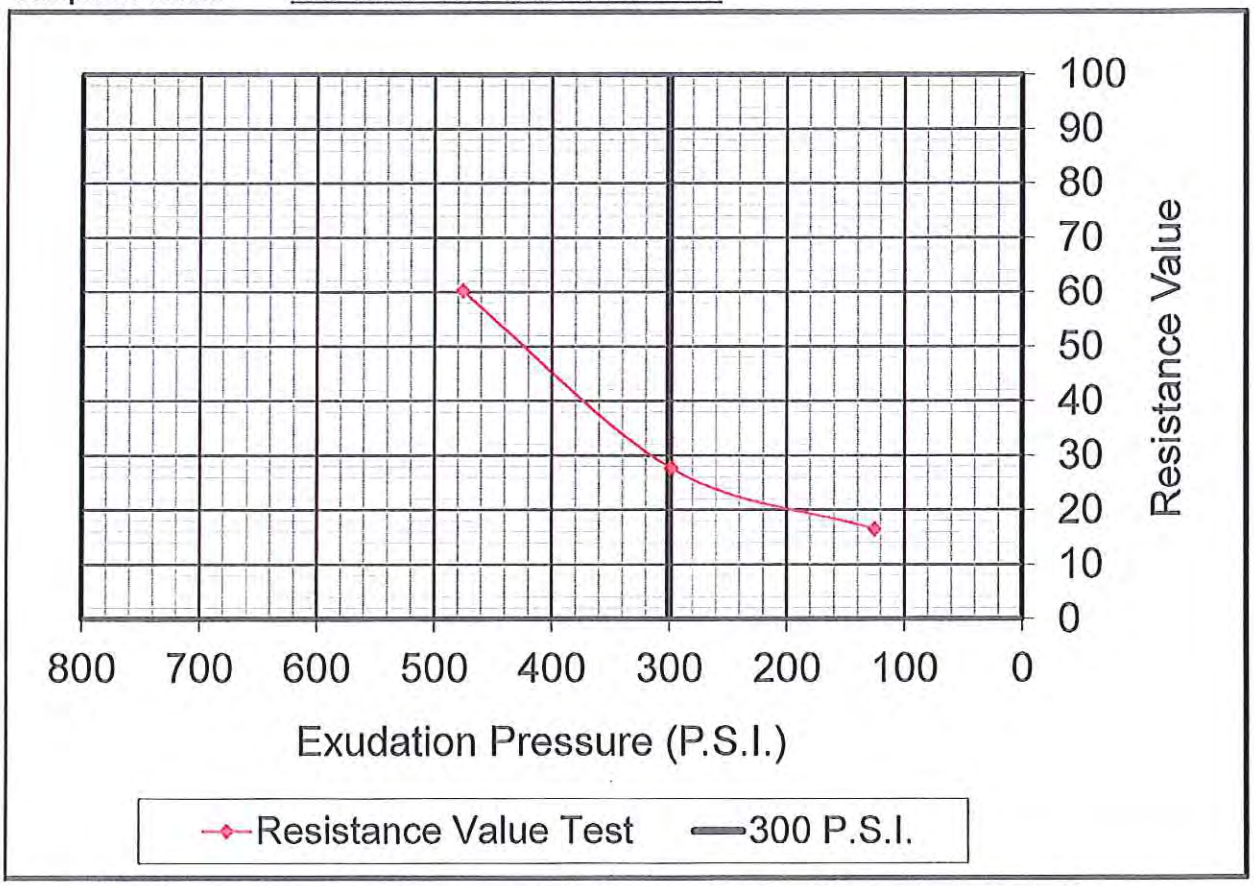
RESISTANCE (R) VALUE TEST

ASTM D 2844

Laboratory No.: L130083H
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 Anaylsis
Sample Description: Dark Brown Clayey Silt with Sand and Gravel
Sample Location: Vine Street - 1650' North of 12th Street



