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**Office of the Inspector General  
Miami-Dade County**

# Memorandum

To: Mr. George Burgess, County Manager

Received By

Date

From: Christopher Mazzella, Inspector General

Date: June 30, 2004

Re: *OIG FINAL AUDIT REPORT (1 of 3) of WASD Contract S-718, Installation or Repair of Force Mains, Water Mains and Associated Systems for a Two-Year Period with County Option to Renew for Two Additional Years on a Yearly Basis, Contract S-718*

Please find attached the Office of the Inspector General's (OIG) Final Audit Report of the above-captioned contract. This is the first of a series of three reports on this contract. This report addresses several Water and Sewer Department (WASD) procedures pertaining to work order pre-bid estimates, bid proposals, contract award, contract documentation, and the reporting of final contract expended amounts. Reports two and three are forthcoming.

Overall, the OIG continues to work with WASD staff in addressing our audit concerns. WASD staff has been very cooperative in our audit efforts. Where there may have been initial disagreement, the OIG and WASD have met on subsequent occasions to clarify our findings and request addition supporting documentation. This final report is a product of this audit process and we look forward to WASD implementing our recommendations.

cc: Honorable Chairperson Barbara Carey-Shuler, Ed.D.  
Honorable Natacha Seijas, Chair, Government Operations & Environment Committee  
Mr. Pedro Hernandez, P.E., Assistant County Manager  
Mr. William Brant, P.E., Director, Water and Sewer Department  
Mr. Roger Hernstadt, Director, Office of Capital Improvements Construction  
Coordination  
Ms. Cathy Jackson, Director, Audit and Management Services Department

Clerk of the Board (Copy Filed)

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## **INTRODUCTION**

The Miami-Dade County Office of the Inspector General (OIG) audited the Miami-Dade Water and Sewer Department (WASD) contract titled *Installation or Repair of Force Mains, Water Mains and Associated Systems for a Two-Year Period with County Option to Renew for Two Additional Years on a Yearly Basis, Contract S-718*.

This report is the first in a series of three (3) audit reports on Contract S-718. Specifically, this first report addresses: WASD procedures for work order pre-bid estimates, work order bid proposals and awards, contract documentation and the reporting of final contract expended amounts.

*A draft version of this report was issued on May 10, 2004. WASD provided a response to the draft report on May 24, 2004, which is attached in its entirety. WASD's full specific responses to individual findings have been inserted into this document and OIG provides rejoinders where appropriate. For clarification of WASD response, OIG auditors met with WASD representatives from Construction Management Section, Contract Review Unit, Contract Administration Section and the Assistant Director for Engineering on June 11, 2004. A follow-up meeting took place on June 18, 2004, where additional documentation and clarification was provided.*

The OIG's second report will address the application of liquidated damages. Report three will address contract payment processing documentation, change orders, WASD's compliance with A.O.'s 3-22, *CSBE Program for the Purchase of Construction Services* and A.O. 3-24, *Responsible Wages and Benefits for County Construction Contracts* and contract monitoring by the Department of Business Development (DBD).

## **REPORT 1**

### *Results Summary*

WASD's contract administration and payment processes appear to be deficient in several areas, such as those related to its poor documentation and the lack of adequate contract oversight. For example:

- There are no formal procedures for the preparation of pre-bid estimates, resulting in undocumented departmental bid estimates.
- OIG auditors noted a questionable trend away from the practice of pricing work orders using individual work items prices to a practice of using large unexplained and disproportionate amounts of "aggregate sum" items, which comprise, at times, about 95 per cent of the total work order cost.

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- Contract paid items are paid without adequate supporting documentation showing work performed and/or quantities used for which payment is being requested.
- There is an inaccurate reporting of the work order amounts paid, resulting in both the overstating of the amount expended on the contract and the erroneously tracking of available funds for future work orders.

In general, the OIG recommends that WASD establish formal procedures to ensure that both the work process and the work product are well documented and that contract results, particularly amounts expended, are reported accurately. WASD, in its response, agreed with two (2) out of the four (4) findings and recommendations (Nos. 1 and 4) WASD took exception with certain statements made and issues raised by the OIG auditors in Finding Nos. 2 and 3.

On June 11, 2004, OIG and WASD representatives met to discuss WASD's responses to these two audit findings and recommendations. The parties agreed that WASD would be given an opportunity to support certain of its statements in its responses to Finding Nos. 2 and 3. On June 18, 2004, OIG auditors returned to WASD to review the documentation cited by WASD in its response. The results of the supplemental review are included with the respective findings.

**TERMS USED IN THIS REPORT**

Miami-Dade County (County)	Construction Contracts Section (CCS)
Office of the Inspector General (OIG)	Construction Management Section (CMS)
Water and Sewer Department (WASD)	Contract Review Unit (CRU)
Specifications Unit (SU)	Engineer/Contract Manager/Inspector (CM)
Utility Design Section (UDS)	Community Small Business Enterprise (CSBE)

**GOVERNING AUTHORITY**

In accordance with Section 2-1076 of the Code of Miami-Dade County, the OIG has the authority to review past, present, and proposed County and Public Health Trust programs, accounts, records, contracts and transactions. This authority includes conducting contract audits, regardless of whether the contract contains an OIG random audit fee.

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**BACKGROUND**

WASD S-718 is a “blanket” contract. Under a blanket contract, multiple contractors are issued *Contract Purchase Orders* that are commonly called “blanket” purchase orders. Another section of this contract establishes a contractor pool. In establishing a contractor pool, contractors competitively bid on the first in a series of work orders issued by the department. The bidders must bid on all the items and establish that they have the experience and qualifications to perform this work as stated in the specifications. The lowest responsive responsible bidder is awarded this work order. This lowest contractor plus the next nine (9) lowest responsive responsible bidders, or a total of ten (10) contractors, form the contractor pool and are awarded blanket purchase orders.

Later, during the contract period of performance, individual work orders for future pipeline construction, modification and repair work, as required by the department, are awarded based on price quotations received from the pool of ten (10) pre-qualified bidders. The contractor submitting the lowest bid would be awarded the work order for that specific work scope. Upon receiving an award, a contractor would be ineligible to bid on the next successive work order issued to the pool.

