

**OFFICE OF THE CITY CONTROLLER**



**PUBLIC WORKS AND ENGINEERING DEPARTMENT  
FINANCIAL AUDIT OF ASPHALT PURCHASES**

**Sylvia R. Garcia, City Controller**

**Judy Gray Johnson, Chief Deputy City Controller**

**Steve Schoonover, City Auditor**



OFFICE OF THE CONTROLLER  
CITY OF HOUSTON  
TEXAS

SYLVIA R. GARCIA

September 9, 2002

The Honorable Lee P. Brown, Mayor  
City of Houston, Texas

SUBJECT: Public Works and Engineering Department  
Financial Audit of Asphalt Purchases (Report No. 01-10)

Dear Mayor Brown:

The City Controller's Office Audit Division has completed a financial audit of asphalt purchases at the Public Works and Engineering Department (PW&E). The primary purpose of the audit was to evaluate compliance with established procurement procedures and to determine whether the City was billed properly for asphalt purchased by agreeing (1) invoices to appropriate supporting documentation such as weigh tickets and (2) asphalt purchase prices to applicable purchase orders.

The report, attached for your review, concludes that invoices were supported with weigh tickets and asphalt purchase prices agreed to applicable purchase orders. Payments tested also appeared properly approved, computed and charged to the appropriate funds. However, the City did not verify the quality and quantity of the asphalt received or estimate the the quantity of asphalt needed for projects. Further, significant procurement decisions are being made without obtaining operating management's concurrence. Thus, the auditors conclude that City management cannot ensure that the City received the quality and quantity of asphalt ordered and paid for and that City assets are being properly safeguarded.

During the course of the audit, the auditors noted a significant increase in the price of asphalt (approximately 20 percent). The facts surrounding the price increase, and the related concerns and recommendations are noted in Finding No. 1. Since the events related to this increase were handled by the Finance and Administration Department's (F&A) Strategic Purchasing Division (SPD), we requested that F&A management rather than PW&E management respond to Finding No. 1.

Audit Division personnel held several meetings with the City Purchasing Agent and the F&A Director regarding the price increase and related concerns. After reviewing the F&A Director's response (Exhibit I), the auditors believe it is a reflection of those meetings. The response did not fully address the recommendations in Finding No. 1. Instead, it continues to focus on rebutting the concerns raised rather than being responsive and working toward better safeguarding of City assets, improving communications between SPD and operating management and holding the appropriate decision makers accountable for their actions.

Draft copies of the matters contained in the report were provided to appropriate Department officials. The views of the responsible Department officials as to action taken or being taken are appended to the report as Exhibits I and II.

We appreciate the cooperation extended to our auditors by City personnel during the course of the audit.

Respectfully submitted,



Sylvia R. Garcia  
City Controller

xc: City Council Members  
Albert Haines, Chief Administrative Officer  
Oliver Spellman, Jr., Chief of Staff, Mayor's Office  
Philip Scheps, Director, Finance and Administration Department  
Jon C. Vanden Bosch, Director, Public Works & Engineering Department

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## EXECUTIVE SUMMARY

### Conclusion

Invoices were supported by weigh tickets and asphalt purchase prices agreed to applicable purchase orders. Payments tested appeared properly approved, computed and charged to the appropriate funds. However, the City did not verify the quality and quantity of the asphalt received or estimate the quantity needed for projects, and procurement decisions were made without obtaining operating management's concurrence. Thus, we conclude that City management cannot ensure that the City received the quality and quantity of asphalt ordered and paid for and that City assets are being properly safeguarded.

### Findings

- The City had a Blanket Purchase Order (BPO) with Martin Marietta Materials for the procurement of asphalt. The BPO's expiration date was June 22, 2002. It allowed the vendor to request and the City Purchasing Agent grant an annual price increase, provided that each increase did not exceed 5%. If the City did not grant a price increase, the vendor could terminate the BPO by giving 60 days notice.