Specimen No.	1	2	3
Moisture Content (%)	35.9	37.1	37.6
Dry Density (PCF)	77.6	76.8	76.1
Resistance Value (R)	60	28	17
Exudation Pressure (PSI)	476	299	126
Expansion Pressure	26	9	0

RESISTANCE VALUE AT 300 P.S.I. 28

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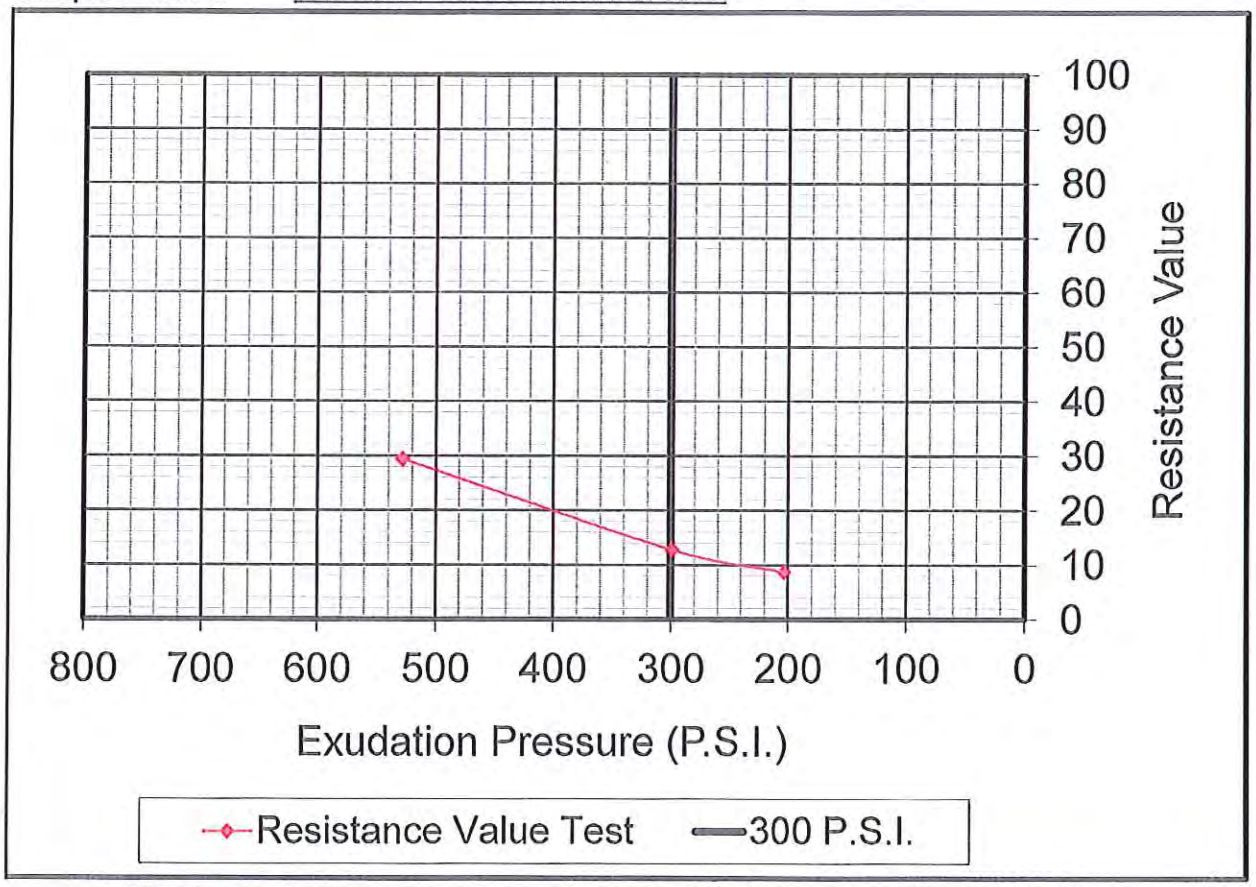
RESISTANCE (R) VALUE TEST

