TO: James L. App, City Manager

FROM: Doug Monn, Director of Public Works

SUBJECT: Agreement for Payment of Road Mitigation Fee

DATE: October 21, 2014

Needs: That the City Council approve an agreement from Viborg Sand and Gravel, Inc. as mitigation for hauling truckloads of material from their Estrella River mine over Airport Road within City limits during the mine's permitted 20-year operational term.

Facts:

1. On December 16, 2008, the County Board of Supervisors conditionally approved Paul Viborg's application for a Use Permit and Reclamation Plan for operation of an in-stream mining and gravel from the Estrella River generally located at the intersection of Estrella Road and Airport Road, north and east of City limits.

2. The mining operation will require Viborg to haul truckloads of material over Airport Road within City limits between Tower Road and Highway 46 East, causing additional wear on the street than would otherwise occur.

3. Board of Supervisors Condition of Approval No. 39b requires Viborg to work with the City on a road maintenance fee for the 20-year term of the Conditional Use Permit.

4. Based upon a report prepared by Pavement Engineering, Inc. dated August 6, 2010, providing an estimated cost for the rehabilitation of Airport Road on a square foot basis, and using information provided by Viborg relating to the maximum number of truck trips calculated upon the permitted yield of the mining permit over 20 years; the City calculated a per truck fee of $2.21 to cover the City's additional cost of maintenance attributable to Viborg's mining operation.

Analysis & Conclusion: Heavy trucks are the primary source of pavement wear on City streets. Sand mined from the Estrella River will be distributed to construction sites throughout the County primarily via Airport Road to Highway 46E. The Conditional Use Permit limits the volume of material excavated from the Estrella River each year to 45,000 cubic yards. This translates into a maximum of 2,250 truck trips. If the pit operates every working day and the maximum amount of material is excavated as allowed by the permit, the truck trips would average nine per day.

Many other truckers use Airport Road. Trucks from the Estrella mine cannot be held attributable for the entire maintenance and reconstruction responsibility of Airport Road. It is estimated that trucking from the Estella mine may account for five percent of the trucking activity on Airport Road during the life of the permit.

In August of 2010, the City retained Pavement Engineering, Inc. to evaluate Airport Road from Buena Vista Drive to Tower Road. This evaluation was extrapolated to develop a square foot cost to rehabilitate Airport Road from Highway 46 East to Tower Road for the purposes of developing a mitigation fee for the Viborg mine agreement.

Sources of funding for rehabilitation of Airport Road are very difficult to identify. No other users of the road are contributing (directly). The attached agreement provides a reasonable measure of mitigation for the impacts of trucking on Airport Road resulting from the mining operation permitted by County Board of Supervisors.

Policy Reference: Pavement Management Program

Fiscal Impact: Provides up to $116,000 of assistance for maintenance of Airport Road over the 20-year life of the permitted mine. Significant additional funds will be needed for Airport Road maintenance. Today's estimate exceeds $400,000 for that portion north of Buena Vista Drive. Today's estimate for the entire length of Airport Road is $840,000 with additional engineering and administration costs.

Options:

a. Adopt Resolution No. 14-xxx approving the Agreement for Payment of Road Mitigation Fee provided by Viborg Sand and Gravel, Inc.

b. Amend, modify or reject the above options.

Attachments: (7)

1. Letter from Paul Viborg
2. Agreement
3. Resolution
4. Fee memo
5. Board of Supervisors Resolution No. 2008-454
6. Pavement Engineering, Inc. 8-6-10
7. Pavement Management Program

VIBORG
SAND & GRAVEL INC.
General Engineering Contractor
Lic. #567525

Date: August 30, 2013

To: City of Paso Robles
Attn: John Falkenstien - City Engineer

Re: Road Fees - Airport Road
(Estrella Pit Traffic)

John,

I Paul Viborg, Owner of Viborg Sand & Gravel, Inc. agree to pay the City of Paso Robles the amount of $2.21 per truck load based on the attached calculations dated September 6, 2006. This fee is to be paid in one lump sum annually. The payment shall be before January 31st at each year for the prior years total truck loads. The fee basis shall be based on the calendar year. If no payments are made then Viborg Sand & Gravel, Inc. agrees to pay all legal costs associated with the City of Paso Robles to collect said funds.

Signed,

Paul Viborg - President / Owner
Viborg Sand & Gravel, Inc.