The S-718 contract requires contractors to furnish all necessary labor, materials and equipment for installing WASD-supplied materials and equipment and to furnish and install materials and equipment or furnish items that may be requested by WASD, as necessary for the construction of / or work upon force mains, water mains, and associated systems together with the excavation and/or location work for systems under design. Emergency work may also be performed under this contract to construct, modify or repair the various types of pipeline systems. Also, work may be assigned at various locations when the Department determines it necessary that such work is “logical or desirable in the same time frame as the performance of the pipeline system work.”<sup>1</sup>

The contract’s original funding was set at \$11 million and the original period of performance was for twenty-four (24) months. S-718 includes two (2) one-year options to renew, each valued at \$5.5 million, for a total renewal period funding of \$11 million. Thus, if both options to renew were exercised, the funding for this contract could total \$22 million.

WASD, using an open competitive solicitation, received bids from thirteen (13) bidders to perform work under S-718. The contract package in the solicitation included a

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<sup>1</sup> See S-718 *Advertisement For Bids*.

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request for quotation for the first project under this contract.<sup>2</sup> WASD evaluated the responses and, in June 2000, awarded the contract to the ten (10) lowest responsible and responsive bidders (contractor's pool) and issued this first project work order to the lowest bidder of the ten (10).<sup>3</sup>

S-718 contains a CSBE subcontractor goal of 13% or \$1.43 million for the first 24-month original contract period.

TABLE 1 below shows contract funding, total work order award amounts and payments, as of December 31, 2003. See TABLE 2 on page 6 for a listing of the amounts for the seventeen (17) work orders comprising the awarded amount through the end of 2003.

**TABLE 1 – Analysis of Contract S-718 Funding and Total Payments**

<b>Contract Period</b>	<b>Funding Amounts</b>	<b>Work Order Award Amounts</b>	<b>Authorized Change Order Amounts</b>	<b>Revised Contract Amounts</b>	<b>Total Payment Amounts To Date</b>
Original Two-Year	\$11,000,000	\$7,353,579	\$1,501,294	\$ 8,854,873	\$7,411,193
First Option To Renew	\$5,500,000	\$2,359,639	\$78,801	\$ 2,438,440	\$1,994,864
Second Option To Renew	\$5,500,000	- 0 -	- 0 -	- 0 -	- 0 -
<b>Totals</b>	<b>\$ 22,000,000</b>	<b>\$9,713,218</b>	<b>\$ 1,580,095</b>	<b>\$11,293,313</b>	<b>\$9,406,057</b>

**Original 24-Month Contract Period**

The original contract period commenced in June 2000 and was for a 24-month period or upon the depletion of the funding (\$11 million), whichever came first. During the initial period, WASD bid and awarded thirteen (13) work orders. WASD, in October 2003, processed the payment for the last completed work order.<sup>4</sup> WASD has spent

<sup>2</sup> The first project was named "Furnish and install 24-Inch D.I. Force Main on S.W. 147 Ave. from S.W. 297 St. to S.W. 302 St., E.R. 46922." The departmental cost estimate for this project was \$407,000.

<sup>3</sup> The contractor pool was later reduced to nine (9) as one of the contractors was suspended from further participation on this contract based upon action by the County's Department of Business Development. This contractor, pursuant to a settlement agreement, was suspended for its failure to use a CSBE subcontractor, as required under the S-718 terms and conditions, during its performance of its first two work orders under the contract.

<sup>4</sup> Although work has been completed, work orders S-718-1A and 1B are still technically open,

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\$7,411,193 (or 67% of the original funding of \$11 million), leaving an unexpended balance of \$3,588,807.<sup>5</sup> All unexpended funds are rolled over to provide additional funding for the option years.

**First Option To Renew Period**

WASD commenced the first option to renew period on October 2002 and has allocated \$9,088,807 (specific funding of \$5,500,000 plus the \$3,588,807 rolled over from the original two-year period). Through December 31, 2003, WASD has bid and awarded four (4) work orders and has paid \$1,994,864 (or 22% of the total available funding).

**Second Option To Renew Period**

WASD has not awarded any work orders under the second option to renew period, as of December 31, 2003.

**OBJECTIVES, SCOPE AND METHODOLOGY**

Our audit objectives relative to the topics reviewed in Report 1 were:

- To obtain an understanding of the functions and responsibilities of the WASD Construction Contracts Section (CCS), Construction Management Section (CMS) and Contract Review Unit (CRU) as it pertains to how work orders are bid, awarded, managed, monitored and completed.
- To review WASD's policies and procedures for calculating work order pre-bid estimates. OIG auditors selected for review those work orders that had their award amounts increased by 10 % or more due to change orders.
- To review WASD's policies and procedures for reviewing and awarding bids submitted by contractors.

We reviewed contract documentation for those work orders awarded under S-718, during the period of June 2000 through December 2003. We interviewed WASD personnel from UDS, CCS, CMS CRU and Accounts Payable to gain an understanding of WASD's implementation of its procedures for contract administration and

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as WASD has not obtained from the contractor the final releases of lien or the surety.

<sup>5</sup> These are OIG tabulated figures. See Finding 3.

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monitoring of S-718, including pre-bid estimates, bidding and awarding of work orders, contract payment documentation and reporting of final work order amounts paid.

The following are the sections within WASD and their functions in the contract process:

- UDS prepares the pre-bid estimates and forwards them to SU.
- SU prepares the project specifications and plans and forwards them, along with the final bid estimate, to CCS.
- CCS prepares and sends the bid documents to the participating contractors. Thereafter, CCS receives, evaluates and selects the lowest and most responsive bid from the bid proposals received.
- CMS distributes the work orders to the construction managers (CMs), who manage the actual work process. Also, the CMs, in conjunction with the contractors, prepare the estimates for payment, allowance accounts and change order requests.
- CRU reviews and approves the estimates for payment, allowance account and change order requests, and if applicable, consultant billings.
- Accounts Payable processes contractor payment requests.

Additionally, OIG auditors requested that each of these WASD sections and/or units provide us with copies of its established written procedures.

- UDS and CMS provided no procedures. The managers for both sections informed the OIG auditors that their respective personnel followed “practices” developed over the years.
- CCS provided comprehensive procedures detailing the performance of its functions.
- CRU’s procedures only pertained to processing of the estimates for payment applications. As discussed above, its functions include other activities, such as approving change orders and consultant billings.

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TABLE 2 below is a complete list of all work orders awarded under S-718. Based on the information provided, we selected for audit nine (9) work orders out of a total seventeen (17) work orders awarded under this contract for the period under review (June 2000 through December 2003). The first five (5) of 13 work orders were selected for audit from the original 24-month period based upon criterion that the respective authorized change orders exceeded 10% or more of the original proposal price. The remaining four (4) work orders selected for audit and shaded below represent all work orders issued, as of December 31, 2003, from the first option to renew period.