ASTM D 2844

Laboratory No.: L130083L
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: Dark Brown Clayey Silt with Sand
Sample Location: Vine Street - 2550' North of 12th Street



Specimen No.	1	2	3
Moisture Content (%)	22.7	23.7	24.1
Dry Density (PCF)	95.5	95.3	94.2
Resistance Value (R)	29	13	9
Exudation Pressure (PSI)	529	299	203
Expansion Pressure	0	0	0

RESISTANCE VALUE AT 300 P.S.I. 13

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20260 Skypark Drive • Redding, CA • 96002-9221 • Tel. (530) 224-4535 • Fax (530) 224-4539
3485 Sacramento Drive, Suite A • San Luis Obispo, CA • 93401-7156 • Tel. (805) 781-2265 • Fax (805) 781-2267

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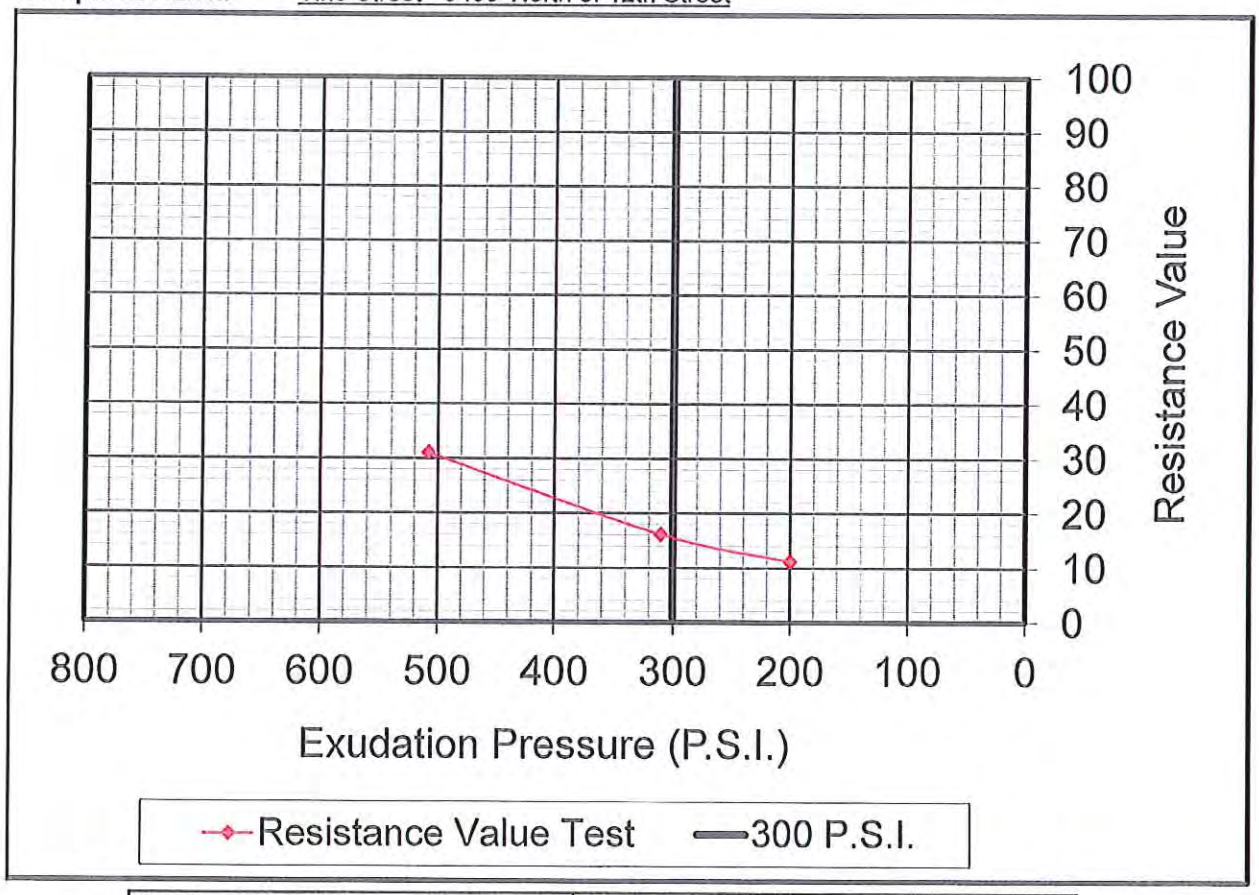
RESISTANCE (R) VALUE TEST
ASTM D 2844