1529 NORTH RIVER ROAD • PASO ROBLES, CALIFORNIA 93446 • (805) 238-4368 • FAX (805) 238-2386

AGREEMENT FOR PAYMENT OF ROAD MITIGATION FEE

This Agreement for Payment of Road Mitigation Fee ("Agreement") is entered into as of September 24, 2014, by and between the CITY OF EL PASO DE ROBLES, a California municipal corporation ("City") and VIBORG SAND AND GRAVEL, INC., a California corporation ("Viborg"). The City and Viborg are referred to herein as a "Party" and collectively as "Parties."

Recitals

A. On December 16, 2008, the Board of Supervisors of the County of San Luis Obispo ("County"), by Resolution No. 2008-454, conditionally approved the application of Viborg for a Conditional Use Permit and Reclamation Plan DRC2006-00039 (the "CUP") for the operation of an in-stream mining and gravel operation for removal of sand and gravel from the Estrella River, at a location within the County, generally located at the intersection of Airport Road and Estrella Road northeast of the City of Paso Robles, California (the "Project Site").

B. Part of the mining operation and sand and gravel extraction will require Viborg to haul truckloads of material over a portion of Airport Road (the "Roadway"), within the City, causing additional wear and tear on the Roadway than would otherwise occur.

C. Condition of Approval No. 39.b. for the CUP requires Viborg, prior to initiating mining activities on the Project Site, to work with the City on a traffic impact and road maintenance fee program and to implement the fee program per City requirements for the 20-year term of the CUP.

D. Based on a report prepared by Pavement Engineering, Inc., dated August 6, 2010, on the estimated cost for rehabilitation of Airport Road, calculated on a square foot basis, and using the information provided by Viborg relating to the number of trips anticipated over the 20-year term of the CUP, the City calculated a Per Truck Fee in the amount of $2.21 to cover the City's additional cost of maintenance of the Roadway attributable to Viborg's mining and gravel operation.

NOW, THEREFORE, in consideration of the foregoing and of the mutual covenants herein contained, the receipt and sufficiency of which is hereby acknowledged, the City and Viborg agree as follows:

Agreement

1. Payment of the Road Mitigation Fee.

Beginning with the date of commencement of its mining operations pursuant to the CUP, which is December 16, 2009, Viborg shall pay City a Road Mitigation Fee ("Fee") in an amount equal to Two and 58/100 Dollars ($2.58) for each truckload of materials that is hauled from the Project Site, along the Roadway.

The Parties acknowledge and agree that the Fee was established based on information provided by Viborg and analyzed as part of the CUP approval process and, as adjusted annually, is a fair amount to compensate City for the additional maintenance required for the Roadway as a direct result of Viborg's mining and gravel operations.

Said Fee shall be paid on a quarterly basis, based on the number of truckloads that travel over the Roadway during the calendar quarter. The actual Fee to be paid for each quarter shall be calculated based on the Quarterly Reports to be submitted to the City pursuant to Section 2, below. Each quarterly payment shall be due and payable at the time of, and shall accompany, the submittal of each Quarterly Report.

Any Fee that is not timely paid shall accrue interest at the rate of Ten Percent (10%) per annum, or the maximum rate permitted by law, whichever is lower, until paid in full. If any Quarterly Report is not submitted and the applicable quarterly Fee payment is not made within fifteen (15) days of when it is due, the City shall provide written notice of such default and may thereafter consider termination of this Agreement in accordance with Section 5.

2. Quarterly Reports.

Viborg shall submit to the City a report each calendar quarter ("Quarterly Report"), in a form acceptable to the City, specifying the number of truckloads that have travelled across the Roadway during that calendar quarter. Each Quarterly Report shall cover a three-month period (January1 through March 31, April 1 through June 30, July 1 through September 30, and October 1 through December 31), provided, however, that the first Quarterly Report shall cover the period from the commencement of mining operations pursuant to the CUP through September 30, 2014, which shall be submitted to the City no later than October 15, 2015. Each subsequent Quarterly Report shall be submitted to the City on or before the 15th day of the month immediately following the end of the subject calendar quarter. Each Quarterly Report shall be accompanied by the Fee payment for that quarter based on the number of truckloads reported for that calendar quarter. [Example: The Quarterly Report for the period January 2015 through March 2015 shall be submitted to the City no later than April 15, 2015, together with Viborg's payment of the Fee for such quarter based on the number of truckloads reported for that calendar quarter.]

