| Town of Moraga | Agenda Item |
|---|---|
| Ordinances, Resolutions and Requests for Action | 10. B. |

**Meeting Date: March 23, 2022**

**TOWN OF MORAGA** **STAFF REPORT**

**To:** **Honorable Mayor and Councilmembers**

**From:** **Shawn Knapp, Public Works Director / Town Engineer**
**Sharon Chan, Assistant Engineer**

**Subject:** **Receive and Accept the 2022-2023 Pavement Rehabilitation Basis of Design Memo Pavement Treatment Recommendations and Provide Staff with Direction, if any, on the Strategy for Implementation of the Three-Year "Worst-First" Pavement Rehabilitation Project**

## Background

A Town Council Goal for 2022 was to complete phase 1 of the engineering design and construction for the multi-year 2022-23 Pavement Rehabilitation Project, one of the "Worst-First" pavement rehabilitation projects. This staff report will present the findings of the design project's preliminary Basis of Design Memo (BDM) which includes construction treatment selections, construction phasing and a funding plan for the next three annual pavement projects, based on forecasted funding.

The Town is responsible for the maintenance and repair of 58.59 centerline miles of paved streets; this includes 13.8 miles of arterial, 15.8 miles of collector, 26.3 miles of residential streets, and 2.6 miles of bike paths or service roads. The network is defined as a complete inventory of all streets and other pavement facilities in which the Town has jurisdiction and maintenance responsibilities. To facilitate the management of streets, they are subdivided into management sections identified as a street segment, which is homogeneous in geometry, function, and general condition.

The Metropolitan Transportation Commission (MTC) requires cities and counties to have their Pavement Management Program (PMP) certified to be eligible to receive regional transportation discretionary funds. The Town of Moraga's staff uses the MTC Pavement Management Software (StreetSaver) to:

- Track pavement conditions and identify specific areas in need of maintenance and rehabilitation;
- Assess the adequacy of street revenues needed to meet the needs recommended by StreetSaver;

- Maximize the Town's return on investment from available maintenance and rehabilitation funds; and
- Generate prioritized multi-year pavement plans.

The StreetSaver software is used by all 109 cities and counties in the San Francisco Bay Area region and over 300 other public and private organizations nationwide and internationally. StreetSaver helps agencies and organizations make informed and timely decisions on pavement assets (preventing problems through judicious maintenance), diagnose pavement failures, and schedule repairs in a cost-effective manner.

The Town's current PCI is 73 Good, up from 49 Poor in 2012 due to the Town's significant investment in the streets and roads thanks to the local sales tax revenue (Measure K), new SB-1 Road Maintenance and Rehabilitation Account (Gas Tax) funds, and Garbage Vehicle Franchise Fees (Garbage Impact) which have increased annual funding from zero in 2012 to $3.5 million in 2022.

*Worst-First Pavement Management Approach*

On April 22, 2020, the Town Council received a detailed 2020 Pavement Management Report. Based on the report, the Council directed staff to pursue a three-year "Worst First" pavement rehabilitation approach to address the Very Poor streets first and if possible, to eliminate all streets in the Very Poor and Poor category by 2024. See Attachment A for link to report.

The FY 2021/22 Capital Improvement Program Adopted Budget includes the 2022-23 Pavement Reconstruction Project (CIP 22-401), a $9.1 million multi-year project utilizing pavement reconstruction treatments to address the very poor streets. The construction work, budgeted to cost approximately $6.5 million, is scheduled to occur in 2022 and 2023.

The 2024 Pavement Overlay Project represents the third year of the "Worst-First" approach envisioned to eliminate the remaining Poor streets. The 2020 Pavement Management Report assumed a $3.5 million budget, including a $2.7 million construction budget. Unfortunately, this CIP project was mistakenly omitted from the FY 2021/22 CIP Adopted Budget due to the Public Works Director's unexpected leave of absence during the budget preparation process.

