

**FRANKLIN COUNTY
COMMISSION AGENDA ITEM**

TO: BOARD OF FRANKLIN COUNTY COMMISSIONERS	Reviewed:
FROM: JAMES M. HAAG, JR.	Ext. 3552
DEPARTMENT: PUBLIC WORKS	
DATE: 10/20/08	No.

ITEM: Consider discussion of the 2008 CHIP Seal Project

Background: Board of County Commissioners awarded the project to Vance Brothers, Inc. at the June 11, 2008 meeting. The project is now complete and a majority inspected by Dan Harden, P.E., Lisa Johnson and Jim Haag following the installation.

Recommended Action: Discuss the 2008 CHIP Seal Project

Attachments: Dan Harden report

Report to

**Lisa J. Johnson
Franklin County Administrator &
County Counselor**

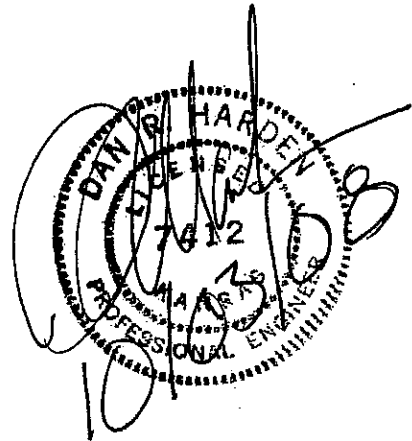
And

**James M. Haag Jr., P.E.
Franklin County Public Works Director**

Regarding

**The Quality of the 2008 Franklin County
Chip Seal Project**

**October 2008
08-248L**



BG CONSULTANTS, INC.

received
10-8-08

Introduction

The purpose and scope of this report is to provide an independent opinion of the quality of the seal work performed by Vance Brothers, Inc. on various Franklin County, Kansas roads as required by the specifications and contract documents for the 2008 Franklin County Seal Project, contract dated June 11, 2008. The project entailed the construction of a single bituminous surface treatment over the roads included in the project as well as a double bituminous surface treatment over a road located in Section 32, Township 16 South, Range 20 East.

Procedure

To arrive at the reported opinions I rode with the Franklin County Public Works Director, James M. Haag, Jr., P.E for the entire visual inspection. For part of the visual inspection Mr. Haag and I were accompanied by the County Counselor and County Administrator, Lisa J. Johnson. The vehicle used was a Franklin County Public Works Department vehicle. I sat in the front passenger seat to make my observations. On several occasions we stopped the vehicle to get out and examine the seal coat on foot.

All of the seals were inspected with the following exceptions.

- Shawnee Terrace
- Stoneview Terrace
- The DBST
- Labette Terrace
- Oregon south of the John Brown highway
- Vermont and Virginia south of the John Brown highway
- The John Brown highway between Ohio and Tennessee

Results

The following results are based on observations from the inspection vehicle and walking and looking at the seal on foot. There is no attempt to analyze the asphalt binder to determine if it in fact was CRS-1H. The cover material was not analyzed to determine if it was in fact CM-K.

The seals that were inspected are generally of good quality. There are locations about a square foot in area that did not get sealed. These are near the center of the road and appear to be places where the seal did not overlap the seal in the other lane.

There are varying degrees of excess cover material and dust on all of the seals. (None of excess cover material was excessive in amount.) The Contractor will be paid for 11,420 cubic yards of cover material regardless of how much he elects to apply.

The seals have good center overlap. This amounts to a double bituminous surface treatment, 3 or 4 inches in width in the center of the road.

The Rock Creek Road seal from U.S. 59 to Rantoul appears to have a heavy application of asphalt. There is a stripe in the outside wheel path on both sides of the road in some locations, but not all.

Streaking was observed in some locations. This is an aesthetic matter rather than a quality matter.

Discussion

All seals using uncoated or unwashed cover material will produce dust for days following the application of the cover material. Traffic, wind and rain will eliminate the dust with time. High speed county highway traffic will work the dust out of the surface more quickly than low speed residential traffic. Uncoated or unwashed a cover material is generally specified because the cost to the County is significantly less. The down side to cover material with significant fines is that the asphalt adheres to the fines that coat the aggregate and not to the aggregate itself. This can lead to aggregate stripping in the future.

Excess cover material is to be expected on a seal project to a point. It is much easier to remove a bit of extra cover material than it is to remedy the problem of not having enough cover material. The County is protected financially with the quantity limit included in the Proposal.

The observed center overlap of 3 to 4-inches may produce an asphalt application rate that is a bit high for a double seal; so this overlap has the potential to be an area where there may be a bit of bleeding next summer.

The Rock Creek Road seal may bleed next summer due to what appears to be excess asphalt. The stripe in the outside wheel lane of Rock Creek was caused by either a plugged spray bar nozzle or a plugged discharge gate in the chip spreader.

Conclusions and Recommendations

The asphalt and cover material spread rates appear to be generally good. There appears to be a problem with one or the other on Rock Creek Road. This problem can be remedied to a degree with blotting the bleeding next summer if bleeding becomes a problem.

The construction techniques appear to be appropriate. The construction observed on John Brown Highway had the chip spreader close behind the distributor. Rubber tired rollers were used properly by positioning them behind the chip spreader. Post application sweeping appeared to be inconsistent. It was done in some locations and not in others.

The weather was excellent sealing weather. Ample amounts of sunshine and wind are great conditions. Rain creates problems. I saw no evidence of rain damaged work.

The surface appeared to be adequately cleaned prior to application of the seal. There were a few locations where the seal is rough because the underlying pavement was distressed and deformed.

The distributor and the chip spreader appeared to be adequately calibrated to accomplish a successful project.

I did not see any torn seals from cover material trucks turning on the new seal. Truck traffic on the new seal on John Brown Highway appeared to be pushing the aggregate deeper into the asphalt which could mean there is a bit too much asphalt on the John Brown Highway, which will result in having the appearance of Rock Creek Road. However, if it looks like the Colorado Road it is fine.

The Contractor should be asked to certify that the material supplied to the project does in fact comply with the project specifications. Kansas Department of Transportation Specification 1108 requires that for CM-K not more than 2 percent by weight of the cover material can pass thru the No. 200 sieve. Given the dust observed it will be important that the cover material complies with the 2 percent specification requirement.

Summary of Recommendations

1. Seal any unsealed areas.
2. Instruct the Contractor to broom the seals to remove excess cover material and dust.
3. Monitor the center overlaps for bleeding next summer.
4. Monitor Rock Creek Road for bleeding next summer. Have the Contractor blot any bleeding.
5. Monitor the John Brown Highway for the potential for bleeding. If found, monitor for bleeding next summer. Have the Contractor blot any bleeding.
6. Repair the streak in the outside wheel lane of the Rock Creek Road.
7. Patch any previously distressed areas in the underlying pavements next summer.
8. Secure the material certifications from the Contractor.
9. Get the percent by weight of the cover material passing the No. 200 sieve.

References

Franklin County 2008 Chip Seal Project Manual

Transportation Research Board of the National Academies, *National Cooperative Highway Research Program Synthesis 342*, 2005 edition, Transportation Research Board of the National Academies, Washington D.C.