3. Mitigation Responsibility.

The Fee paid by Viborg shall be used by the City to pay costs to maintain the Roadway, including without limitation repaving and rehabilitation of the pavement as and when necessary to keep the Roadway in good condition and repair.

The Parties explicitly agree that any mitigation for activities of Viborg or its mining and gravel operation not covered by this Agreement (i.e., the normal wear and tear caused by the travel of truckloads of materials across the Roadway directly related to Viborg's mining and gravel operations), which may include, but is not limited to, extraordinary damages caused to the Roadway or Roadway improvements as a result of a vehicular accident involving one or more of Viborg's trucks or dumping of a truckload of materials on the Roadway, whether or not caused directly by Viborg, remains solely and entirely the responsibility of Viborg. Viborg agrees that

the City shall not be responsible for performing any additional work or construction of additional improvements to the Roadway beyond the maintenance and repair work provided by City in the normal maintenance of its roadway system.

4. Inspection of Records.

The City has the right, upon not less than seventy-two (72) hours' notice, at all reasonable times, to inspect the books and records of Viborg pertaining to its mining and gravel operations and the hauling of materials from the Project Site, as pertinent to the purposes of this Agreement. If any inspection results in a determination that additional Fees are owing for any period covered by a Quarterly Report, Viborg shall pay such additional amount owed within fifteen (15) days after notice from City of such additional amount due. If such amount is not paid within said fifteen (15) days, interest shall accrue on such unpaid amount as set forth in Section 1.

5. Default; Remedy.

Failure by Viborg to submit a Quarterly Report or make any Fee payment within fifteen (15) days after it is due, or failure to fulfill any other obligation of Viborg under this Agreement, shall constitute a default under this Agreement. If such default continues for a period of thirty (30) days after written notice of such default from the City, the City shall have the right to terminate this Agreement for failure to adequately mitigate impacts to the Roadway or seek any other remedy available to it under law or equity. In such event, City may notify the County of such default or termination as a failure to comply with a Condition of Approval under the CUP.

6. Notices.

Notices, demands and communications between the City and Viborg shall be sufficiently given if dispatched by personal delivery, overnight courier service, or registered or certified mail, postage prepaid, return receipt requested, addressed as follows:

If to City: City of El Paso De Robles
1000 Spring Street
Paso Robles, CA 93446
Attn: _____

If to Viborg: Paul Viborg
Viborg Sand and Gravel, Inc.
1529 N. River Road
Paso Robles, CA 93446

Such written notices, demands and communications may be sent in the same manner to such other addresses as either party may from time to time designate in writing.

7. Time of Essence.

Time is of the essence for each and every provision of this Agreement.

8. Attorney's Fees.

If either Party commences an action against the other Party, either legal, administrative or otherwise, arising out of or in connection with this Agreement, the prevailing Party in such litigation shall be entitled to have and recover from the losing Party reasonable attorneys' fees and all other costs of such action.

9. Successors and Assigns.

This Agreement shall be binding on the successors and assigns of the Parties.

10. Entire Agreement.

This Agreement contains the entire Agreement of the parties with respect to the subject matter hereof, and supersedes all prior negotiations, understandings or agreements. This Agreement may only be modified by a writing signed by both Parties.

11. Term of Agreement.

This Agreement shall be effective upon execution of this Agreement by both Parties, and unless earlier terminated in accordance with this Agreement, shall terminate upon the earlier of: (a) twenty (20) years from the effective date of this Agreement, or (b) termination or any revocation of the CUP by the County.

12. Authority to Enter into Agreement.

Viborg has all requisite power and authority to conduct its business and to execute, deliver, and perform the Agreement. Each Party warrants that the individuals who have signed this Agreement have the legal power, right, and authority to make this Agreement and bind each respective Party.

[*Signatures on following page*]

IN WITNESS WHEREOF the Parties have executed this Agreement as follows:

Dated: _____, 2014

CITY OF EL PASO DE ROBLES

_____

By: James L. App
Its: City Manager

APPROVED AS TO FORM:

_____

By: Iris P. Yang, Best Best & Krieger LLP
Its: City Attorney

Dated: September 24, 2014

VIBORG SAND AND GRAVEL, INC.