The nine (9) selected work orders (shaded items) are valued at \$5,909,358, or approximately 61% of the total amount awarded.

**TABLE 2 – Work Orders Awarded**

Work Orders Awarded		Contractor's Name	Work Order Award Amount
1	S-718-1 A	Rockwell General Development	\$330,997
2	S-718-1 B	Rockwell General Development	\$694,250
3	S-718-2 A	Stone Paving	\$375,727
4	S-718-2 B	Stone Paving	\$325,000
5	S-718-4 A	Southeastern Engineering Contractors	\$277,144
6	S-718-4 B	Southeastern Engineering Contractors	\$948,284
7	S-718-5 A	Metro Equipment Service	\$679,780
8	S-718-5 B	Metro Equipment Service	\$346,398
9	S-718-5 C	Metro Equipment Service	\$55,000
10	S-718-7 A	Fountain Engineering	\$826,354
11	S-718-8 A	Boys Engineering II, Inc.	\$996,709
12	S-718-8 B	Boys Engineering II, Inc.	\$1,256,737
13	S-718-8 C	Boys Engineering II, Inc.	\$241,200
14	S-718-8 D	Boys Engineering II, Inc.	\$114,700
15	S-718-9 A	Lanzo Construction	\$952,486
16	S-718-10 A	Ric-Man International	\$1,027,674
17	S-718-10 B	Ric-Man International	\$264,779
<b>TOTAL AWARDED AMOUNT</b>			<b>\$9,713,219</b>



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In total, these 17 work orders are held by eight (8) different contractors, with one (1) contractor holding four (4) work orders; another contractor holding three (3) work orders; four (4) contractors holding two (2) work orders each; and two (2) contractors holding one (1) work order each. Tasco Plumbing and RJR Construction are the two contractors that received blanket purchase orders who have not been awarded a work order.<sup>6</sup>

## **FINDINGS AND RECOMMENDATIONS**

### **SECTION I WORK ORDER PRE-AWARD PROCEDURES AND PRACTICES**

#### **Finding No. 1: The Lack of Procedures for Preparing Pre-Bid Estimates Results in Undocumented Work Order Estimates**

As previously stated, UDS did not have written policies and procedures to document its process for compiling the estimated costs used to prepare the pre-bid estimates.<sup>7</sup> According to UDS management and staff, they follow practices developed by staff over the years. However, current practices do not include preparing records to support pre-bid estimates. As a result, work order pre-bid estimates were not documented and there is no record of how UDS staff arrived at “fair and reasonable” amounts to be used to evaluate and award work orders under this contract.

OIG auditors found that the UDS manager directs his staff to prepare a pre-bid estimate yet there are no instructions or procedures describing how to actually prepare the estimate. Procedures detailing the type of information to be included, such as scope of work, work type, materials, etc., are non-existent. The manager has the authority to override any quantities, unit costs or scope of work included in the pre-bid estimate.

The OIG found that managerial changes were in fact later made to the pre-bid estimates reviewed as part of this audit, changing unit quantities or unit costs, or both. However, the files do not show any reason(s) for or explanations of the adjustments. During the course of the audit, the UDS manager acknowledged that he ordered that those changes

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<sup>6</sup> Tasco submitted bids for two (2) work orders, including the original work order, but has failed as of December 31, 2003, to win an award. RJR Construction submitted bids for seven (7) work orders, including the original work order, but has also failed, as of December 31, 2003, to win an award.

<sup>7</sup> Sometimes a consultant is hired to prepare the pre-bid estimates. None of the work orders reviewed by the OIG included a pre-bid estimate prepared by a consultant.

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be made based on his experience and his perception of what it would cost WASD for that particular work order to be performed by a contractor.

Although UDS provided to the OIG auditor schedules that purportedly were used as the source of the cost figures for some of the pre-bid estimates reviewed, these schedules did not back-up the cost figures shown on the pre-bid estimates. The OIG finds this situation a cause for concern, as there is no assurance that the pre-bid estimates are based on reliable, documented cost data. Furthermore, when asked by OIG auditor, the UDS staff could not recreate their pre-bid estimates using this data.

For the original 24-month contract period, the OIG selected for review any work order where the respective authorized change orders exceeded the original proposal price by ten percent (10%) or more. Of the thirteen (13) work orders awarded, this criterion resulted in the OIG selecting five (5) work orders from the original contract period.

TABLE 3 shows the cumulative changes over the original pre-bid estimate for the five (5) work orders selected from the original contract period.<sup>8</sup>

**TABLE 3 - Changes in pre-bid estimates**

Work Order No.	1 <sup>st</sup> Estimate	2nd Estimate Change		3rd Estimate Change		4 <sup>th</sup> Estimate Change	
	\$ Amount	\$ Amount	%	\$ Amount	%	\$ Amount	%
S-718-7 A	\$765,280	\$787,942	3%	\$860,528	3%	\$860,000	12%
S-718-4 B	\$853,700	\$868,136	2%	\$830,000	2%	-	-
S-718-4 A	\$214,402	\$283,500	32%	\$311,956	32%	-	-
S-718-8 C	\$226,834	\$255,501	13%	\$245,000	13%	-	-
S-718-8 B	\$836,967	\$914,776	9%	\$954,672	9%	1,333,000	59%

Written policies and procedures guide staff in the performance of their functions. Also, undocumented cost data means that there are no benchmarks to evaluate if the sources and the basis for the changes to the final pre-bid estimates are appropriate and justified.

<sup>8</sup> The other four (4) work orders selected for audit from the first option to renew period where not analyzed for this particular issue.

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The OIG is also concerned that a lack of procedures and experienced personnel available to train new employees may compromise UDS operations. Without written policies and procedures, the experiences with and history and practices of this informal process will leave, or, at least, change when current employees terminate their county service, leaving less experienced employees in their place.

**Recommendation No. 1:**

UDS should formalize its current “practices” in writing and/or establish and implement new written policies and procedures detailing the process by which staff should gather data and prepare the pre-bid estimates. The written procedures should also specify the documentation to be maintained by staff to support the amounts included in the pre-bid estimates.

