CITY OF LEMOORE

RECOMMENDED 2013
STREET MAINTENANCE PROGRAM

March 2013

Quad Knopf

February 25, 2013

Jeff Briltz, City Manager
City of Lemoore
119 Fox Street
Lemoore, CA 93245

Subject: **Recommended 2013 street maintenance program**

Dear Mr. Briltz:

Transmitted herewith are the following:

1. A summary of available funding and the total costs of the recommended program;
2. A map showing the total recommended 2013 street program;
3. Cost estimates for each program component;
4. A proposed schedule for projects implementation;
5. Maintenance process descriptions;
6. A map showing all street construction or maintenance since 2006; and
7. A map depicting the updated pavement management system (PMS) ratings.

Updated, non-street specific, specifications, are on file with your if any of the Council wish to review them.

Mr. Simonson and Mr. Greenlee have had the opportunity to briefly review this material. Mr. Simonson has recommended the addition of a thin-coat slurry seal to cul de sacs which received a chip seal last fall. This recommendation (effecting a Cape Seal) is added to the map showing the total proposed 2013 street program. We have not yet had the opportunity to get a cost estimate from the contractor for this change; it will not be a significant increase to the total program. They may yet have other changes to suggest.

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Your, and the City Council's review is invited. Our objective is to do the critical portions of the work during school summer vacation, completing all of it before winter, with the minimum possible overlap.

Thank you for your help.

Sincerely,

Harry A. Tow, P.E.
City Engineer

David Jacobs, P.E.
Assistant City Engineer

cc: Jeff Briltz

L120180
HAT/vlw

Recommended 2013 Lemoore Overlay Projects

Overlays

Street Segment	From	To	Length	Width	Thickness	Estimate
Cherry Lane	19th Avenue	East end	700	40	0.20	$ 82,350
Carmel Drive	San Simeon	Silverado	1000	40	0.20	$ 105,500
San Simeon Drive	Marin Dr	Carmel	900	40	0.20	$ 97,800
Stratford Ct	Brookshire	Coventry Dr	350	40	0.20	$ 43,450
Hill St	Cinnamon	Huntington Ct	175	40	0.20	$ 30,850
Barcelona Dr	Naples St	Biscay St	900	40	0.20	$ 98,100
Naples St	Barcelona Dr	Riviera Dr	350	40	0.20	$ 44,750
Riviera Dr	Naples St	Biscay St	800	40	0.20	$ 90,650
Cardiff Avenue	Cinnamon	Wexford	710	40	0.20	$ 83,100
Fox Street	Cinnamon	Hanover	1460	50	0.20	$ 178,500
Iona	19th Avenue	Lemoore	5300	26	0.20	$ 323,250
Royal Lane	West End	Belle Haven	800	30	0.20	$ 70,250
Belle Haven	Park Lane	Royal Lane	400	40	0.20	$ 62,250

Total Overlay **$ 1,310,800**

New Construction

Street Segment	From	To	Length	Width	Thickness AC/AB	Estimate
Cedar Lane*	19 1/2 Avenue	Bluejay	420	30	0.20/0.40	$ 91,900

* Without Curb and Gutter

Total New Construction **$ 91,900**

Estimated Total Construction Cost **$ 1,402,700**

Estimated Design Engineering Cost $ 60,000

Estimated Construction Engineering Cost $ 27,000

Total Estimated Project Cost **$ 1,489,700**

Recommended 2013 Slurry Seal Program

Slurry Seals

Cost $ 6.00 $/SY

Street Segment	From	To	Length	Width	Square Yard	Estimate
D Street	Bush	East City Limits	615	54	3690	$ 22,140
D Street	W. End Motel	Bush	385	65	2780	$ 16,680
D Street	Oleander Align	W. End Motel	280	36	1120	$ 6,720
D Street	Cantera	Oleander Align	650	50	3610	$ 21,660
D Street	Smith	Cantera	860	51	4870	$ 29,220
D Street	Fox Street	Smith	3415	60	22770	$ 136,620
Liberty Drive	Cinnamon	Fallenleaf Drive	1000	40	4440	$ 26,640
Wexford Drive	Liberty Dr	Brighton	680	40	3020	$ 18,120
Fox Street	Hanover	Hanford-Armona	4460	40	19820	$ 118,920
G Street	Fox Street	Armstrong	1440	40	6400	$ 38,400
F Street	Fox Street	Armstrong	1440	40	6400	$ 38,400
19th Avenue	Cinnamon	100 foot North	100	50	560	$ 3,360
19th Avenue	100 foot North	South End of Sub	970	27	2910	$ 17,460
19th Avenue	South End of Sub	Noble	400	50	2220	$ 13,320
19th Avenue	Noble	Hanford-Armona	1300	70	10110	$ 60,660

Total Slurry Seal Cost **$ 568,320**

Estimated Total Construction Cost **$ 568,320**

Estimated Design Engineering Cost $ 26,000

Estimated Construction Engineering Cost $ 11,000

Total Estimated Project Cost **$ 605,320**

Recommended 2013 Reclamite Project

Project sites: All streets north of Hanford/Armona Road which have not received a maintenance seal or overlay since 2006.
Please see the "attached" map for locations.