_____

By: Paul Viborg
Its: President

RESOLUTION NO. 14-XXX

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF
EL PASO DE ROBLES APPROVING AN AGREEMENT WITH
VIBORG SAND AND GRAVEL, INC. FOR PAYMENT OF ROAD MITIGATION FEE

WHEREAS, On December 16, 2008, the Board of Supervisors of the County of San Luis Obispo conditionally approved the application of Viborg Sand and Gravel, Inc. for a Conditional Use Permit and Reclamation Plan DRC2006-00039 for the operation of an in-stream mine in the Estrella River generally located at the intersection of Estrella Road and Airport Road, northeast of City limits; and

WHEREAS, the mining operation will require Viborg to haul truckloads of material over Airport Road within City limits between Tower Road and Highway 46 East, causing additional wear on the street than would otherwise occur; and

WHEREAS, Board of Supervisors Condition No. 39b requires Viborg to work with the City on a road maintenance fee for the 20-year term of the Conditional Use Permit; and

WHEREAS, based upon estimated costs for the rehabilitation of Airport Road by consultants retained by the City, and information provided by Viborg relating to the number of estimated truck trips associated with the mining operation; the City and Viborg have agreed upon a mitigation fee per truck load of material hauled from the mine over Airport Road;

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF EL PASO DE ROBLES:

SECTION 1. The City Council hereby approves the Agreement for Payment of Road Mitigation Fee, attached hereto as Exhibit A and incorporated herein by reference, and authorizes the City Manager to execute the Agreement, subject to any minor technical and non-substantive changes as approved by the City Attorney.

PASSED AND ADOPTED by the City Council of the City of El Paso De Robles this 21st day of October, 2014 by the following roll call vote:

AYES:
NOES:
ABSTAIN:
ABSENT:

_____
Duane Picanco, Mayor

ATTEST:

_____
Caryn Jackson, Deputy City Clerk

82473.03026\8675622.2

Exhibit A

Payment of Road Mitigation Fee Agreement
[to be inserted]

MEMORANDUM

TO: **File**

FROM: **John Falkenstien**

SUBJECT: **Viborg Airport Road Mitigation, Estrella Sand Mine**

DATE: **July, 2014**

Based on the report prepared by Pavement Engineering Dated August 6, 2010, the cost for rehabilitation of Airport Road from Buena Vista Drive to Tower Road is $359,568. However, that figure is based on complete reconstruction of a road that currently has no structure remaining. If we apply that figure and a deep overlay cost on the remainder of Airport Road we estimate that the current cost of rehabilitation of all of Airport Road is $840,000.

Using this project cost and applying the 5% cost inflation per year in the formula provided by Viborg yields a 20-year cost of **$2,472,995**

The “Total Cost to Gravel Pit” at 4.69% is **$115,983.**

The “Cost per Truck Fee” is **$2.12**

Planning
J. Oliveira

IN THE BOARD OF SUPERVISORS
COUNTY OF SAN LUIS OBISPO, STATE OF CALIFORNIA

Tues day December 16, 20 08

PRESENT: Supervisors Harry L. Ovitt, Bruce S. Gibson, Jerry Lenthall, K.H. 'Katcho' Achadjian, and Chairperson James R. Patterson

ABSENT: None

RESOLUTION NO. 2008-454

RESOLUTION REVERSING THE DECISION OF THE PLANNING COMMISSION AND CONDITIONALLY APPROVING THE APPLICATION OF PAUL VIBORG FOR CONDITIONAL USE PERMIT AND RECLAMATION PLAN DRC2006-00039

The following resolution is now offered and read:

WHEREAS, on August 28, 2008 and September 11, 2008 the Planning Commission of the County of San Luis Obispo (hereinafter referred to as the "Planning Commission") duly considered and disapproved the application of Paul Viborg for Conditional Use Permit and Reclamation Plan DRC2006-00039; and

WHEREAS, Paul Viborg has appealed the Planning Commission's decision to the Board of Supervisors of the County of San Luis Obispo (hereinafter referred to as the "Board of Supervisors") pursuant to the applicable provisions of Title 22 of the San Luis Obispo County Code; and

WHEREAS, a public hearing was duly noticed and conducted by the Board of Supervisors on November 25, 2008, and the matter was continued to and determination and decision was made on December 16, 2008; and

WHEREAS, at said hearing, the Board of Supervisors heard and received all oral and written protests, objections, and evidence, which were made, presented, or filed, and all persons present were given the opportunity to hear and be heard in

1. That the recitals set forth hereinabove are true, correct, and valid.

2. That the Board of Supervisors makes all of the findings of fact set forth in Exhibit A attached hereto and incorporated by reference herein as though set forth in full.