**WASD’s Response**

Finding No. 1: WASD’s estimates are developed by staff with many years of utility experience, both in the office and in the field. In addition to their institutional knowledge, they utilize estimated, bid and final cost data from past projects in developing estimates for future projects. They also determine the complexity of the project, which varies with the location, and analyze alternative methods for construction/installation. While we cannot control the contracting market conditions and the resulting bids, we believe our estimates appropriately reflect the level of effort required to complete proposed projects. The Report identified the lack of written procedures governing the estimation process and recommends that current practices be written. We concur with your recommendation and have instructed staff to prepare written bases for estimating policies, documenting current practices, and to have such policies completed within 30 days. For your information, and contrary to other types of capital projects, such as buildings, utilities do not rely on national averages to develop bases for pipeline estimates. Costs for pipe installation are very regional and vary considerably depending upon the age and size of the utility, the size of the existing pipelines, the availability of information and the existence of other underground utilities, the type of soil conditions and the water table. We are currently compiling cost information from past projects and are in the process of creating an estimating database for staff use. In addition, we have implemented a tracking system on each estimate to document project estimate changes as they occur during the project life.

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***Finding No. 1 and the recommendation are adopted and no further rejoinder is necessary.***

**Finding No. 2: Several work orders contain disproportionately large aggregate sum amounts, which should be further broken down for pricing and bidding purposes**

Aggregate sum items<sup>9</sup> are work order items in the bid proposal for which there are no specified quantities or units of measure, are priced as lump-sums, and are paid based on percentage-of-completion. For example, work order S-718-8 D includes two (2) Aggregate Sum items, for \$60,000 and \$49,000, respectively, which total \$109,000 or 95% of the total work order amount. The third item is for \$5,700 to reimburse the contractor for required permits, fees, inspections, and impact fees, if authorized by the Engineer.

Contract Section 25, *SCOPE OF PAYMENT*, states:

“For each of the Items included and for which an aggregate sum price is stated in the Proposal, the aggregate amount to be paid therefor by the County for said Item will be made in accordance with the cost breakdown previously submitted to, and satisfactory to, the Engineer as required in Section 9 “Information and Drawings to be Furnished by the Contractor”. Only those elements of the cost breakdown for the Item completed and incorporated in the completed Project by the Contractor and acceptable to the Engineer will be paid for.” (Emphasis added by OIG).

Contract Section 9, *INFORMATION AND DRAWINGS TO BE FURNISHED BY THE CONTRACTOR*, states:

“The Contractor shall furnish such cost breakdowns as required by the Engineer, including a detailed estimate giving a complete breakdown of the Contract price and a breakdown of the cost of various portions of the work for use in preparing monthly estimates and for allocating costs in the classified property accounting system of the Department. The cost breakdowns

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<sup>9</sup> OIG Auditors reviewed nine of seventeen work orders issued under this contract.

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shall be physical items with mobilization, bond, patent fees and royalties, insurance, home office expenses, overhead, and all other general costs and profits, prorated to each physical Item. No payment will be made to the Contractor until these breakdowns are submitted in a form satisfactory to the Engineer.” (Emphasis added by OIG).

TABLE 4 shows the percentage of “aggregate sum” items for each of the nine (9) work orders selected.

**TABLE 4 – Work orders reviewed with “Aggregate Sum” items**

Work Order No.	Work Order Award Date	Contractor	Work Order Award Amount	Aggregate Sum Amounts Per Work Order	Percent Aggregate Sums	No. of Aggregate Sum Line Items / No. of Total Line Items to Work Order	
<b>Original Contract Period</b>						<b>Quantity</b>	<b>Percent</b>
S-718-4 A	10/06/00	Southeastern Engineering Contractors	\$277,144	\$58,900	21.3%	5 / 19	27%
S-718-4 B	02/01/01	Southeastern Engineering Contractors	\$948,284	\$106,700	11.3%	5 / 31	17%
S-718-7 A	01/24/02	Fountain Engineering	\$826,354	\$15,000	1.8%	2 / 30	7%
S-718-8 B	01/11/01	Boys Engineering II, Inc.	\$1,256,737	\$80,300	6.4%	6 / 28	22%
S-718-8 C	05/09/01	Boys Engineering II, Inc.	\$241,200	\$43,000	17.8%	4 / 14	29%
<b>TOTALS / AVERAGE</b>			<b>\$3,549,719</b>	<b>\$303,900</b>	<b>8.6%</b>	<b>22 / 122</b>	<b>18%</b>
<b>First Option to Renew Period</b>						<b>Quantity</b>	<b>Percent</b>
S-718-10 A	10/24/02	Ric-Man International	\$1,027,674	\$645,611	62.8%	21 / 45	47%
S-718-9 A	01/30/03	Lanzo Construction	\$952,486	\$902,500	94.8%	7 / 15	47%
S-718-8 D	02/06/03	Boys Engineering II, Inc.	\$114,700	\$109,000	95.0%	2 / 3	67%
S-718-10 B	05/21/03	Ric-Man International	\$264,779	\$252,779	95.5%	13 / 14	93%
<b>TOTALS / AVERAGE</b>			<b>\$2,359,639</b>	<b>\$1,909,890</b>	<b>80.9%</b>	<b>43 / 77</b>	<b>56%</b>
<b>TOTALS FOR ALL WORK ORDERS REVIEWED</b>			<b>\$5,909,358</b>	<b>\$2,213,790</b>	<b>80.9%</b>	<b>65 / 199</b>	<b>33%</b>

The first five (5) work orders on the table above are from the original contract period and were selected for this portion of the audit review because respective authorized

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*Installation or Repair of Force Mains, Water Mains and Associated Systems for a Two-Year Period with County Option to Renew for Two Additional Years on a Yearly Basis, Contract S-718*

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change orders exceeded the original proposal price by ten percent (10%) or more and not because of the disproportionate aggregate sums in the work order proposal.

The last four (4) work orders were all awarded during the first option to renew period and were selected for this review to analyze current practices and procedures. These four (4) work orders include unexplained and disproportionate amounts of “aggregate sum” items as a percentage of the total work order amount. The amount of “aggregate sum” items (\$1,909,890) over the total work order awarded amount (\$2,359,639) is approximately 81%. The OIG is concerned about the magnitude of the amounts and increase frequency of occurrence shown in this trend, for which WASD did not provide an explanation.

The OIG observed that aggregate sum items ranged in dollar amounts from \$350 to \$573,000. At times, a work order may comprise multiple, smaller dollar aggregate sum items. At other times, work orders may comprise one or two large dollar aggregate sum items that make-up the majority of the work order amounts. The OIG’s issue is with these larger to very large aggregate sum items.

From the same four (4) work orders, the OIG scheduled those aggregate sum items in excess of 20% of the work order amount. Those items still accounted for a large and/or substantial 41% of the combined work orders amounts.