Total square yardage = 185,000
Cost per square yard = $1.00*

Construction cost		$185,000
'Design', bid processing		$5,000
Construction management, notification of property owners		$8,000
	Total cost:	$198,000

*$.87 in 2012 on similar-size project

Summary, Funding and Recommended 2013 Street Program Costs

Funding

Funding for available street maintenance projects in 2013 is approximately $3,790,060.

Impact fee funding for east-of-41 circulation improvement projects (such as the Cedar/19 ½ connection) proposed in the 2013 program is $2,300,000.

Estimated costs of recommended projects:

Overlay	$1,397,800	
-Cedar/19 ½ connection		$91,900*
Slurry seal	605,320	
Reclamite	198,000	
Cape seal conversion	$36,000	$91,900
TOTALS	$2,237,120	

Note:

1. Costs estimate basis for overlays (including mobilization, Petromat where required, minor drainage corrections, necessary patching or crackfilling, striping, ADA): $25/sq. yd. + engineering and construction management. Anticipated life: 15 to 20 years.

2. Cost estimate basis for slurry seal (including mobilization, necessary patching or crackfilling, striping): $6/sq. yd. + engineering and construction management. Anticipated life: 6 to 8 years.

3. Cost estimate basis for Reclamite (including mobilization, striping) $1/sq. yd. + engineering and construction management. Anticipated life: 3 to 5 years.

4. Cost estimate basis for the cape seal conversion: $.33/sq. yd. Anticipated life: 4 to 6 years. (This incremental cost includes the substitution of a single chip seal for a double chip seal, on the existing chip seal contract, and the addition of a slurry seal. The resulting total cost is $3.41 per square yard. It applies only to all streets not yet sealed on that contract. The project does not include cape sealing of streets on which the double chip seal was completed in 2012.)

*Separately funded, impact fees

Schedule, Recommended 2013 Street Maintenance Program

This recommended project schedule is presented for City Council consideration. It is depicted graphically on the attached sheet.

The schedule takes into account:

a) The approximate closure and opening dates (6/6 and 8/14) of the Lemoore school systems;

b) The establishment of minimum overlap between projects, to reduce construction management/inspection workloads and minimize citizen inconvenience;

c) Project completion dates well before the potential for cold-weather problems if project delay occurs; and

d) Adequate times for bid preparation.

With respect to the four program types:

1. The overlay program allots approximately six weeks to design and Council review prior to Council authorization for bid, a three-week bid period, and a 60 day construction period. Its project components will have minimal impact on school access (see map). To delay its construction period to the fall would risk cold/rain problems.

2. The Reclamite program is designed to take place at the beginning of the school 'vacancy' period, with a 25 day construction period.