3. That the negative declaration prepared for this project is hereby approved as complete and adequate and as having been prepared in accordance with the provisions of the California Environmental Quality Act.

4. That the Board of Supervisors has reviewed and considered the information contained in the negative declaration together with all comments received during the public review process prior to approving the project.

5. That the appeal filed by Paul Viborg is hereby upheld and the decision of the Planning Commission is reversed and that the application of Paul Viborg for Conditional Use Permit and Reclamation Plan DRC2006-00039 is hereby approved subject to the conditions of approval set forth in Exhibit B attached hereto and incorporated by reference herein as though set forth in full.

Upon motion of Supervisor Ovitt, seconded by Supervisor Lenthall, and on the following roll call vote, to wit:

AYES: Supervisors Ovitt, Lenthall, Achadjian

NOES: Supervisors Gibson, Chairperson Patterson

ABSENT: None

ABSTAINING: None

the foregoing resolution is hereby adopted.

JAMES R. PATTERSON

Chairperson of the Board of Supervisors

APPROVED AS TO FORM AND LEGAL EFFECT:

WARREN R. JENSEN
County Counsel

By: _____
Deputy County Counsel

Dated: December 3, 2008

STATE OF CALIFORNIA,)
) ss.
County of San Luis Obispo,)

I, JULIE L. RODEWALD, County Clerk and ex-officio Clerk of the Board of Supervisors, in and for the County of San Luis Obispo, State of California, do hereby certify the foregoing to be a full, true and correct copy of an order made by the Board of Supervisors, as the same appears spread upon their minute book.

WITNESS my hand and the seal of said Board of Supervisors, affixed this 22 day of January, 2009.

JULIE L. RODEWALD
County Clerk and Ex-Officio Clerk of the Board of Supervisors

By C M Christensen
Deputy Clerk.

(SEAL)

12649ktres.doc

Pavement Engineering Inc.
Civil Engineering • Landscape Architecture
CalTrans/AMRL QC/QA • Construction Management

August 6, 2010 Project No.: 100130-01

Ms. Ditas Esperanza
City of Paso Robles
1000 Spring Street
Paso Robles, CA 93446

Subject: Pavement Deflection and Structural Analysis for Airport Road from Buena Vista Drive to Tower Road

Dear Ditas:

In accordance with your request, we have completed the deflection and structural analysis of the subject project and are herein providing our findings and recommendations.

Introduction

PEI evaluated Airport Road from Buena Vista Drive to Tower Road. Our services included analyzing the existing pavement in general conformance with CTM 356, coring to determine the thicknesses of the existing structural section; obtaining native soil samples for determination of R-value; and a visual condition survey. The traffic index for this analysis was provided by the City of Paso Robles.

Included with this report are several appendixes that can be referred to while reviewing this report. They include the Table A Coring Log, Dynaflect Data sheets and project photographs.

Pavement Analysis

PEI has performed the analysis based on the design traffic index of 8.0, as provided by the City of Paso Robles.

The pavement exhibits moderate to severe alligator cracking with intermittent areas of base failure throughout the segment. The pavement is completely failed in some locations. The pavement has recently been overlayed from Buena Vista Drive to Propeller Drive. Previous maintenance has consisted of temporary skin patches and filling potholes.

The coring revealed that the existing structural section ranged from 2 to 7-1/4 inches of asphalt concrete over the native soil. Most of the cores ranged between 4-3/4 to 5-1/2 inches. The two cores that measured 7 and 7-1/4 inches were between Buena Vista Drive and Propeller Road where the recent overlay occurred. The thinner cores were located in areas where the pavement has completely falled.

The native soil samples collected at the coring locations are brown clayey sands with R-values that ranged from 42 to 75. The recommended design value is 42.

For the deflection analysis, we have divided the road into four segments based on the core thicknesses.

Buena Vista Drive to Propeller Drive

Based on the deflection analysis, the pavement is structurally deficient by 3 inches of HMA (Hot Mix Asphalt) in the northbound lane and 4-1/2 inches of HMA in the southbound lane.

Reflective cracking criteria requires 1/2 the thickness of the bonded layer to inhibit reflective cracking. Pavement fabric can be used to reduce the reflective cracking overlay by 1-1/4 inches. For this pavement, a 3-1/2 inch overlay would be required if no pavement fabric is used and a 2-1/4 inch overlay if fabric is used.

For this section of road, the 4-1/2 inch HMA overlay controls the rehabilitation requirements.