On July 10, 2000, the Martin Marietta requested a price increase in excess of the 5% allowed by the BPO. The City Purchasing Agent granted the maximum 5% price increase effective August 26, 2000. On August 23, 2000, Martin Marietta advised the City that it was terminating the BPO effective October 23, 2000 because the 5% cost increase was insufficient to defray their 30% cost increase. Using his authority under the termination clause of the BPO, the City Purchasing Agent agreed to release the vendor from the BPO upon delivery of all outstanding purchase orders.

We believe the City's asphalt BPO with Martin Marietta Materials (BPO #21287), as written, interpreted and administered by the City subjected the City to the risk of supply disruption and caused the City to experience price volatility. Under two new BPOs (one of which is with Martin Marietta) the City is now paying approximately 20% more for asphalt. The cost to the City of the 20% price increase (over the remaining life of the previous BPO had it remained in effect) will be approximately \$3 million. Since competition helps hold down prices, we would encourage using short term firm price contracts, instead of longer term BPOs, to bring more competition into the procurement process to help offset the effect of price increases.

Public Works & Engineering's (PW&E) Right of Way Division (ROW) was and continues to be the City's primary user of asphalt. The Materials Management Branch (MMB) is the Strategic Purchasing Division's (SPD) single point of contact within PW&E. ROW support and operating management and MMB management were unaware that SPD released Martin Marietta from its BPO until after the release.

Unless department management responsible for meeting budgeting and operating goals are allowed to have the final say in terms and specifications of their contracts/BPOs, they cannot be expected to assume full ownership for failing to meet budgetary and operating goals.

PUBLIC WORKS AND ENGINEERING DEPARTMENT  
FINANCIAL AUDIT OF ASPHALT PURCHASES

- Since July 1, 1995, PW&E has purchased asphalt totaling approximately \$26 million. PW&E relies on its Contract Compliance Section (CCS) to verify the quantity and quality of bulk purchases made by PW&E. CCS has not verified the quantity or quality of asphalt purchases. Consequently, PW&E cannot provide reasonable assurance that the City received the quantity and quality of asphalt ordered.
- ROW does not always timely liquidate purchase orders thereby restricting funds that could be used for other purposes. For example, two purchase orders pertaining to an expired BPO were carrying balances of \$99,696 and \$70,863 (total of \$170,559 encumbered) in June 2001.

## SCOPE AND PURPOSE

We have completed a financial audit of asphalt purchases at PW&E's ROW Division. The scope of the audit consisted of reviewing selected invoices and supporting documentation for the period of July 1, 1999 through June 30, 2001. Our purpose was to evaluate compliance with established procurement procedures and to determine whether the City was billed properly for asphalt purchased by agreeing (1) invoices to appropriate supporting documentation such as weigh tickets and (2) asphalt purchase prices to applicable purchase orders. We also determined if payments have been properly approved, computed, supported and charged to the appropriate funds.


The scope of our work did not constitute an evaluation of the overall internal control structure of the Department. Our examination was designed to evaluate and test the adequacy of the Department's controls over the procurement of asphalt. This was a financial audit executed in accordance with Generally Accepted Government Auditing Standards (GAGAS).

Department management is responsible for establishing and maintaining a system of internal controls to ensure proper billings for asphalt purchases as an integral part of the Department's overall internal control structure. The objectives of an internal control system are to provide management with reasonable, but not absolute, assurance that the City is billed properly for asphalt purchases.

Because of inherent limitations in any system of internal accounting control, errors or irregularities may occur and not be detected. Also, projection of any evaluation of the system to future periods is subject to the risk that procedures may become inadequate because of changes in conditions, or that the degree of compliance with procedures may deteriorate.

## CONCLUSION

Our audit has determined that invoices were supported with weigh tickets and asphalt purchase prices agreed to applicable purchase orders. Payments tested also appeared properly approved, computed and charged to the appropriate funds. However, the City did not verify the quality and quantity of the asphalt it received or estimate the quantity of asphalt needed for projects. Further, significant procurement decisions are being made without obtaining operating management's concurrence. Thus, we conclude that City management cannot ensure that the City received the quality and quantity of asphalt ordered and paid for and that City assets are being properly safeguarded.