**TABLE 5 - Aggregate Sum Line Items in Excess of 20% of Work Order Amounts  
(Not previously included in the draft report.)**

Work Order Number	Total Number of Line Items	Number of Aggregate Sum Line Items	Aggregate Sum Items In Excess of 20% of Work Order Total		Total Aggregate Sum Items in Excess of 20% by Work Order	Work Order Award Amount
			Line Item Number	Amount		
S-718-10 A	45	21	-0-	\$0	\$0**	\$1,027,674
S-718-9 A	15	7	B-1	\$202,000 (21%)	\$775,000	\$952,486
			B-3	\$573,000 (60%)		
S-718-8 D	3	2	1	\$60,000 (52%)	\$109,000	\$114,700
			2	\$49,000 (42%)		
S-718-10 B	14	13	5	\$86,680 (32%)	\$86,680	\$264,779
<b>TOTALS</b>	<b>77</b>	<b>43</b>		<b>\$970,680</b>	<b>\$970,680</b>	<b>\$2,359,639</b>

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***\*\* For Work Order S-718-10 A, while no one aggregate sum item dollar amount exceeds 20% of the work order amount (which would be \$205,535), the OIG auditors observed four (4) significantly large dollar amount aggregate sum items. These items ranged from \$85,000 to \$113,704. As noted in the original finding, the OIG auditor's main concern lies with these large individual aggregate sum item amounts.***

It appears from the four (4) work orders issued under the first option to renew period that WASD is moving from a work order format that requires specific quantities and unit costs to a format—use of aggregate sum items—that does not include the disclosure of such information. The OIG questions how WASD is able to adequately evaluate the bids submitted by contractors, in the absence of such significant cost data. Notwithstanding the Department's apparent prime concern with selecting the lowest bid submitted, by foregoing detail pricing, material specifications and quantities, the Department is sacrificing its ability to more completely evaluate proposals and to monitor awarded work orders.

The OIG is concerned with the direction of this trend and the increasing magnitude of the aggregate sum amounts. We do not believe that the intent of the S-718 contract was to serve as a method to award what are effectively becoming lump-sum work orders. We believe that it is not unreasonable to assume that the intent of the contract was for WASD to issue individual work orders, each one with WASD-described work units and specified quantities, and priced by a competitive process. This is spelled out in the aforementioned Contract Section 9.

The required detail—work units and quantities—facilitate a clearer, less ambiguous work award, monitoring and payment process. The “aggregate sum” work order process, as currently used by WASD, may be wanting in specified work scope and material requirements and paid on a percentage-of-completion basis. Disproportionate sized aggregate sum items defeat the benefits obtained by requiring itemized cost breakdowns.

Given the ratio of “aggregate sum” items to specified items noted in the last four (4) work orders reviewed, WASD is losing its ability to more closely monitor and pay for work progress and to ensure that the contractor is installing quality materials and equipment in the finished product.

**Recommendation No. 2:**

WASD should establish procedures on the appropriate use of aggregate sum items, including clear standards on acceptable dollar values as a percentage of the total work order amounts.

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In addition, management should review work orders containing disproportionately large value aggregate sum items to determine whether they could be restructured into specific work unit items and quantities or, at a minimum, ensure that complete documentation justifying their use is prepared and maintained with the work order file.

**WASD's Response**

Finding No. 2: The Report states that "WASD is moving from a work order format that requires specific quantities and unit costs to a format—use of aggregate sum items—that does not include the disclosure of such information." We respectfully disagree with that comment. The work order format has not migrated from specific quantities and unit costs to aggregate sums. We have used both methods in the past and will continue to do so as deemed appropriate for future projects, depending upon the specific needs of each project. The four (4) work orders issued during the first option to renew period and reviewed by the auditors consisted of "associated systems" projects.

Two of the projects were canal crossings, one was a canal control structure and the fourth was an overflow storm drainage system for the Hialeah Water Treatment Plant. These types of projects are typically bid as "aggregate sums" because of the nature of the work. By bidding the work as an aggregate sum or a lump sum, the proposers must estimate the overall level of effort needed to complete the work using the most cost efficient means that will deliver a completed job. These aggregate bid items are typically for activities of a short duration and generally are located at a discrete, limited site, such as a canal crossing. It is for these types of projects that the expression "the sum of the parts is typically greater than the whole" holds true. We have found it to be more cost effective to bid these types of projects with a lump, or aggregate, sum price. We reviewed the "quotation form" for these four projects and present the following:

1. S-718-10A covered the relocation of water and sewer mains at culvert and canal crossings along SW 8 Street. There were 43 individual bid items, 21 of which were bid as aggregate sums. Of those 21 items, 6 items were under \$5,000 each and 4 were under \$15,000. The other 11 items included the furnishing and installing or the demolition of individual structures at culverts and canals.



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2. S-718-9A covered the installation of a 36-inch water main crossing the Miami River Canal.
3. S-718-8D covered the construction of emergency overflow structures at the Hialeah Water Treatment Plant. This project consisted basically of one large concrete structure and the aggregate bid items were to furnish and deliver (\$60,000) and to install (\$49,000) the structure.
4. S718-10B covered the construction of a water control structure. The project consisted of the furnishing and installation of various concrete structures, sheet piles, culverts, catwalks, recorders, slide gates and motors and other associated systems. Each item was properly classified as a separate bid item and was labeled as an aggregate sum.

Projects under this blanket contract are awarded to the lowest bid proposer, provided that the contractor has submitted all documentation and is properly licensed. Additional cost breakdowns may be required by WASD and are addressed in Section 9 of the General Covenants and Conditions. The Report also states that with the use of aggregate sum bid items, "WASD is losing its ability to ensure that the contractor is installing quality materials and equipment in the finished product". We do not agree with this statement and no supporting documentation was cited in the Report. WASD's Engineering Division is responsible to assure the quality of materials and equipment in the finished projects by thorough technical specifications, shop drawings submittals and field inspection.

WASD will continue to exercise due diligence in identifying and utilizing "aggregate sum" bid items and specific quantities and unit costs formats, as appropriate. In addition, the use of aggregate sum items will be discussed during the Bid Document Review Meeting that is held prior to the letting of each construction project. Your office is notified of these meetings and provided copies of the contracts to be discussed prior to those meetings.