The "Worst-First" approach has the highest risk for possible construction delays if the utility companies are not able to lower or relocate their facilities before the planned reconstruction work. Should it become apparent that the utility companies are not able to relocate or lower their utilities in time, the 2024 Pavement Overlay Project will be accelerated, and the 2023 work would be completed in 2024.

*Engineering Design*

On October 27, 2021, the Town Council approved a $924,048 engineering design agreement with Harris and Associates (Harris) to analyze pavement rehabilitation needs and design pavement rehabilitation treatments for all Poor (26-50 PCI) and Very Poor

(1-25 PCI) streets by the year 2024. This amounted to 6.4 miles of the Town's 58.8 total miles of roads or 11% of the network.

## Discussion

The initial project scope for the 2022-2023 Pavement Reconstruction Project involves engineering design plans for approximately 6.4 miles of roadway rehabilitation, Americans with Disabilities Act (ADA) improvements, striping and marking restoration, and storm drain rehabilitation.

With Council's direction on the approach and approval of the agreement, Harris commenced with field data collection and pavement analysis to develop the initial BDM to provide a phasing plan. The list of 40 streets that make up the paving scope of work can be found in the table below.

**Table 1-1: Paving Scope of Work**

| No. | Street Name | Beginning Location | Ending Location | Pavement Area (SF) |
|---|---|---|---|---|
| 1 | BUTTERFIELD PL | S END | THARP DR | 13,270 |
| 2 | CAMINO PABLO | 215' S/O THARP DR | PRIVATE ROAD | 44,970 |
| 3 | CAMINO RICARDO | MORAGA WY | GREENFIELD DR | 112,730 |
| 4 | CAMPOLINDO CT | CAMPOLINDO DR | N END | 10,720 |
| 5 | CAMPOLINDO DR | CORTE MATEO | CORTE DE ROSAS | 25,350 |
| 6 | CANYON RD | SOUTH CITY LIMITS | CONSTANCE PL | 116,160 |
| 7 | CANYON RD (EB)/(WB) | COUNTRY CLUB DR | MORAGA WY | 42,630 |
| 8 | CONSTANCE PL | CANYON RD | N END | 10,830 |
| 9 | CORLISS DR | ASHFORD PL | MORAGA RD | 102,160 |
| 10 | CORLISS DR | CAMINO RICARDO | YORK PL | 18,460 |
| 11 | CORLISS DR | WARFIELD DR | WAKEFIELD DR | 11,300 |
| 12 | CORTE FORTUNA | CALLE LA MESA | E END | 8,450 |
| 13 | CORTE GRANADA | S END | VIA GRANADA | 8,630 |
| 14 | DEVIN DR | EL PARAISO CT | MORAGA RD | 7,760 |
| 15 | DONALD DR | LAIRD DR | MORAGA RD | 68,930 |
| 16 | DONALD DR | W END | LAIRD DR | 54,370 |
| 17 | FERNWOOD DR | WILLOWSPRING LN | BELFAIR PL | 22,650 |
| 18 | FERNWOOD DR | DONALD DR | BIRCHWOOD DR | 29,600 |
| 19 | GAYWOOD PL | W END | CEDARWOOD DR | 22,810 |
| 20 | HARDIE DR | MORAGA WY | IDLEWOOD CT | 6,580 |
| 21 | JUNIPER WY | RIMER DR | E END | 17,380 |
| 22 | KIMBERLY DR | 360' S OF SCOFIELD DR | SCOFIELD DR | 9,230 |
| 23 | LAKEFIELD RD | S END | THARP DR | 11,650 |
| 24 | LONGFIELD PL | FERNWOOD DR | N END | 18,520 |
| 25 | LYNWOOD PL | GREENFIELD DR | CORLISS DR | 16,200 |
| 26 | MILLFIELD PL | DEERFIELD DR | E END | 16,230 |
| 27 | MORAGA RD (NB)/(SB) | MORAGA WY | ST MARYS RD | 110,080 |
| 28 | PASEO DEL RIO | CAMPOLINDO DR | CALLE LA MESA | 68,550 |