  
Kenneth Teer  
Audit Manager

  
Steve Schoonover  
City Auditor

## INTRODUCTION

The ROW Division repairs potholes, overlays City streets, and performs other general maintenance of the City's thoroughfares. The Division is divided into eighteen districts located in eleven operating sites. The Division submits a monthly operating report detailing the number of pothole repairs, pothole patches, and street overlays, among other tasks performed during the period. Hot Asphalt Mix purchases are made through BPOs. The BPO specified two types of deliveries: (a) F.O.B. Bidder's Plant - City to pick up from asphalt plant and (b) F.O.B. Job Site - Vendor to deliver at job sites. The two delivery types are priced differently with the F.O.B. Job Site priced higher. For ordering and delivery purposes, the Division is further divided into five ordering stations - Northwest, Northeast, Southwest, Southeast, and Inside Loop 610. Each station requests a purchase order for 10,000 tons of asphalt from which deliveries are made on as needed basis until depleted.

BPO #21287 was issued for the procurement of asphalt from Martin Marietta Materials for the period from June 23, 1999 through June 22, 2002. On July 10, 2000, the vendor requested a price increase in excess of the 5% allowed under the BPO. The City granted the 5% price increase effective August 26, 2000. On August 23, 2000, the vendor advised the City that it was terminating the BPO effective October 23, 2000 because a 5% cost increase was insufficient to defray their 30% cost increase. The City agreed to release the vendor upon delivery of all outstanding purchase orders.

On December 13, 2000, BPO #21944 for \$21,897,057 and #21945 for \$12,078,506 were approved for the purchase of Hot Mix Asphalt from Martin Marietta and American Materials, respectively. The new BPOs' unit prices are approximately 20% higher than the previous BPO's (BPO#21287) prices.

The ROW Division also purchases High Performance and Conventional Mix (Cold Mix). The cold mix is purchased in limited quantities for the various districts and stored for future and/or emergency use. The cold mix can be stored for up to a period of one year without losing utility.

## FINDINGS AND RECOMMENDATIONS

### I. SAFEGUARDING ASSETS

#### BACKGROUND

On June 23, 1999, the City issued BPO #21287 for \$21,406,961 to Martin Marietta Materials for procuring Hot Mix Asphalt. The BPO was scheduled to expire June 22, 2002. It allowed the vendor to request and the City Purchasing Agent grant an annual price increase, provided that each increase did not exceed 5%. If the City did not grant a price increase, the vendor could terminate the BPO by giving 60 days notice. The BPO also provided that the vendor immediately pass through price decreases.

On July 10, 2000, the vendor requested a price increase in excess of the 5% allowed. The City Purchasing Agent granted the maximum 5% price increase effective August 26, 2000. On August 23, 2000,



the vendor advised the City that it was terminating the BPO effective October 23, 2000 because a 5% cost increase was insufficient to defray their 30% cost increase. Using his authority under the termination clause of the BPO, the City Purchasing Agent agreed to release the vendor from the BPO upon delivery of all outstanding purchase orders.

On December 13, 2000, BPO #21944 for \$21,897,057 and #21945 for \$12,078,506 were approved for the purchase of Hot Mix Asphalt from Martin Marietta Materials and American Materials, respectively. These BPOs expire on December 12, 2003.

The new BPOs' unit prices are approximately 20% higher than the previous BPO's prices. The new BPOs allow the vendors to request, and the City Purchasing Agent to grant a price increase every six months, provided that each increase does not exceed 10% of the previous price. If the City does not grant a price increase, the vendor can terminate its BPO by giving 60 days notice. The BPOs also provide that the vendor immediately pass through price decreases.

#### **FINDINGS**

Management is responsible for safeguarding assets. We believe the previous BPO (#21287), as written, interpreted and administered by the City, did not effectively safeguard the City's assets. Rather, it subjected the City to the risk of supply disruption and caused the City to experience price volatility. Under the two new BPOs (one of which is with Martin Marietta) the City is now paying approximately 20% more for asphalt. The cost to the City of the 20% price increase (over the remaining life of the previous BPO had it remained in effect) will be approximately \$3 million.