Laboratory No.: L130083E
Project No.: 130065
Sample Date: March 12, 2013
Report Date: March 21, 2013
Client: City of Paso Robles
Project Name: City of Paso Robles 2013 Pavement Analysis
Sample Description: Dark Brown Clayey Silt with Sand
Sample Location: Vine Street - 3450' North of 12th Street



Specimen No.	1	2	3
Moisture Content (%)	25.7	26.8	27.3
Dry Density (PCF)	91.4	89.9	89.5
Resistance Value (R)	31	16	11
Exudation Pressure (PSI)	509	311	200
Expansion Pressure	26	13	9

RESISTANCE VALUE AT 300 P.S.I. 15

AASHTO R18

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

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20260 Skypark Drive • Redding, CA • 96002-9221 • Tel. (530) 224-4535 • Fax (530) 224-4539
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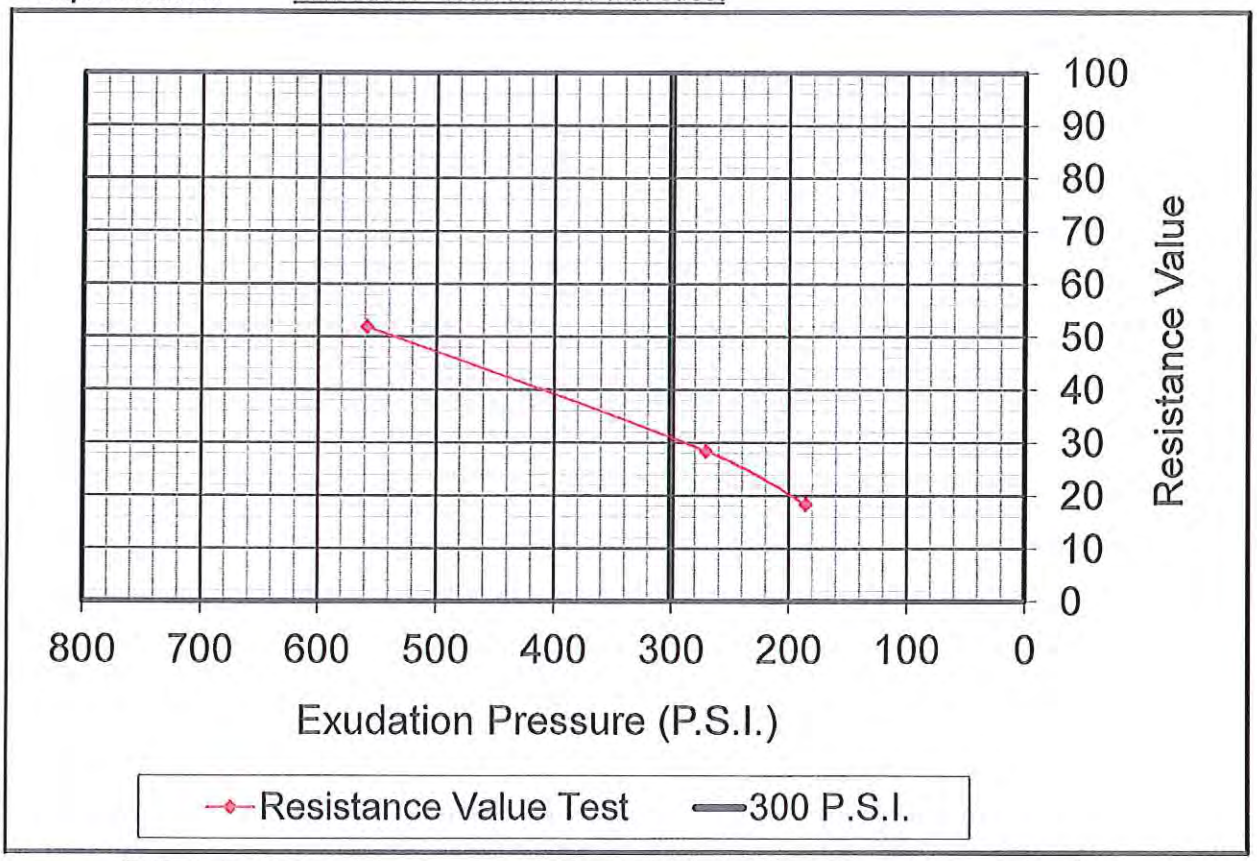
RESISTANCE (R) VALUE TEST