| | | | | |
|---|---|---|---|---|
| 29 | QUINTAS LN | PASEO DEL RIO | CALLE LA MESA | 19,440 |
| 30 | REDFIELD PL | THARP DR | E END | 20,000 |
| 31 | RHEEM BL | SCOFIELD DR | LA SALLE DR | 13,300 |
| 32 | SARAH LN | RIMER DR | E END | 17,350 |
| 33 | SHUEY DR | CAMINO PABLO | LARCH AV | 54,700 |
| 34 | SPRINGFIELD PL | S END | THARP DR | 12,470 |
| 35 | ST MARYS RD | STAFFORD DR | ST MARYS PARKWAY | 53,330 |
| 36 | TIA PL | LARCH AV | E END | 11,200 |
| 37 | VIA GRANADA | QUINTAS LN | CORTE DEL SOL | 8,140 |
| 38 | VIA GRANADA | CALLE LA MESA | MORAGA RD | 34,490 |
| 39 | VIADER DR | COUNTRY CLUB DR | MORAGA WY | 13,190 |
| 40 | WIMPOLE ST | WOODFORD DR | N END | 13,190 |

*Revised Annual Pavement Management Program Budget*

The updated available Annual Pavement Management Program Budget provided to Harris is detailed in the following table. Consistent with Town Council's previous discussion, the budget assumes that starting in fiscal year 2025/26 the Town's PCI will be Good and a portion of Measure K will be allocated to storm drain infrastructure repair and maintenance.

***Estimated Annual Pavement Management Program Budget***

| Program Year | Fiscal Year | Measure K (Inflated annually by 3%) | SB-1 (Gas Tax) and Garbage Impact Fees | Pavement Management Program Revenues | Debt Service (deduct)[1] | Potential Revenue Deduct for Storm Drain O&M and CIP[2] | Annual Pavement Budget |
|---|---|---|---|---|---|---|---|
| | June 2022 Fund Balance | 1,557,428 | 140,319 | 1,697,747 | | | 1,697,747 |
| 1 | 2022/23 | 2,698,000 | 1,173,068 | 3,871,068 | 600,000 | | 3,271,068 |
| 2 | 2023/24 | 2,778,940 | 1,173,068 | 3,952,008 | 575,000 | | 3,377,008 |
| 3 | 2024/25 | 2,862,308 | 1,173,068 | 4,035,376 | 575,000 | | 3,460,376 |
| 4 | 2025/26 | 2,948,177 | 1,173,068 | 4,121,245 | 575,000 | 625,000 | 2,921,245 |
| 5 | 2026/27 | 3,036,623 | 1,173,068 | 4,209,691 | 575,000 | 643,750 | 2,990,941 |
| 6 | 2027/28 | 3,127,721 | 1,173,068 | 4,300,789 | 575,000 | 663,063 | 3,062,727 |
| 7 | 2028/29 | 3,221,553 | 1,173,068 | 4,394,621 | 575,000 | 682,954 | 3,136,667 |
| 8 | 2029/30 | 3,318,200 | 1,173,068 | 4,491,268 | 575,000 | 703,443 | 3,212,825 |
| 9 | 2030/31 | 3,417,746 | 1,173,068 | 4,590,814 | 575,000 | 724,546 | 3,291,267 |
| 10 | 2031/32 | 3,520,278 | 1,173,068 | 4,693,346 | 575,000 | 746,283 | 3,372,063 |
| | **Totals** | **$32,486,974** | **$11,730,680** | **$44,357,973** | **5,775,000** | **$4,789,039** | **$33,793,935** |

[1] Assumes 2023 Refinancing of Measure K Bond

[2] Based on $120k Storm Drain CIP and $420 Storm Drain O&M included in the 2019 Storm Drain Addendum inflated by 3% annually

*Preliminary Basis of Design Memo*

Harris developed a preliminary BDM to summarize design progress to date, describing the design approach for determining pavement treatments and present the preliminary design recommendations. The BDM provides a cost analysis of proposed pavement treatments and provides information on the scope of work and cost estimates for ancillary work such as sidewalk, curb and gutter repairs, storm drainage and ADA improvements.