Propeller Drive to 950 N/O Propeller Drive

Based on the deflection analysis, the pavement is structurally deficient by 2 inches of HMA (Hot Mix Asphalt) in the northbound lane and 2-1/2 inches of HMA in the southbound lane.

Reflective cracking criteria requires 1/2 the thickness of the bonded layer to inhibit reflective cracking. Pavement fabric can be used to reduce the reflective cracking overlay by 1-1/4 inches. For this pavement, a 2-3/4 inch overlay would be required if no pavement fabric is used and a minimum 1-3/4 inch overlay if fabric is used.

For this section of road, the 2-1/2 inch HMA overlay controls the rehabilitation requirements.

950 N/O Propeller Drive to 2,250 N/O Propeller Drive

Based on the deflection analysis, the pavement is structurally deficient by 2-3/4 inches of HMA (Hot Mix Asphalt) in the northbound lane and 1 inch of HMA in the southbound lane.

Reflective cracking criteria requires 1/2 the thickness of the bonded layer to inhibit reflective cracking. Pavement fabric can be used to reduce the reflective cracking overlay by 1-1/4 inches. For this pavement, a 1-3/4 inch minimum overlay would be required whether or not fabic is used.

For this section of road, the 2-3/4 inch HMA overlay controls the rehabilitation requirements.

2,250 N/O Propeller Drive to Tower Road

Based on the deflection analysis, the pavement is structurally deficient by 5-1/2 inches of HMA (Hot Mix Asphalt) in the northbound lane and 3 inches of HMA in the southbound lane.

Reflective cracking criteria requires 1/2 the thickness of the bonded layer to inhibit reflective cracking. Pavement fabric can be used to reduce the reflective cracking overlay by 1-1/4 inches. For this pavement, a 3 inch overlay would be required if no pavement fabric is used and a minimum 1-3/4 inch overlay if fabric is used.

For this section of road, the 5-1/2 inch HMA overlay controls the rehabilitation requirements.

Recommendations

Based on our analysis, we are providing two alternatives for rehabilitating the existing pavements for a traffic index of 8.0. PEI is providing alternatives for HMA (hot mix asphalt) and RHMA (rubberized hot mix asphalt).

Buena Vista Drive to Propeller Drive

For alternate 1, we recommend surface preparation, placing a 1 inch leveling course and a 3-1/2 inch HMA overlay.

For alternate 2, we recommend surface preparation, placing a 1 inch leveling course and a 1-3/4 inch RHMA overlay.

Propeller Drive to 950 N/O Propeller Drive

For alternate 1, we recommend surface preparation, placing a 1 inch leveling course and a 1-3/4 inch HMA overlay.

For alternate 2, we recommend surface preparation, placing a 1 inch leveling course and a 1-3/4 inch RHMA overlay.

950 N/O Propeller Drive to 2,250 N/O Propeller Drive

For alternate 1, we recommend surface preparation, placing a 1 inch leveling course and a 1-3/4 inch HMA overlay.

For alternate 2, we recommend surface preparation, placing a 1 inch leveling course and a 1-3/4 inch RHMA overlay.

2,250 N/O Propeller Drive to Tower Road

For alternate 1, we recommend surface preparation, placing a 1 inch leveling course and a 4-1/2 inch HMA overlay.

For alternate 2, we recommend surface preparation, placing a 1 inch leveling course and a 2-1/4 inch RHMA overlay.

Materials

Asphalt concrete for leveling courses of 1 inch or less should be constructed using 3/8 inch maximum size aggregate. Asphalt concrete for leveling courses and overlays between 1 inch and 2 inches should be constructed using 1/2 inch maximum size aggregate. Overlays of greater than 2 inches can be constructed using either 1/2 or 3/4 inch maximum size aggregate.

Pneumatic tired rollers are recommended on leveling courses of 1 inch or less.

The maximum size aggregate for the RHMA overlays recommended in this report should be 3/8 or 1/2 inch.

Cost Estimates

Per your request, PEI has estimated the construction costs to rehabilitate the pavement on Airport Road from Buena Vista Drive to Tower Road using our recommendations. Two separate estimates have been prepared based on the alternates. The estimated costs are as follows:

Alternate 1 - Use of HMA (Conventional hot mix asphalt)	$359,568
Alternate 2 - Use of RHMA (Rubberized HMA)	$323,537

The costs do not include any contingencies. Using the RHMA will reduce the thickness of the overlay. The City may want to consider bidding the RHMA as the base bid and the HMA as an alternate. Please note that the contractors and asphalt plants are becoming familiar with rubberized asphalt concrete as more and more RHMA projects are coming to the central coast. A detailed breakdown of the costs are included as an attachment.