ASTM D 2844

Laboratory No.: L130083AS
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: Dark Brown Clayey Sandy with Silt
Sample Location: Vine Street - 4350' North of 12th Street



Specimen No.	1	2	3
Moisture Content (%)	25.1	26.1	26.6
Dry Density (PCF)	91.2	90.2	90.3
Resistance Value (R)	52	29	18
Exudation Pressure (PSI)	558	271	186
Expansion Pressure	35	17	9

RESISTANCE VALUE AT 300 P.S.I. 31

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Craig W. Long
Laboratory Operations Manager

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20260 Skypark Drive • Redding, CA • 96002-9221 • Tel. (530) 224-4535 • Fax (530) 224-4539
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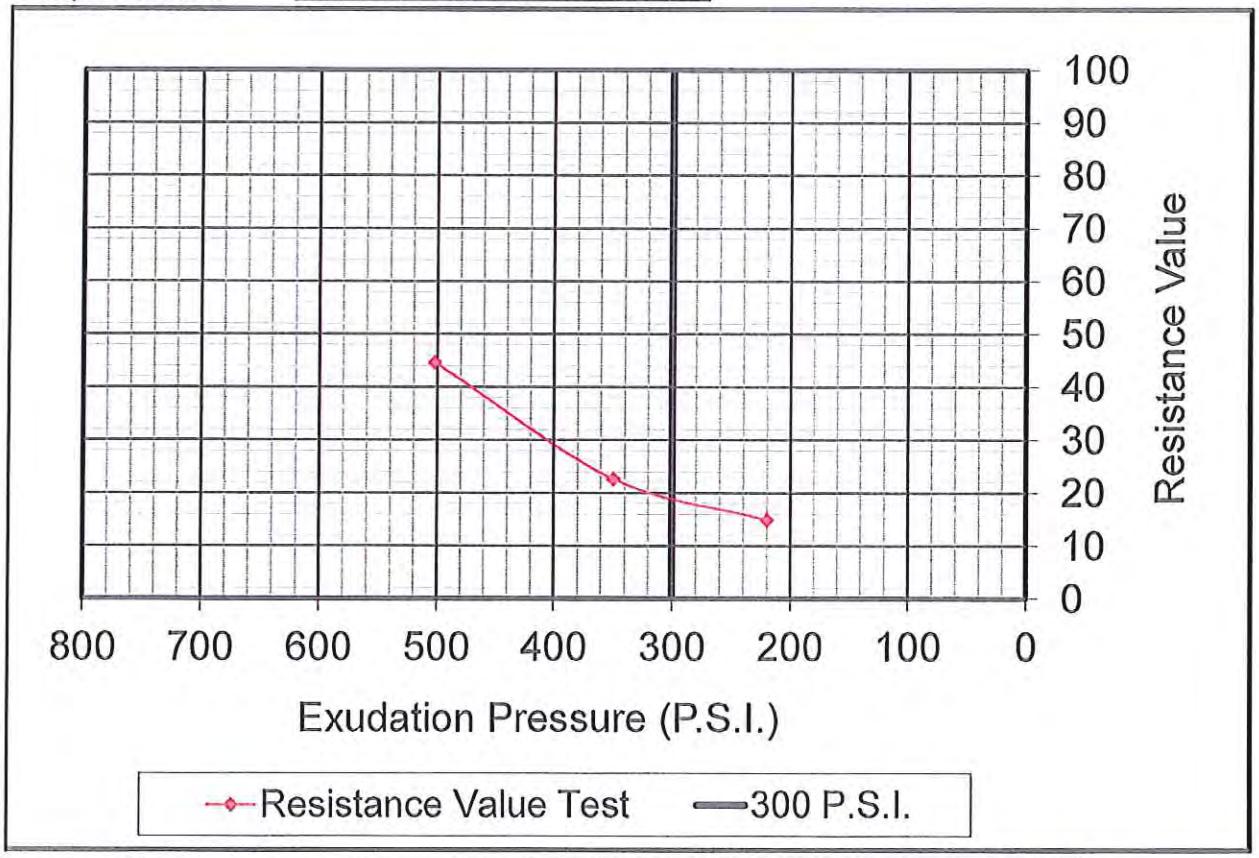
RESISTANCE (R) VALUE TEST
ASTM D 2844