Harris conducted budget analysis using the StreetSaver software for selected treatments. As customary before starting the budget analysis, the key inputs effecting project costs were checked and then updated based on current regional indices: 1) Inflation rate (which was increased from 2 to 5%); 2) Updated unit pricing ($/SQYD) for the various pavement rehabilitation treatments and 3) Annual Pavement Management Program Budgets. The preliminary results made it apparent that projected construction costs had increased significantly since 2020 for numerous reasons. Information on the increasing pavement construction costs is included in Attachment B.

In 2020, the estimated construction cost for three years of reconstruction and milled/thick overlays work was $10.8 Million. The initial 2022 StreetSaver analysis using the similar treatments assumed in 2020 was $13.5 Million in construction cost in 2022 due to inflation, the escalating cost of asphalt, and the inclusion of necessary storm drain infrastructure repairs.

Staff worked with Harris to analyze geotechnical reports and pavement structure bore data; complete field inspections of each street; and review current regional pricing to revise the treatment pricing and selections. Several StreetSaver analysis were run to develop a refined treatment plan that matched each individual street's need and the 2022-23 construction budget of $6.5 million and 2024 Overlay construction budget of $2.7 million.

Based solely on a street's lower Pavement Condition Index (PCI), StreetSaver recommended Full-Depth Reclamation (FDR) rebuilding of the Very Poor and Poor streets. Harris and staff found through detailed investigation of actual pavement conditions that most streets listed did not need FDR rebuilding of the complete pavement structure. FDR treatment is typically for streets that have reached the end of their lifespan with very deteriorated pavement surfaces and underlying structure deficiencies in the lower layers of compacted aggregate rock and the native soil beneath. Inspections of the streets revealed that the deteriorated pavement surfaces needed to milled off (removed), but their underlying structure was in good condition. Thus, it was not necessary have the aggregate rock and soil removed or treated, saving significant costs.

Details regarding the recommended treatments for the individual streets to be included in the "Worst-First" program for the next three years are included in Attachment C. A summary of the construction costs, street segments to fix and the types of treatments being used by year follows.

| Proposed Construction Year | Construction Cost | Street Segments | Treatment[3] |
|---|---|---|---|
| 2022 | $3.77 Million | 30 | a) 3" mill and 3" Overlay;<br>b) Cape seal; and<br>c) Microsurfacing. |
| 2023 | $2.37 Million | 11 | a) 3" mill and 3" Overlay;<br>b) Thin Overlay on rubberized stress absorbing membrane interlay. |
| 2024 | $2.1 Million | 6 | a) Full Depth Reclamation;<br>b) 3" mill and 3" overlay;<br>c) Thin Overlay on rubberized stress absorbing membrane interlayer. |

To determine the total project costs, the "soft costs" (administration, engineering design, and construction management/testing costs) need to be added which results in a total budget for the three-year "Worst-First" Program of $11.4 Million, slightly less than the $11.8 Million available for three-year period and consistent with 2022-23 Pavement Reconstruction Project and the 2024 Pavement Overlay Project budgets.

*Next Steps*

Over the next two months Harris will complete the 35%, 65% and 100% design drawings. A Request for Construction Bid Proposals for the 2022 Construction work is scheduled to be released in late April, early May. The goal is to bring the award of contract to the July 13, 2022 Council meeting for approval.

## Fiscal Impact

None

## Alternatives

1. Receive and accept the preliminary 2022-2023 Pavement Reconstruction Basis of Design Memo Pavement Treatment Recommendations.
2. Receive, modify, and accept the preliminary 2022-2023 Pavement Reconstruction Basis of Design Memo Pavement Treatment Recommendations.
3. Do not accept the preliminary 2022-2023 Pavement Reconstruction Basis of Design Memo Pavement Treatment Recommendations and provide direction to staff.