Limitations

This report has been prepared on the basis of the indicated field testing and application of our knowledge of pavement technology. The repair strategies in this report are based upon industry standards. The overlays have been designed in general conformance with California Test Method 356.

The report contains projections of future life. These are given to provide a broad outline for pavement maintenance budgeting. They should not be interpreted as providing definitive predictions of future pavement performance.

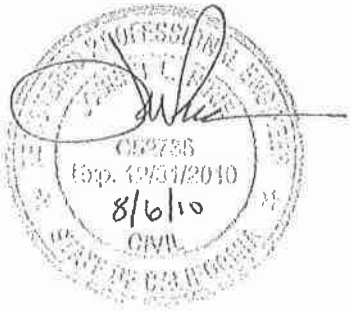
Our professional services were performed, findings obtained, and recommendations prepared in accordance with generally accepted engineering principles and practices. No warranty is either expressed or implied.

Summary

We have completed the deflection analysis for Airport Road from Buena Vista Drive to Tower Road. We have provided rehabilitation recommendations for the existing pavement. The recommended rehabilitations consist of HMA and RHMA overlays. We have also provided estimated costs for each alternative.

If you have any questions, please do not hesitate to give me a call at (805)781-2265.

Very truly yours,
PAVEMENT ENGINEERING INC.



Joseph L. Ririe, P.E.
Principal

Attachments: Cost Estimate Breakdown (HMA and RHMA)
Table A Coring Log
Coring and Photo Location Map
Dynaflect Data
R-values
Photographs

pc: C File
100130-01

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ANALYSIS OF THE CITY'S STREET SYSTEM

The City of Paso Robles currently maintains approximately 148.3 centerline miles of roadways. Of the 148.3 centerline miles, 31.8 are arterials and 18.8 are collectors. This represents 7,428,956 square feet of arterial pavement, 3,638,702 square feet of collector pavement, 16,818,281 square feet of residential pavement, and 461,178 square feet of alleys in the Business District, for a total system of 28,347,117 square feet.

The City engaged the services of Pavement Engineering Inc. to perform evaluation of all the streets in the City's system to establish a Pavement Condition Index (PCI) for each road segment and is summarized below:

	Area (SF)	Centerline Miles	Weighted PCI
Arterials	7,428,956	31.8	69.2
Collectors	3,638,702	18.8	55.4
Residentials	16,818,281	93.5	63.8
Alleys	461,178	4.3	48.6
	28,347,117	148.3	63.9

The overall current weighted average PCI for the City's streets is **63.9**. Most cities in California try to maintain an average PCI of 70 or above. It is recommended that the City adopt a policy to maintain its residential streets at a PCI level of 70, its alleys at a PCI level of 65, and its arterials and collectors at 80.

RECOMMENDED PROGRAM

Staff recommends a Pavement Maintenance Program to address the City's street system in three categories: Design of New Streets, Construction of New Streets, and Maintenance and Protection of Existing Streets.

A. Design of New Streets

It is critical that streets are designed adequately for the volume of traffic and type of vehicle that is expected to use the roads. In other words, the street structure for arterials and collectors should be designed to accommodate heavy trucks and large volumes of traffic. Residential street design standards can be a little less stringent since these streets typically are limited only to neighborhood traffic.

The structural section (aggregate base and asphalt concrete) required to be installed for new streets is contingent on two factors: traffic index (TI) which is an indication of future truck loading and is a function of the volume and type of traffic that will be using the street, and soils resistivity (R-value) which is the in situ soils characteristic that can withstand the anticipated long-term weight that the street will experience.

1. Traffic Index

Traffic Index (TI) is based on the expected number of vehicles and the type of vehicles to travel the streets in the design life. Heavier vehicles have more impact on pavement. Prior to December, 2006, the City's standards were as follows:

Arterial streets	TI = 7.0
Collector and west side streets	TI = 6.0
Local and rural streets	TI = 5.0
Cul-de-sac and hillside streets	TI = 4.0

In December, 2006 the City Council updated this Plan so that streets be designed with the following Traffic Index:

Arterial Streets (which would also serve as truck routes)	TI = 8.0
Commercial streets and Collectors	TI = 7.0
All other streets including alleys	TI = 6.0