PW&E's ROW Division was the primary user of asphalt under this BPO. The MMB is the SPD's single point of contact within PW&E. ROW support and operating management and MMB management stated that they were unaware that SPD released Martin Marietta Materials from its \$21 million asphalt BPO until after the release.

During the contract/BPO renewal process, SPD provides PW&E's MMB with contract/BPO documents, a time line, invitations to pre-bid conferences and bid tabs. MMB, in turn, provides the above to PW&E's ROW Division for review, approval and recommendations.

PW&E's Right of Way Division (ROW) support and operating personnel believe that while they have the ability to influence the contract/BPO's technical specifications, they have only limited influence over other terms of the contract/BPO. MMB indicated that SPD does not always make changes requested by PW&E, and that SPD does not inform MMB of approved changes before finalizing a document.

Unless department management responsible for meeting budgeting and operating goals are allowed to have the final say in terms and specifications of the contract/BPO, they cannot be expected to assume full ownership for failing to meet budgetary and operating goals.

**RECOMMENDATION**

SPD management should coordinate with PW&E's management to develop steps to ensure department management and the Legal Department are involved in developing the terms of the BPO bid packages. PW&E's management should cooperate with SPD in developing these steps. The goals should be that the awarded contract/BPO adequately safeguards City assets and clearly reflects and protects operating management's requirements.

Specifically, the contract/BPO documents that SPD sends to the department should contain all procurement options available to the department and the benefits and risks associated with each option. If the existing options do not meet departmental management's needs, they should inform SPD in writing of their needs. SPD should then work closely with the operating department and the Legal Department to ensure that the contract/BPO reflects departmental management's needs before advertising for bids. If SPD does not cause the awarded bid contract/BPO to reflect the operating department's needs, then the operating department should calculate the budgetary and operational effects and attribute these effects to SPD when explaining budgetary and operating variances.

In addition, when a vendor terminates a BPO or the City releases a vendor at its request, the SPD should consider taking action to bar the vendor from being awarded future BPOs. This would allow City Council the opportunity to determine whether the vendor should continue to do business with the City.

**II. VERIFICATION OF WEIGHT AND QUALITY OF ASPHALT**

**BACKGROUND**

Since July 1, 1995, PW&E has purchased asphalt totaling approximately \$26 million. PW&E's CCS is responsible for the monitoring, reviewing and evaluation of contracts for the department. This includes, but not limited to, the following: conduct studies on vendors performance including billing process and services provided, assist end user in administering the contract, recommend changes for the next contract, and review complaints by end users and vendors concerning the contract.

**FINDING**

Asphalt purchases have not been tested for independent verification of weight and quality during our audit scope period. Consequently, PW&E cannot provide reasonable assurance that the City received the quantity and quality of asphalt ordered.

According to the Project Manager, contract compliance reviews can be initiated by CCS or at the request of executive level management, end-users, or MMB. However, CCS does not use either risk analysis or an objective sampling method for selecting vendor contracts for monitor and review.

**RECOMMENDATION**

The CCS should use either risk analysis or an objective sampling method, as well as customer needs to determine which vendors to monitor and test. This will enable all contracts to be eligible to be selected for testing by CCS.

**III. ENCUMBERED FUNDS**

**BACKGROUND**

The ROW Division orders 10,000 tons of asphalt on purchase orders for each ordering station. Deliveries are made from the purchase orders until depleted and/or a new purchase order is created. When a purchase order is created, an equivalent amount of the division's fund is encumbered from other use. According to the Administrative Supervisor, unused amounts on purchase orders are liquidated periodically to release the funds for other uses.

**FINDING**

The Division does not always liquidate outstanding amounts on purchase orders thereby restricting funds that could be used for other purposes. For example, in June 2001, two purchase orders pertaining to a BPO that expired on December 12, 2000 were carrying balances of \$99,696 and \$70,863 (total of \$170,559 encumbered). Without promptly liquidating outstanding balances on purchase orders, the division may not be utilizing its funds efficiently.