***OIG Rejoinder***

***During the audit field work, the OIG asked CMS staff to provide the cost breakdowns indicated in Section 9 of the contract's GCC but no documentation was submitted during this period.***

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*On June 18, 2004, WASD provided documentation to the OIG auditors showing how it breaks down aggregate sum items for payment purposes for the four (4) work orders with the highest percentage of Aggregate Sum items as part of the total work order amount. These four (4) work orders were S718-8 D, S-718-9 A, S-718-10 A and S-718-10 B. The additional documentation, not previously submitted by WASD, consisted of Schedules of Value for each of these four (4) work orders. The OIG was able to determine that the additional cost breakdowns indicated in the schedules of value are incorporated in WASD's estimates for payment.*

*The greater detail shown by these schedules provides WASD with an enhanced ability to monitor and pay for work performed as the project progresses than would be possible had it used only the original aggregate sum amounts. However, given the greater detail provided on the schedules, the OIG questions why WASD does not chose to fashion these large aggregate sum items into more discrete price items for bid purposes in the first place.*

*In conjunction with its response to "exercise due diligence in identifying and utilizing "aggregate sum" bid items and specific quantities and unit costs formats," the OIG believes that WASD is responsive to our finding and recommendation.*

**Finding No. 3:** Monthly pay estimates are prepared and presented for payment by CMS staff without adequate assurance and review of supporting documentation substantiating work performed and/or quantities used for which payment is being requested.

The CM and the contractors jointly prepare the pay estimates, based on their understanding and agreement that a certain phase of the work order has been performed and completed. The documentation of this process, however, was missing from the construction contract records maintained by CMS and reviewed by the OIG auditors. Although the CM is part of CMS, the location of these records was unknown to CMS staff during the audit field work.

WASD files do not support its contractor payments with regards to the work performed, labor provided and materials supplied. There should be records documenting the percentage of completeness and the costs incurred as of the payment requisition date.

For the nine (9) work orders originally reviewed, there were no records on-hand that meet this objective. The CM is the WASD representative responsible for ensuring

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complete project records which document project activities and are necessary to support the amounts requested.

WASD may be paying for work without having a basis for the amount that it paid. WASD has no assurance and no records to support that the amount paid corresponds to actual labor costs incurred by the contractors or for materials and equipment purchased and delivered as indicated in the work or aggregate sum item descriptions. WASD may be unknowingly financing the contractor's expenditures before they actually occur at the project site, if they occur at all.

**Recommendation No. 3** WASD should re-emphasize to its construction managers the necessity of maintaining adequate supporting documentation for the payments requested. Supervisory personnel in CMS should take appropriate steps to ensure that estimates for payment accurately reflect documented percentage of completion and that only those elements of the work that are completed and incorporated in the completed project will be paid for.

**WASD's Response**

Finding No. 3: WASD respectfully disagrees with this finding. Contract S-718, General Covenants and Conditions ("GCC"), Section 26, 6<sup>th</sup> paragraph, first sentence states "For the purpose of preparing a monthly estimate, the Contractor jointly with the Inspector shall prepare the estimate..." This joint process is in accordance with the provisions of GCC Section 25, 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> paragraphs. The estimate generated results in a "red-line" document containing measured quantities or percentages of completion of the schedule of values items. The "red-line" document accompanies the original pay estimate submitted to Accounts Payable for payment. Copies of the red-line document are filed with the Compliance Unit's project payment records in the Construction Management Section. In addition, Daily Reports, indicating the daily progress of construction including installed quantities, are available. It is our understanding that these documents were provided to your representative, and we are concerned that your Report states that there were no records on hand documenting the percentage of completion.

Verification of actual labor costs and materials and equipment costs, as the

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Report suggests, is not standard industry practice nor is it required by the contract, unless the costs are incurred as part of a change order claim. Payments are made on the basis of bid prices and percentage of completion.

***OIG Rejoinder***

***WASD, in its response, stated that supporting documentation was available, specifically referring to the “red-line” documents and Daily Reports.***

***The OIG auditors reviewed the “red-line” documents, prepared jointly by the CM and the contractors, and which precedes the pay estimates. The OIG’s issue with the “red-line” documents and subsequent pay estimates is that neither provided adequate field documentation supporting the payments requested for work performed. CMS staff was asked but did not provide such documentation during field work. The few Daily Reports on file were also reviewed but were found to be inadequate to provide reasonable assurance that work was being performed and that materials and equipment were being installed.***

***Accordingly, on June 11, 2004, the OIG asked WASD to provide such supporting documentation for the following five (5) work orders: S-718-4 B, S-718-7 A, S-718-8 A, S-718-8 B and S-718-10 A.***

***On June 18, 2004, WASD provided to OIG auditors documentation for work orders S-718-4 B and S-718-10 A, reasonably supporting work performed and/or the type and quantity of materials used and installed. The records provided consisted mostly of the CM/Inspector’s Daily Reports and, in one instance, an Inspector’s Red Book.***

***WASD could not provide supporting documentation for work orders S-718-8 A and S-718-8 B. WASD acknowledged that it did not find similar supporting documentation, such as provided above for these two work orders. Also, it was pointed out that the CM/Inspector who monitored both of these work orders no longer works for WASD.***

***The OIG considered the documentation submitted by WASD for S-718-7 A not adequate, as there were periods during the project wherein the work performed was not documented by the CM/Inspector, even though WASD continued to make payments to the contractor during these periods.***

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*WASD also indicated during the subsequent meetings that it will use better record-keeping practices ensuring that the CM/Inspectors maintain more complete documentation justifying payments made to contractors.*

*The subsequent results indicate that WASD project files are not complete. The OIG believes that WASD should improve its record keeping and may schedule a follow-up audit to check WASD's progress in this respect. The OIG reaffirms its recommendation.*

## **SECTION II BID PROCESS AND AWARD OF WORK ORDER CONTRACTS**

### **No exceptions noted**

The OIG auditors found that CCS performed the functions of bidding and awarding work orders according to its written procedures. For this review, the OIG auditors reviewed the documentation generated during the bidding and awarding processes for the five (5) work orders selected for audit from the original 24-month contract period. The OIG determined that the records maintained in these five work order files sufficiently documents that CCS followed and adhered to its written procedures. As noted earlier, CCS was the only WASD section or unit that provided written procedures.

OIG auditors analyzed the sample of five (5) work orders to see that:

- CCS verified the mathematical accuracy of the final pre-bid estimates received from the Specifications Unit and assigned a date to receive bids from the participating contractors.
- CCS timely sent the Master Specifications and Original Plans along with invitations for bids to the remaining pre-qualified contractors eligible to bid,<sup>10</sup> as evidenced by the transmittal forms used to track delivery of these documents to the contractors.

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<sup>10</sup> The low bidder in the previous project (work order "awardee") cannot participate in the immediately following project, leaving the pool of pre-qualified contractors with nine (9) participants. Subsequent to Rockwell's suspension from the contract, the blanket was reduced to nine (9) contractors, and thus the "eligible to bid" contractors was reduced to eight (8). This quasi-rotation ensures that one contractor cannot win all the work orders issued under the blanket contract.