The 2011 Circulation Element eliminates the term "Collector" street so the table must be updated as follows:

4-Lane and 2-Lane Divided Arterial Streets	TI = 8.0
2-Lane Undivided Arterials and Commercial Streets	TI = 7.0
All other streets including alleys	TI = 6.0

2. Soil Resistivity (R-value)

Soil strength is measured in the lab and a number (the R-value) that represents the soil strength is established. In San Luis Obispo County, where poor soils are common, this number can be as low as 5 (the lowest possible). The roadway designer shall have soil samples tested for actual value and the measured R-value shall be used in the calculation of the pavement design. However, if no test is performed, the R-value can be assumed to be 5 and the structural section can be calculated accordingly to include a minimum of 12 inches of aggregate base material. The lower 6 inches may be a Class III sub-base material in accordance with Caltrans Standards.

B. Construction of New Streets

Two policies are proposed for consideration with regards to the construction and acceptance of new streets as part of the City's network of streets as outlined below.

1. Developers to Install Full Street Structure

In a multiphased subdivision or during the initial stages of construction, residential roads are used by concrete trucks and construction vehicles which accelerate the deterioration of these roads and decrease their life expectancy as these roads were neither designed nor constructed to

receive this type of traffic. Therefore, the life expectancy of roads in these tracts, which would normally be 20 years, is drastically reduced.

It is proposed that the City adopt a policy to require developers to install **the full structure section prior to acceptance** of public improvements.

In addition, it is also proposed that the aggregate base below the curb be at the same depth as the roadbed.

2. Compaction of New Streets

It has been proven that proper compaction of asphalt concrete has a direct relation to the construction life of a street. Currently the City requires that asphalt concrete be compacted at 95% minimum. It is proposed that the City require that the compaction after rolling shall have an average of 96.5% with no one test below 96%. All testing shall conform to Caltrans Testing Methods and Specifications.

C. Maintenance and Protection of Existing Streets

The following policies are proposed to address the maintenance and protection of the City's existing streets: adopt utility trench repair standards, establish a truck route street system, and establish a specific budget to maintain the City streets.

1. Utility Repair Standards

The trench repair standards proposed are designed to mitigate the impact of utility trenches on the life and durability of streets. The implementation of these standards will result in longer paving life of streets and therefore neutralize the costs driven by premature repair of asphalt that has been trenched and patched inadequately.

Nearly all complaints regarding rough patches in streets are in reference to temporary repairs. Temporary repairs are typically comprised of cutting back the asphalt or a cold patch. Cold asphalt has lower stability and is compacted by on-going traffic and therefore is left a little higher than adjacent grade. Cold asphalt may compact below adjacent grade resulting in annoying bumps. Temporary repairs need to be monitored in order to be effective and to limit disruption and traffic comfort. A temporary trench repair standard is also included for consideration in addition to a monitoring program to assign responsibility for on-going maintenance and timely permanent pavement replacement.

Research by the University of Cincinnati indicates that the area of impact to an existing street extends to three feet outside the edge of the trench. A trench repair standard that accounts for these impacts is proposed.

2. Truck Route

The wear factor to a road's surface caused by a single large truck is equal to 15,000 automobiles traveling over the same road surface. Arterial road structures are designed to accommodate large volumes of traffic and large, heavy trucks. It is recommended that the City adopt a Traffic Index of 8.0 for all streets expected to accommodate trucks. Four-lane arterial streets, 2-lane divided arterial streets and other selected 2-lane undivided arterials will become the City's designated "Truck Routes." Streets designated as "Truck Routes" are as follows:

Creston Road

Union Road

Niblick Road

Golden Hill Road

Spring Street

Riverside Avenue

South Vine Street

North and South River Roads

Charolais Road

Sherwood Road

Airport Road

Dry Creek Road

Dallons Drive

Buena Vista Drive

Wisteria Lane

3. Protection of Existing Streets

Good pavement management means that the cost to maintain pavement in a good or excellent condition is relatively low, as long as work is done before the condition of rapid deterioration begins. Once pavement has begun to deteriorate rapidly, the cost to restore the pavement to excellent condition increases rapidly to the point where it may not make economic sense to spend money on routine maintenance. It is proposed that the City adopt a policy to use its annual street maintenance budget towards preventive maintenance and the remainder towards heavy maintenance or reconstruction. These policies that are proposed would allow the citizens of Paso Robles to have streets that are well maintained and last a long time. (*See updated Council priorities.)*