## Recommendation

Staff recommends the Town Council receive and accept the preliminary 2022-2023 Pavement Reconstruction Basis of Design Pavement Treatment Recommendations as shown in the 2022 – 2024 Pavement Rehabilitation Project Scopes of Work

[3] All with a percentage of digouts to repair for the failing base pavement, except FDR streets where no digouts are performed.

(Attachment C) and provide staff with direction, if any, on the strategy for implementation of the Three-Year “Worst-First” Pavement Rehabilitation Project.

**Attachments**

- **A.** 2020 Pavement Management Report - link
- **B.** Increasing Pavement Construction Costs
- **C.** 2022 – 2024 Pavement Rehabilitation Project Scope of Work

**Report reviewed by:** **Cynthia Battenberg, Town Manager**

# ATTACHMENT A

2020 Pavement Management Report - link

# ATTACHMENT B

Increasing Pavement Construction Costs

Attachment B. Analysis of Increasing Pavement Construction Costs

The first cases of the COVID-19 pandemic in California happened at the end of January 2020. By March 2020, supply and demand issues arose which resulted in increasing costs for materials. By April 22, 2020, when the Town Council approved the "Worst First" pavement rehabilitation plan there were concerns with rising costs for construction materials in San Francisco Bay area and the potential effect on cost of pavement construction. Asphalt pavement is derived from crude oil. The asphalt is mixed with aggregate rock to form hard pavement once it is compacted and cooled.

The cost of pavement construction is also influenced by regional labor supply and material costs. San Francisco Bay area has limited labor market for pavement construction and public agencies pay prevailing wages thus labor costs high. The cost of pavement materials in the San Francisco Bay during April 2020 were higher than most California markets because competition for resources from so many agencies and private development, they were not at all-time highs thou because of lower crude oil prices.

There are several market indices that document how pavement construction has significantly increased as a result of the worldwide pandemic and recent Russian war in Ukraine. Russia was the 3rd largest oil producer in the world. The loss of the Russian oil supply in the world markets should be anticipated to keep the prices high for the foreseeable future until production elsewhere can be ramped up, which can take months to years. These market indices include: Inflation, Consumer Price Index (CPI-U); Construction Cost Index (CCI) and San Francisco Construction Cost Index (CCI-SF); Domestic Crude Oil and Asphalt Paving Costs.

The Consumer Price Index (CPI-U), a metric for inflation in total urban consumer prices for goods and commodities, stands at 7.9% (5.2% in SF Area)) for the end of February 2021 to end of February 2022[1]. Inflation rates nationwide are expect to continue to increase 1%-2% for the month of March[2] with some forecasts reaching 9% to 9.5%[3] annually this spring before declining. Current projections by US Bank are that the Federal Reserves preferred inflation measure to reach 3.7% by end of 2022. The Financial Forecast Center is projecting the CPI-U to drop to 4.1% annually by October 2022, and Trading Economics is projecting the inflation rate by the end of 2022 to drop to 6.3%[4]. This would appear to indicate inflation rates continuing through 2022 at near double or triple the prior year's rates of 2% or less well into the future.

The Engineering News Record's (ENR) maintains a 20-City Construction Cost Index (CCI)[5]. The CCI is comprised of both the changes in common labor costs and the

[1] US Bureau of Labor Statistics, March 15, 2022. Table 4. Consumer Price Index for All Urban Consumers (CPI-U): Selected areas, all items index - 2022 M02 Results (bls.gov).

[2] CNBC, Mar 10, 2022. "There's more inflation coming, as the Federal Reserve starts raising interest rate", There's more inflation coming, as the Federal Reserve starts raising interest rate (cnbc.com).

[3] The Financial Forecast Center, March 15, 2022. "U.S. CPI Forecast", CPI Forecast | Consumer Price Index (forecasts.org).