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- CCS received, evaluated, and selected the lowest, responsive bids from the participating pre-qualified contractors at the end of the bid submittal date.
- CCS, after the selection was made, promptly sent a letter of acceptance to the selected bidder and notified each participating bidder of the final selection, including a tabulation of all the bids submitted for consideration.
- CCS awards and then issues the work order, on behalf of WASD.
- CCS requested and received from CMS, within two (2) days average time, a *Notice To Proceed* date, after the County's Risk Management Division approves the insurance documentation.
- CCS timely prepared and mailed the *Notice To Proceed* to the contractor, along with two (2) executed copies of the work order contract, one for the contractor and one for its surety company.

**SECTION III INACCURATE CONTRACT REPORTING OF AMOUNT PAID**

**Finding No. 4: CCS reported inaccurate final work order amounts paid**

Accurate and timely reporting of the contract's individual work order award and expenditure amounts are required to adequately monitor the contract's overall budget. CCS inaccurately reported the final work order amounts for 16 of the 17 work orders awarded. As of December 31, 2003, CCS had overstated these amounts by \$1,320,752 (TABLE 6).

**TABLE 6—Work Order Paid Amount Differences**

Work Order No.	Contractor	Work Order Amount Reported by CCS	Work Order Amount Tabulated by OIG	Difference
S-718-1 A	Rockwell General Development	\$339,683	\$330,997	\$8,686
S-718-1 B	Rockwell General Development	\$727,778	\$673,240	\$54,538
S-718-2 A	Stone Paving	\$393,098	\$306,949	\$86,149
S-718-2 B	Stone Paving	\$344,928	\$321,082	\$23,846

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Work Order No.	Contractor	Work Order Amount Reported by CCS	Work Order Amount Tabulated by OIG	Difference
S-718-4 A	Southeastern Engineering Contractors	\$361,351	\$309,266	\$52,085
S-718-4 B	Southeastern Engineering Contractors	\$1,408,478	\$1,265,474	\$143,004
S-718-5 A	Metro Equipment Service	\$726,494	\$621,233	\$105,261
S-718-5 B	Metro Equipment Service	\$346,398	\$322,814	\$23,584
S-718-5 C	Metro Equipment Service	\$55,000	\$50,000	\$5,000
S-718-7 A	Fountain Engineering	\$1,235,025	\$1,043,043	\$191,982
S-718-8 A	Boys Engineering II, Inc.	\$1,027,810	\$791,014	\$236,796
S-718-8 B	Boys Engineering II, Inc.	\$1,396,904	\$1,126,137	\$270,767
S-718-8 C	Boys Engineering II, Inc.	\$269,002	\$249,945	\$19,057
S-718-8 D	Boys Engineering II, Inc.	\$114,700	\$111,915	\$2,785
S-718-9 A	Lanzo Construction	\$952,486	\$954,491	\$(2,005)
S-718-10 A	Ric-Man International	\$1,027,674	\$928,457	\$99,217
S-718-10 B	Ric-Man International	\$264,779	\$264,779	Still open as of 12/31/2003
<b>Totals</b>		<b>\$10,991,588</b>	<b>\$9,670,836</b>	<b>\$1,320,752</b>

The final contract amount, as reported by CCS and called "Totals Dollars Used To Date," includes only the work order award amounts and the sum of all the authorized change order amounts for each of the work orders awarded during the reporting period. CCS does not adjust for those work order items not paid or not used at the completion of the project. Such items include allowance accounts, credits for items not used, under-runs, and other changes not included in the final payments. CCS is overstating amounts paid to the contractors. As a result, WASD may have more money available to fund additional projects under this contract.

CCS generally reports these amounts internally (within the Department, through the WASD intranet site, and to other County users (including the OIG). However, their

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inaccurate reporting may lead users to formulate erroneous assumptions about S-718 contract funding and expenditures.

CCS was unaware of the adjustments made for bid items not paid and did not compare its figures with comparable figures generated by CMS, CRU or Accounts Payable prior to releasing the information. For example, CCS does not get a copy of the CMS-generated *Certificate of Final Acceptance* where these adjustments are shown, before reporting the final contract amount for these work orders.<sup>11</sup> CMS shows these paid amounts, at the completion of a project, when it prepares the work order's *Certificate of Final Acceptance*.

One component of the final work order amounts reported by CCS is the "Total Community Small Business Enterprise (CSBE) Dollars Used To Date." The OIG found that these reported amounts are also overstated. This issue will be addressed in Report 3.

**Recommendation No. 4:**

CCS, CMS and CRU should coordinate among themselves to ensure that work order amounts are accurately reported, including all information regarding payment adjustments and final amounts paid.

**WASD's Response**

Finding No. 4: WASD acknowledges this issue and has already corrected the error. Now, a copy of the Certificate of Final Acceptance form, indicating the final contract amount, is submitted to the Construction Contracts Section, the office in charge of the blanket contract reporting. In that way, credit adjustments, under-runs and other charges are recognized and overstatements are corrected.

*Finding No. 4 and the recommendation are adopted and no further rejoinder is necessary.*

*The OIG appreciates the cooperation and courtesies extended by County staff that was involved in our review of Contract S-718.*

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<sup>11</sup> The OIG auditors also found erroneous cost information in five (5) *Certificates of Final Acceptance*. Correction by WASD is pending.



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Office of the Inspector General  
Miami-Dade County

# Memorandum

To: Mr. George Burgess, County Manager

Received By

Date

From: Christopher Mazzella, Inspector General

Date: June 30, 2004

Re: *OIG FINAL AUDIT REPORT (1 of 3) of WASD Contract S-718, Installation or Repair of Force Mains, Water Mains and Associated Systems for a Two-Year Period with County Option to Renew for Two Additional Years on a Yearly Basis, Contract S-718*

Please find attached the Office of the Inspector General's (OIG) Final Audit Report of the above-captioned contract. This is the first of a series of three reports on this contract. This report addresses several Water and Sewer Department (WASD) procedures pertaining to work order pre-bid estimates, bid proposals, contract award, contract documentation, and the reporting of final contract expended amounts. Reports two and three are forthcoming.