**RECOMMENDATION**

The Division should promptly liquidate (close-out) unused balances on purchase orders to release the funds for other use.

**IV. ASPHALT ESTIMATES**

**BACKGROUND**

PW&E uses asphalt to repair both potholes and overlay streets. Street overlay projects consume approximately 90% of the asphalt used by PW&E. PW&E's Specialized Maintenance Section (SMS) is responsible for managing street overlay projects. This Section orders asphalt that the contractor delivers on job sites. Upon arrival, a City employee collects the weigh tickets and records the daily deliveries in a log. The log and weigh tickets are later submitted to the supervisor in the district office who forwards only the weigh tickets to the division's Accounting Section to be used to create receivers.

**FINDING**

Until a few months ago, no one in PW&E estimated the quantities of asphalt needed for overlay projects and compared the estimate to the actual quantities delivered at job sites. Thus, management did not determine the reasonableness of the amount of asphalt used and billed for overlay projects.

**RECOMMENDATION**

The SMS should continue to estimate the quantities of asphalt needed for a project in order to determine whether the quantity of asphalt delivered and billed is reasonable.

# EXHIBIT 1



## CITY OF HOUSTON

Finance and Administration  
Department

## Interoffice

Correspondence  
02 JUN 27 PM 2:31  
CONTROLLER'S

To: Sylvia R. Garcia  
City Controller

From: Philip B. Schepps, Director

Date: June 26, 2002

Subject: **Asphalt Purchase Audit  
Management Response**

We have reviewed the draft audit report regarding your financial audit of asphalt purchases and our comments thereto are as follows:

Executive Summary, Finding, paragraph 2 – The phrase “agreed to release” is misleading, implying that the City’s Purchasing Agent had some discretion. In point of fact, the Purchasing Agent was forced to terminate the agreement at the lawful request of the vendor.

Executive Summary, Finding, paragraph 4 – We disagree with the last two sentences in this paragraph. Although SPD did not obtain MMB/PW&E’s written approval to terminate the BPO with Martin Marietta, they (MMB) were aware that SPD would be terminating the BPO. We also disagree with the statement “MMB also indicated that SPD does not always make changes requested by PW&E, and that SPD does not inform MMB of approved changes before finalizing a document.” Specification changes made to procurements for PW&E and other departments are usually at the request of the user department and are made to the solicitation documents as requested. Additionally, clarifications to the bid specifications requested during pre-bid conferences must be approved by the user department and transmitted to SPD via Interoffice Correspondence or e-mail. If SPD prepares a letter of clarification to specifications as a result of the pre-bid conference the clarification letter is sent to the department for approval prior to release. Therefore, we believe this unsubstantiated statement should not be made a part of the audit findings/report.

Executive Summary, Finding, paragraph 5 – We disagree with this sentence/paragraph. Management representatives from the user departments have inputs on all specifications as well as the terms and conditions of acquisitions applicable to their department. It is the responsibility of the departments central point of contact to get the respective manager’s approval within their department on acquisitions that affect their operation, as it was done in this case.

Finding, Page 3, Paragraph 1 – We do not agree with the paragraph as written. The paragraph as written leads the reader to believe that asphalt is a City asset, which it is not, it is a commodity that is purchased, as needed, and used to repair or pave roadways and driveways in the City. We disagree that the BPO as written did not adequately safeguard the City’s assets. We believed at the time that the BPO was terminated, and continue to believe that we avoided a substantial increase to the purchase price of asphalt by negotiating with Martin Marietta Materials to continue delivering asphalt to the City during the 90-day period that SPD was soliciting new bids for asphalt. The 90-day period that was negotiated with Martin Marietta was beyond the 60-day period allowed in the BPO for which the contractor could have terminated the BPO under the

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Officials**

# EXHIBIT 1

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provision contained therein. The contractor had requested a 30% increase and the re-bid resulted in a 20% increase. Therefore, to suggest that if the City had forced the contractor to continue to deliver asphalt under the BPO, **which we could not have done**, the city could have avoided a \$3 million dollar increase over the life of the BPO is not accurate. **The substantial price increase of oil during that period created an impossibility to perform.** Therefore, had we not negotiated with the contractor to deliver asphalt for a 90-day period, the contractor would have walked away and the City would have been forced to buy asphalt on the open market and would have paid substantially more than the 20% we have paid and are paying subsequent to competitively re-bidding this commodity.