Laboratory No.: L130083U
Project No.: 130065
Sample Date: March 14, 2013
Report Date: April 11, 2013
Client: City of Paso Robles
Project Name: City of Paso Robles 2013 Pavement Analysis
Sample Description: Dark Brown Silt with Sand
Sample Location: Vine Street - 650' North of 24th Street



Specimen No.	1	2	3
Moisture Content (%)	25.3	26.3	26.9
Dry Density (PCF)	92.2	89.9	90.0
Resistance Value (R)	45	23	15
Exudation Pressure (PSI)	503	350	220
Expansion Pressure	0	0	0

RESISTANCE VALUE AT 300 P.S.I. 19

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

3820 Cypress Drive, Suite 3 • Petaluma, CA • 94954-5613 • Tel. (707) 769-5330 • Fax (707) 769-5333
20260 Skypark Drive • Redding, CA • 96002-9221 • Tel. (530) 224-4535 • Fax (530) 224-4539
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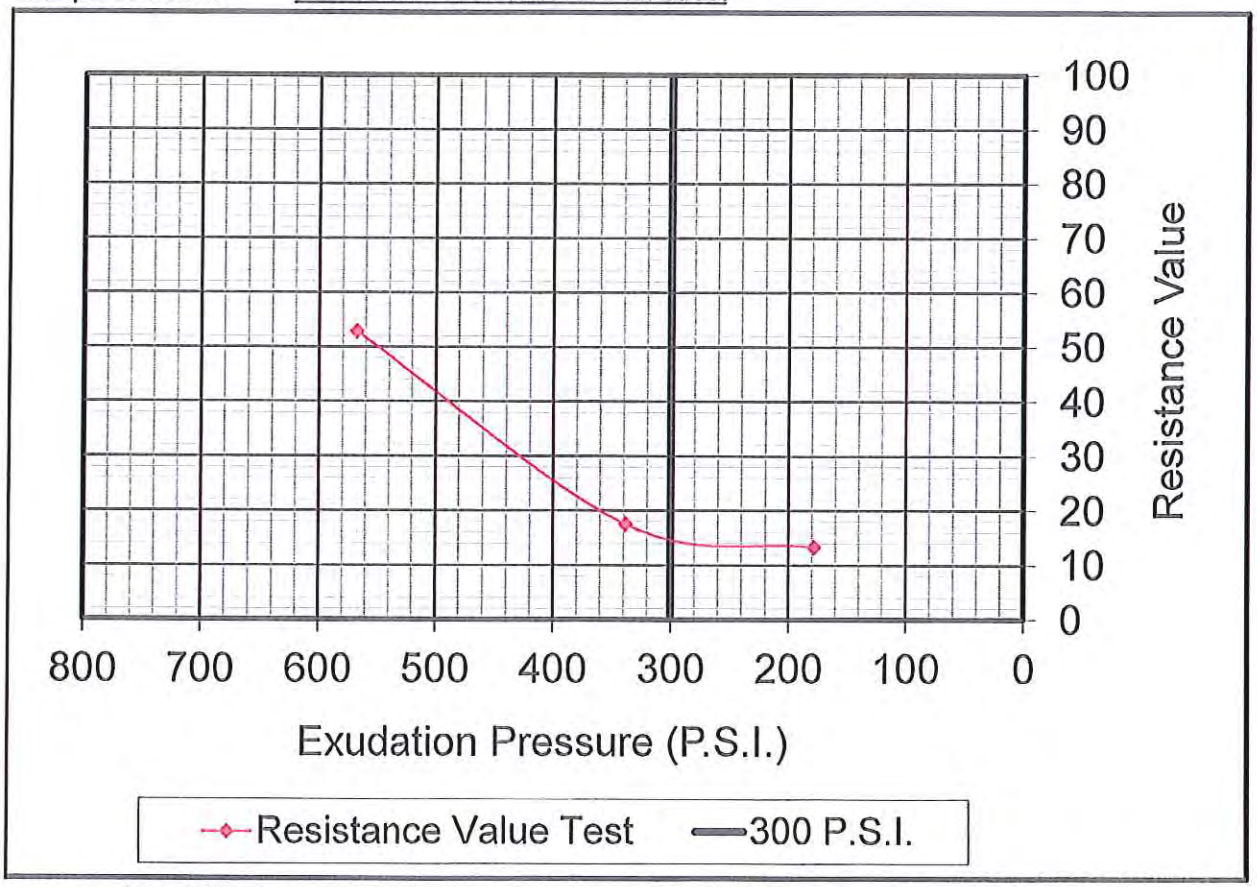
RESISTANCE (R) VALUE TEST
ASTM D 2844