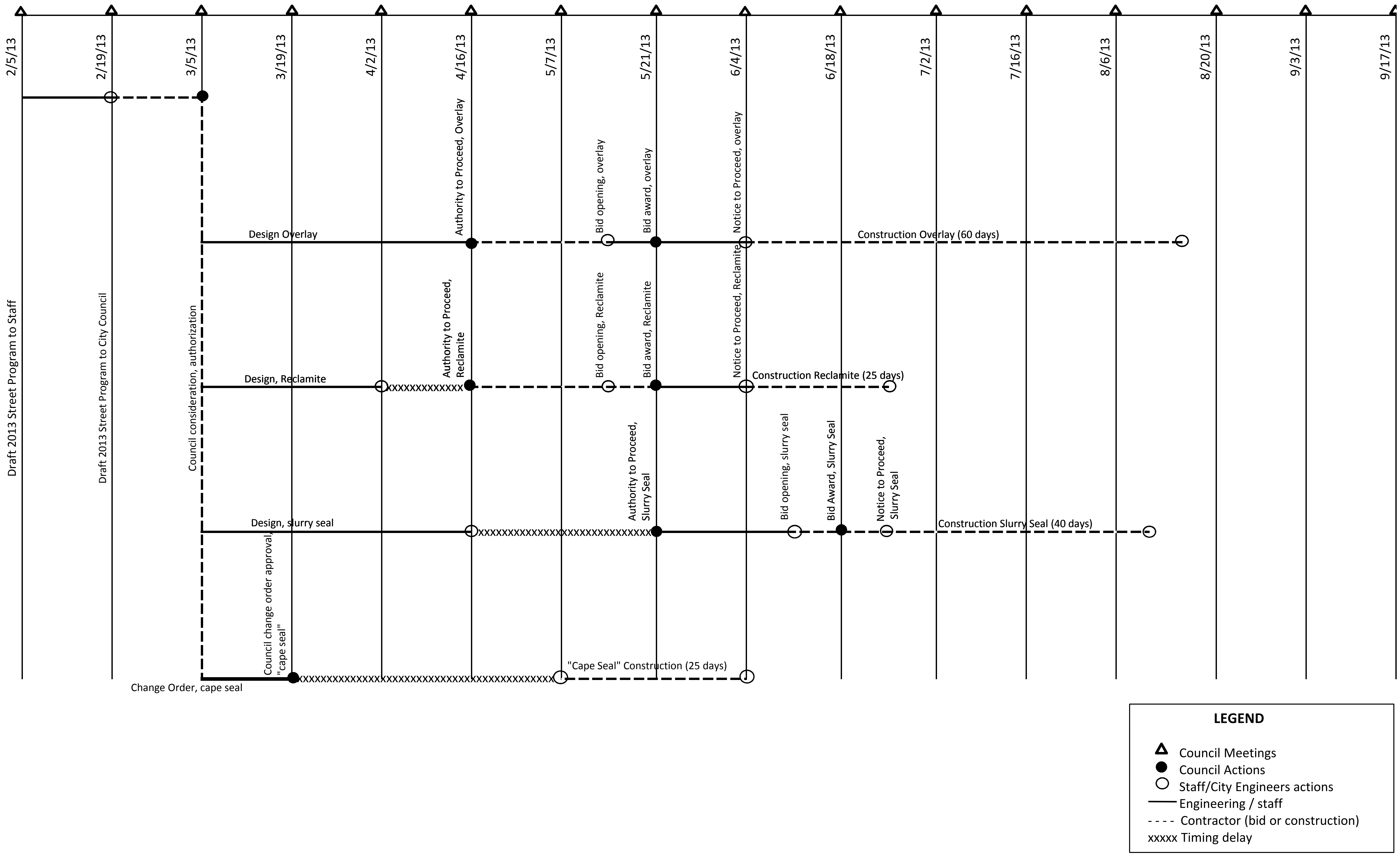
3. The slurry seal program is timed to take place during the school ‘vacancy’ period, after the conclusion of the Reclamite program. It proposes a 40 day construction period.

4. The proposed cape seal/addition, winterized chip seal, program would be authorized by Council-approved change order. Its proposed 25 day construction period would precede school closing, but would be after warm weather begins. The streets affected have no impact on school access.

Council comments and concerns regarding the proposed schedule would be welcome.

Schedule, 2013 Street Maintenance Program

Note: Schools closed 6/6/13 to 8/14/13)



Updated: 2/25/2013

Recommended Street Maintenance Project Processes 2013

The Processes

- Overlay

The addition of approximately .2 feet (2 ½") of asphaltic concrete to an existing street surface. It is normally accompanied by 'cold planing' (cutting out) of up to 2 ½" of existing asphalt in about five feet adjacent to concrete gutters and by 'Petromat' installation (a flexible sheeting) under the pavement of the roadway to reduce reflection cracking. It's anticipated service life may be 15 to 20 years.

- Slurry Seal

The addition of a mix of asphaltic emulsion and sand to an existing street surface. Its thickness (1/4 inch) does not require cold planing, nor is Petromat required. It decreases water penetration and surface oxidation of an existing asphaltic concrete pavement. Its anticipated service life may be 6 to 8 years.

- Reclamite

A truck-spray application of an asphaltic emulsion, with penetration characteristics, on existing asphaltic concrete surfaces. The spray process is immediately followed by a light sand distribution and sand sweeping. To a much lesser degree than slurry seal or cape seal processes, it decreases water penetration and surface oxidation. Its anticipated service life is 3 to 5 years.

- Cape Seal

A single-coat chip seal followed, *after several days of drying*, by a thin slurry seal. Again, its purpose is to reduce water penetration and surface oxidation. It is somewhat less effective than a double chip seal but results in a smooth surface. Its anticipated service life may be 4 to 6 years.

Process Selection

The selection of a recommended process for a street or streets requiring maintenance is complex but dependent on:

- Available funding
- Pavement management system evaluations and maintenance records
- Estimation of long-term cost effectiveness
- Field review and analysis

There is no single “right answer” to the process or processes selected for a street or group of streets; professional judgment choices must be made based on all the listed factors.

Anticipated Life Estimates

Actual elapsed time until a further maintenance procedure is required will be dependent upon many factors – soils characteristics, initial paving quality, traffic loadings, weather and rainfall during the anticipated life period and the quality of the applied maintenance procedure.

The objective of the judicious use of these procedures is to avoid the need of too-frequent/too early dig-out and full replacement of streets, a costly and impractical alternative.

Engineering / Surveying

Planning

Landscape Architecture

Biology

Land Development

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