[4] Trading Economics, March 15, 2022. United States Consumer Price Index (CPI) - Forecast (tradingeconomics.com)

[5] Engineering News-Record, March 7/14, 2022. "Construction Economics", pp. 59-61. ENR.Com

changes in the materials costs for all major construction materials. The CCI generally correlates to the CPI-U because the inflation in the cost of construction labor and materials contribute to the overall CPI-U. The annual average percentage increase in the CCI for March 7, 2022 has risen nationwide by 8.9%. The CCI for the San Francisco Area (CCI-SF) increased by 15.15% over the last years (March '22 over March '21). In prior years it had ranged between about 0% and 6% annually.

Table 1. The Average Increase in Construction Cost for San Francisco Area

| Year | CCI-SF | 1 yr | 2 yr | 3 yr | 5 yr |
|---|---|---|---|---|---|
| 11-Mar | 10151.04 | | | | |
| 12-Mar | 10369.54 | 2.15% | | | |
| 13-Mar | 10368.09 | -0.01% | 1.06% | | |
| 14-Mar | 10891.84 | 5.05% | 2.49% | 2.38% | |
| 15-Mar | 11169.32 | 2.55% | 3.79% | 2.51% | |
| 16-Mar | 11557.9 | 3.48% | 3.01% | 3.69% | 2.63% |
| 17-Mar | 11609.44 | 0.45% | 1.95% | 2.15% | 2.28% |
| 18-Mar | 12014.72 | 3.49% | 1.96% | 2.46% | 2.99% |
| 19-Mar | 12048.19 | 0.28% | 1.87% | 1.39% | 2.04% |
| 20-Mar | 12810.67 | 6.33% | 3.26% | 3.34% | 2.78% |
| 21-Mar | 13137.16 | 2.55% | 4.42% | 3.02% | 2.59% |
| 22-Mar | 15126.84 | 15.15% | 8.66% | 7.88% | 5.44% |

Given the relationship of the CCI to inflation, it might be reasonable to forecast CCI rates will continue to rise for the next few months, remain very high through the remainder of this year, and probably remain higher than previous years for a few years into the future.

The CCI is comprised of both the changes in common labor costs and the changes in the materials costs for all major construction materials. While the CCI represents that average for all common construction costs, some specific subsector costs change slightly differently than the CCI due to changes in the specific materials costs that may be slightly amplified in the subsector, such as changes in oil prices[6].

Table 2. Annual Changes in Various Costs Indices

[6] Historic Crude Oil Prices, March 2022. Historical Crude Oil Prices (Table) (inflationdata.com)

| | Annual Average Domestic Crude | CCI | Asphalt Paving Costs | CCI-SF |
|---|---|---|---|---|
| Mar-17 | 34% | 0.40% | -10.90% | 0.45% |
| Mar-18 | 28% | 2.70% | 7.80% | 3.49% |
| Mar-19 | -10% | 2.50% | 0.20% | 0.28% |
| Mar-20 | -55% | 6.30% | -1.00% | 3.26% |
| Mar-21 | 130% | 2.50% | 2.50% | 4.42% |
| Mar-22 | 96% | 8.90% | 18.50% | 15.15% |

The annual average percentage increase in the CCI for March 7, 2022 has risen nationwide by 8.9%. The CCI for the San Francisco Area (CCI-SF) increased by 15.15% over the last years (March ’22 over March ’21). In prior years it had ranged between about 0% and 6% annually.[7]

[7] Engineering News-Record, March 15, 2022. Construction Economics | Engineering News-Record (enr.com)