Laboratory No.:	L130083N
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:	Dark Brown Clayey Silt with Sand
Sample Location:	Vine Street - 1550' North of 24th Street



Specimen No.	1	2	3
Moisture Content (%)	25.1	26.4	26.9
Dry Density (PCF)	91.3	89.3	88.5
Resistance Value (R)	53	18	13
Exudation Pressure (PSI)	568	339	179
Expansion Pressure	0	0	0

RESISTANCE VALUE AT 300 P.S.I. 15

AASHTO R18

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

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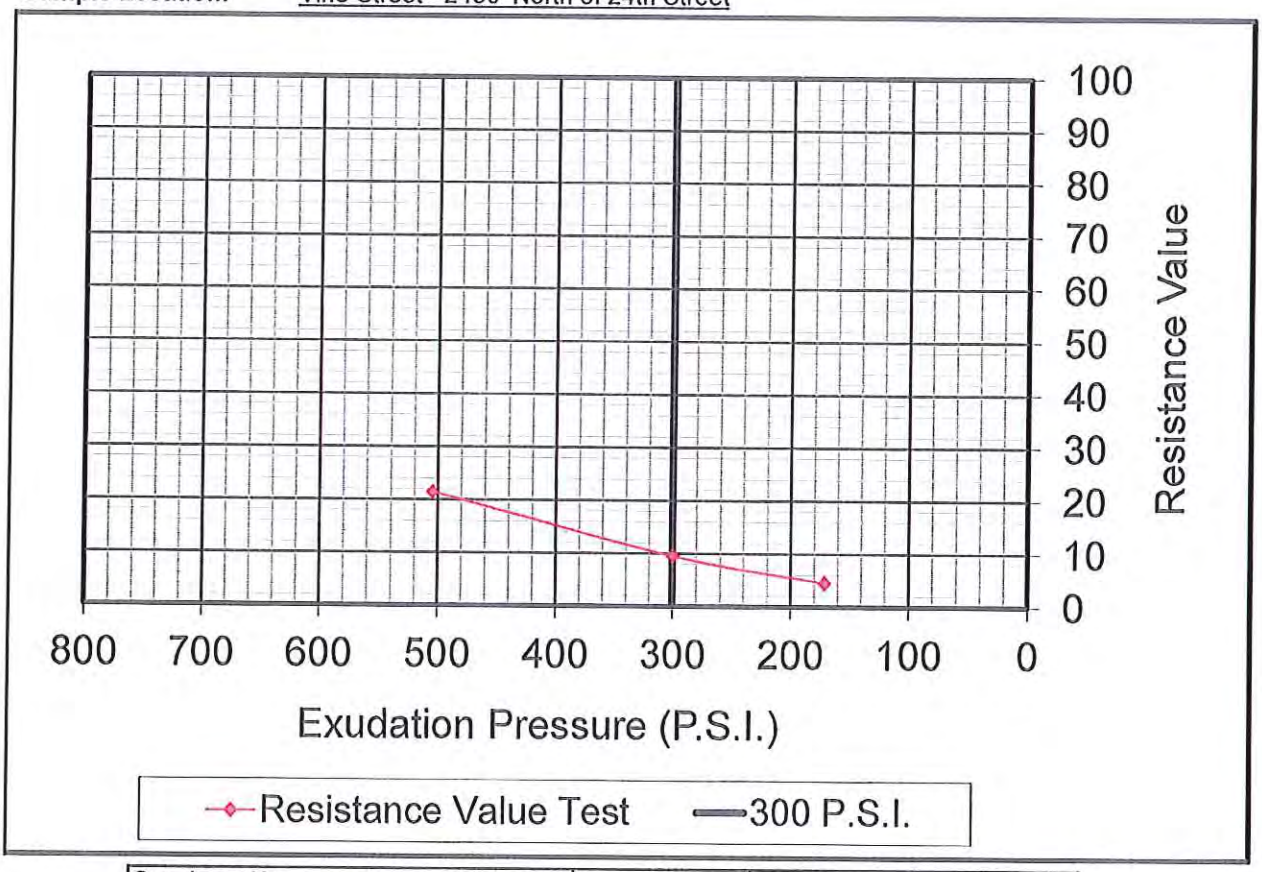
RESISTANCE (R) VALUE TEST

ASTM D 2844

Laboratory No.: L130083AD
Project No.: 130065
Sample Date: March 15, 2013
Report Date: April 4, 2013
Client: City of Paso Robles
Project Name: City of Paso Robles 2013 Pavement Analysis
Sample Description: Dark Brown Clay
Sample Location: Vine Street - 2450' North of 24th Street



Specimen No.	1	2	3
Moisture Content (%)	20.9	21.9	19.0
Dry Density (PCF)	106.1	105.1	106.9
Resistance Value (R)	10	5	21
Exudation Pressure (PSI)	300	172	505
Expansion Pressure	0	0	87

RESISTANCE VALUE AT 300 P.S.I. 10

AASHTO R18

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

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VINE STREET – 1ST STREET TO 12TH STREET
2nd Street looking Northbound

VINE STREET – 1ST STREET TO 12TH STREET
5th Street looking Northbound

VINE STREET – 1ST STREET TO 12TH STREET
8th Street looking Northbound

VINE STREET – 1ST STREET TO 12TH STREET
10th Street looking Northbound

VINE STREET – 12TH STREET TO 24TH STREET
14th Street looking Northbound

VINE STREET – 12TH STREET TO 24TH STREET
16th Street looking Northbound

VINE STREET – 12TH STREET TO 24TH STREET
19th Street looking Northbound

VINE STREET – 12TH STREET TO 24TH STREET
22nd Street looking Northbound

VINE STREET – 24TH STREET TO 36TH STREET
Fairview Lane looking Northbound

VINE STREET – 24TH STREET TO 36TH STREET
30th Street looking Southbound

VINE STREET – 24TH STREET TO 36TH STREET
32nd Street looking Northbound

VINE STREET – 24TH STREET TO 36TH STREET
36th Street looking Southbound