## Planned Action

Based on your audit, I will ask Mr. Calvin Wells to prepare guidelines for determining when a Blanket Purchase Order is the appropriate legal instrument for purchasing various commodities, as opposed to a fixed price contract. The guidelines should include a discussion of the advantages and disadvantages of each type of purchase, plus a recommendation on the appropriate interval between rebids for those commodities subject to extreme market price fluctuations.

I hope this will assist you in finalizing your report.



Philip B. Scheps, Director

cc: Steve Schoonover, City Auditor  
Calvin D. Wells, City Purchasing Agent

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## EXHIBIT II



### CITY OF HOUSTON

Public Works and Engineering  
Department

### Interoffice

Correspondence

**To:** Sylvia R. Garcia, City Controller  
Office of the City Controller

**From:** Jon C. Vanden Bosch P.E., Director  
Department of Public Works & Engineering

**Date:** May 06, 2002

**Subject:** CITY CONTROLLER'S FINANCIAL AUDIT OF  
ASPHALT PURCHASES FOR THE PERIOD OF  
JULY 1, 1999 THROUGH JUNE 30, 2001

We have completed our response to the subject audit performed for the period of July 1, 1999 through June 30, 2001. Listed below are our responses to the issues addressed on Sections II, III, & IV:

#### VERIFICATION OF WEIGHT AND QUALITY OF ASPHALT

**Recommendation:** The CCS should use either risk analysis or an objective sampling method, as well as customer needs to determine which vendors to monitor and test.

**Response:** Agree. Contract Compliance Section (CCS) conducts an objective random testing of the quality of asphalt purchased by the Department. Random samples are taken from the vendors' locations and tested in a specified laboratory for compliance with the gradation and extraction specifications of the contract. Since reasonable assurance exists that the vendors' weigh scales are calibrated twice a year and certified yearly by the State Department of Agriculture, CCS does not plan to re-weigh the asphalt delivered by the vendor to job sites, or the asphalt picked up with City trucks.

#### ENCUMBERED FUNDS

**Recommendation:** The Division should promptly liquidate (close-out) unused balances on purchase orders to release the funds for other use.

**Response:** We agree that purchase orders should be liquidated promptly once we confirm that all outstanding invoices have been paid. However, vendors frequently do not submit final invoices until several months (sometimes six or more) after the final delivery against an open Blanket Purchase Order (BPO) has been received by the Department. In such an instance, payment can only be made by a confirmation purchase order if the BPO has been liquidated. There have even been occasions when the Strategic Purchasing Division (SPD) has arbitrarily chosen to request City Council approval for payment on invoices referencing BPOs which expired and were liquidated.

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## EXHIBIT II

**Page 2**  
**Financial Audits of Asphalt Purchases**

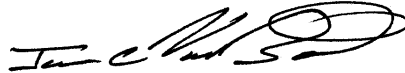
Additionally, there are times when vendors reference an incorrect purchase order number on the invoice. This is frequently not remedied until an aging report of outstanding invoices is received by the department and researched. Immediate liquidation of BPOs that are erroneously assumed to have been totally expended would render the department incapable of paying for such delayed invoices in a timely manner.

### ASPHALT ESTIMATES

**Recommendation:** The Specialized Maintenance Section (SMS) should continue to estimate the quantities of asphalt needed for a project in order to determine whether quantity of asphalt delivered and billed is reasonable.

**Response:** Agree. We will continue with current procedure.

If you have any further questions, please contact Waynette Chan at (713) 837-0249 or Godwin Okoro at (713) 837-0347.



Jon C. Vanden Bosch

CL:ra  
cc: Gilbert Garcia  
Raoul Campos-Kreutzer  
Waynette Chan  
Godwin Okoro

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