# ATTACHMENT C

2022 – 2024 Pavement Rehabilitation Project Scope of Work

## Attachment C - 2022, 2023 and 2024 Scopes of Work

2022 Pavement Rehabilitation Project Scope of Work

| Street Name | Beginning Location | End Location | PCI (2020)/ PCI (2024) | Proposed Pavement Treatment | Opinion of Probable Construction Cost |
|---|---|---|---|---|---|
| CAMINO PABLO | 215' S/O THARP DR | PRIVATE ROAD | 51/41 | Cape Seal with 15% Digouts | $199,226.40 |
| CAMINO RICARDO | MORAGA WY | WHITING CT | 55/42 | Microsurfacing with 15% Digouts | $577,230.00 |
| CAMINO RICARDO | WHITING CT | HARDIE DR | 58/46 | Microsurfacing with 15% Digouts | |
| CAMINO RICARDO | HARDIE DR | DANEFIELD PL | 42/26 | Mill 3" and Overlay 3" with 15% Digouts | |
| CAMINO RICARDO | DANEFIELD PL | CORLISS DR | 26/6 | Mill 3" and Overlay 3" (20% Digouts) | |
| CAMINO RICARDO | CORLISS DR | GREENFIELD DR | 60/48 | Microsurfacing with 15% Digouts | |
| CAMPOLINDO CT | CAMPOLINDO DR | N END | 19/7 | Mill 3" and Overlay 3" with 20% Digouts | $108,732.00 |
| CAMPOLINDO DR | CORTE MATEO | CORTE DEL CAMPO | 55/42 | Cape Seal with 15% Digouts | $114,696.00 |
| CAMPOLINDO DR | CORTE DEL CAMPO | CORTE DE ROSAS | 57/44 | Cape Seal with 15% Digouts | |
| CORLISS DR | CAMINO RICARDO | WINSLOW PL | 58/46 | Microsurfacing with 10% Digouts | $62,472.00 |
| CORLISS DR | WINSLOW PL | YORK PL | 28/9 | Microsurfacing with 10% Digouts | |
| CORLISS DR | WARFIELD DR | WAKEFIELD DR | 44/33 | Mill 3" and Overlay 3" with 15% Digouts | $82,032.00 |
| CORTE GRANADA | S END | VIA GRANADA | 19/7 | Mill 3" and Overlay 3" (10% Digouts) | $91,716.00 |
| DEVIN DR | EL PARAISO CT | MORAGA RD | 57/50 | Microsurfacing with 15% Digouts | $32,040.00 |
| DONALD DR | W END | LAIRD DR | 46/38 | Microsurfacing with 10% Digouts | $189,612.00 |
| FERNWOOD DR | WILLOWSPRING LN | BELFAIR PL | 54/45 | Cape Seal with 15% Digouts | $116,784.00 |
| FERNWOOD DR | DONALD DR | BIRCHWOOD DR | 55/46 | Cape Seal with 15% Digouts | $350,502.00 |
| GAYWOOD PL | W END | CEDARWOOD DR | 29/17 | Mill 3" and Overlay 3" with 10% Digouts | $148,620.00 |
| HARDIE DR | MORAGA WY | IDLEWOOD CT | 21/10 | Mill 3" and Overlay 3" with 20% Digouts | $51,876.00 |
| JUNIPER WY | RIMER DR | E END | 19/7 | Mill 3" and Overlay 3" with 10% Digouts | $115,080.00 |
| KIMBERLY DR | 360' S OF SCOFIELD DR | SCOFIELD DR | 55/48 | Microsurfacing with 20% Digouts | $54,768.00 |
| LONGFIELD PL | FERNWOOD DR | N END | 21/10 | Mill 3" and Overlay 3" with 15% Digouts | $250,422.00 |
| LYNWOOD PL | GREENFIELD DR | CORLISS DR | 50/43 | Microsurfacing and with 10% Digouts | $236,352.00 |
| QUINTAS LN | PASEO DEL RIO | CALLE LA MESA | 29/17 | Mill 3" and Overlay 3" with 20% Digouts | $174,612.00 |
| | | | | **PHASE 1 TOTAL** | **$3,765,248.40** |

Note: A 20% contingency was applied to the opinions of probable construction cost to account for striping and other unknown design elements.

## Attachment C - 2022, 2023 and 2024 Scopes of Work

2023 Pavement Rehabilitation Project Scope of Work

| Street Name | Beginning Location | End Location | PCI (2020)/ PCI (2024) | Proposed Pavement Treatment | Opinion of Probable Construction Cost |
|---|---|---|---|---|---|
| BUTTERFIELD PL | S END | THARP DR | 43/36 | Mill 3" and Overlay 3" with 15% Digouts | $100,896.00 |
| CONSTANCE PL | CANYON RD | N END | 23/12 | Mill 3" and Overlay 3" with 10% Digouts | $91,248.00 |
| CORLISS DR | ASHFORD PL | CROSSBROOK CT | 40/18 | AR-SAMI, Wedge Grind, 1.5" HMA Overlay with 15% Digouts | $779,514.00 |
| CORLISS DR | CROSSBROOK CT | 485' E CROSSBROOK CT | 76/71 | AR-SAMI, Wedge Grind, 1.5" HMA Overlay with 15% Digouts | |
| CORLISS DR | 485' E CROSSBROOK CT | 1205' E CROSSBROOK CT | 51/42 | AR-SAMI, Wedge Grind, 1.5" HMA Overlay with 15% Digouts | |
| CORLISS DR | 1205' E CROSSBROOK CT | LYNWOOD PL | 43/29 | AR-SAMI, Wedge Grind, 1.5" HMA Overlay with 15% Digouts | |
| CORLISS DR | LYNWOOD PL | MORAGA RD | 40/19 | AR-SAMI, Wedge Grind, 1.5" HMA Overlay with 15% Digouts Reconstruct First 100' from Moraga Rd. | |
| DONALD DR | LAIRD DR | MORAGA RD | 47/33 | AR-SAMI, Wedge Grind, 1.5" HMA Overlay with 20% Digouts | $778,830.00 |
| LAKEFIELD RD | S END | THARP DR | 28/16 | Mill 3" and Overlay 3" with 20% Digouts | $109,194.00 |
| REDFIELD PL | THARP DR | E END | 19/7 | Mill 3" and Overlay 3" with 15% Digouts | $144,696.00 |
| SPRINGFIELD PL | S END | THARP DR | 26/15 | Mill 3" and Overlay 3" with 15% Digouts | $146,388.00 |
| | | | | **PHASE 2 TOTAL** | **$2,150,766.00** |
| | | | | **PHASE 2 TOTAL (+10% INFLATION)** | **$2,365,842.60** |

Note: A 20% contingency was applied to the opinions of probable construction cost to account for striping and other unknown design elements.

## Attachment C - 2022, 2023 and 2024 Scopes of Work

2024 Pavement Rehabilitation Project Scope of Work

| Street Name | Beginning Location | End Location | PCI (2020)/ PCI (2024) | Proposed Pavement Treatment | Opinion of Probable Construction Cost |
|---|---|---|---|---|---|
| CORTE FORTUNA | CALLE LA MESA | E END | 19/7 | Full Depth Reclamation | $93,465.60 |
| MILLFIELD PL | DEERFIELD DR | E END | 22/11 | Full Depth Reclamation | $319,814.40 |
| PASEO DEL RIO | CAMPOLINDO DR | QUINTAS LN | 11/0 | Full Depth Reclamation | $849,864.00 |
| PASEO DEL RIO | QUINTAS LN | CORTE ROYAL | 26/6 | AR-SAMI, Wedge Grind, 1.5" HMA Overlay with 20% Digouts | |
| PASEO DEL RIO | CORTE ROYAL | CALLE LA MESA | 26/6 | AR-SAMI, Wedge Grind, 1.5" HMA Overlay with 20% Digouts | |
| VIA GRANADA | CALLE LA MESA | MORAGA RD | 15/0 | Mill 3" and Overlay 3" with 20% Digouts | $329,100.00 |
| WIMPOLE ST | WOODFORD DR | N END | 10/0 | Full Depth Reclamation | $157,672.80 |

**PHASE 3 TOTAL $1,749,916.80**
**PHASE 3 TOTAL (+20 INFLATION) $2,099,900.16**

Note: A 20% contingency was applied to the opinions of probable construction cost to account for striping and other unknown design elements.