Overall, the OIG continues to work with WASD staff in addressing our audit concerns. WASD staff has been very cooperative in our audit efforts. Where there may have been initial disagreement, the OIG and WASD have met on subsequent occasions to clarify our findings and request addition supporting documentation. This final report is a product of this audit process and we look forward to WASD implementing our recommendations.

cc: Honorable Chairperson Barbara Carey-Shuler, Ed.D.  
Honorable Natacha Seijas, Chair, Government Operations & Environment Committee  
Mr. Pedro Hernandez, P.E., Assistant County Manager  
Mr. William Brant, P.E., Director, Water and Sewer Department  
Mr. Roger Hernstadt, Director, Office of Capital Improvements Construction  
Coordination  
Ms. Cathy Jackson, Director, Audit and Management Services Department

Clerk of the Board (Copy Filed)

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INTRODUCTION

The Miami-Dade County Office of the Inspector General (OIG) audited the Miami-Dade Water and Sewer Department (WASD) contract titled *Installation or Repair of Force Mains, Water Mains and Associated Systems for a Two-Year Period with County Option to Renew for Two Additional Years on a Yearly Basis, Contract S-718*.

This report is the first in a series of three (3) audit reports on Contract S-718. Specifically, this first report addresses: WASD procedures for work order pre-bid estimates, work order bid proposals and awards, contract documentation and the reporting of final contract expended amounts.

*A draft version of this report was issued on May 10, 2004. WASD provided a response to the draft report on May 24, 2004, which is attached in its entirety. WASD's full specific responses to individual findings have been inserted into this document and OIG provides rejoinders where appropriate. For clarification of WASD response, OIG auditors met with WASD representatives from Construction Management Section, Contract Review Unit, Contract Administration Section and the Assistant Director for Engineering on June 11, 2004. A follow-up meeting took place on June 18, 2004, where additional documentation and clarification was provided.*

The OIG's second report will address the application of liquidated damages. Report three will address contract payment processing documentation, change orders, WASD's compliance with A.O.'s 3-22, *CSBE Program for the Purchase of Construction Services* and A.O. 3-24, *Responsible Wages and Benefits for County Construction Contracts* and contract monitoring by the Department of Business Development (DBD).

REPORT 1

*Results Summary*

WASD's contract administration and payment processes appear to be deficient in several areas, such as those related to its poor documentation and the lack of adequate contract oversight. For example:

- There are no formal procedures for the preparation of pre-bid estimates, resulting in undocumented departmental bid estimates.
- OIG auditors noted a questionable trend away from the practice of pricing work orders using individual work items prices to a practice of using large unexplained and disproportionate amounts of "aggregate sum" items, which comprise, at times, about 95 per cent of the total work order cost.

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- Contract paid items are paid without adequate supporting documentation showing work performed and/or quantities used for which payment is being requested.
- There is an inaccurate reporting of the work order amounts paid, resulting in both the overstating of the amount expended on the contract and the erroneously tracking of available funds for future work orders.

In general, the OIG recommends that WASD establish formal procedures to ensure that both the work process and the work product are well documented and that contract results, particularly amounts expended, are reported accurately. WASD, in its response, agreed with two (2) out of the four (4) findings and recommendations (Nos. 1 and 4) WASD took exception with certain statements made and issues raised by the OIG auditors in Finding Nos. 2 and 3.

On June 11, 2004, OIG and WASD representatives met to discuss WASD's responses to these two audit findings and recommendations. The parties agreed that WASD would be given an opportunity to support certain of its statements in its responses to Finding Nos. 2 and 3. On June 18, 2004, OIG auditors returned to WASD to review the documentation cited by WASD in its response. The results of the supplemental review are included with the respective findings.

### TERMS USED IN THIS REPORT

Miami-Dade County (County)	Construction Contracts Section (CCS)
Office of the Inspector General (OIG)	Construction Management Section (CMS)
Water and Sewer Department (WASD)	Contract Review Unit (CRU)
Specifications Unit (SU)	Engineer/Contract Manager/Inspector (CM)
Utility Design Section (UDS)	Community Small Business Enterprise (CSBE)

### GOVERNING AUTHORITY

In accordance with Section 2-1076 of the Code of Miami-Dade County, the OIG has the authority to review past, present, and proposed County and Public Health Trust programs, accounts, records, contracts and transactions. This authority includes conducting contract audits, regardless of whether the contract contains an OIG random audit fee.

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BACKGROUND

WASD S-718 is a "blanket" contract. Under a blanket contract, multiple contractors are issued *Contract Purchase Orders* that are commonly called "blanket" purchase orders. Another section of this contract establishes a contractor pool. In establishing a contractor pool, contractors competitively bid on the first in a series of work orders issued by the department. The bidders must bid on all the items and establish that they have the experience and qualifications to perform this work as stated in the specifications. The lowest responsive responsible bidder is awarded this work order. This lowest contractor plus the next nine (9) lowest responsive responsible bidders, or a total of ten (10) contractors, form the contractor pool and are awarded blanket purchase orders.

Later, during the contract period of performance, individual work orders for future pipeline construction, modification and repair work, as required by the department, are awarded based on price quotations received from the pool of ten (10) pre-qualified bidders. The contractor submitting the lowest bid would be awarded the work order for that specific work scope. Upon receiving an award, a contractor would be ineligible to bid on the next successive work order issued to the pool.

The S-718 contract requires contractors to furnish all necessary labor, materials and equipment for installing WASD-supplied materials and equipment and to furnish and install materials and equipment or furnish items that may be requested by WASD, as necessary for the construction of / or work upon force mains, water mains, and associated systems together with the excavation and/or location work for systems under design. Emergency work may also be performed under this contract to construct, modify or repair the various types of pipeline systems. Also, work may be assigned at various locations when the Department determines it necessary that such work is "logical or desirable in the same time frame as the performance of the pipeline system work."<sup>1</sup>

The contract's original funding was set at \$11 million and the original period of performance was for twenty-four (24) months. S-718 includes two (2) one-year options to renew, each valued at \$5.5 million, for a total renewal period funding of \$11 million. Thus, if both options to renew were exercised, the funding for this contract could total \$22 million.

WASD, using an open competitive solicitation, received bids from thirteen (13) bidders to perform work under S-718. The contract package in the solicitation included a

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<sup>1</sup> See S-718 *Advertisement For Bids*.

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request for quotation for the first project under this contract.<sup>2</sup> WASD evaluated the responses and, in June 2000, awarded the contract to the ten (10) lowest responsible and responsive bidders (contractor's pool) and issued this first project work order to the lowest bidder of the ten (10).<sup>3</sup>

S-718 contains a CSBE subcontractor goal of 13% or \$1.43 million for the first 24-month original contract period.

TABLE 1 below shows contract funding, total work order award amounts and payments, as of December 31, 2003. See TABLE 2 on page 6 for a listing of the amounts for the seventeen (17) work orders comprising the awarded amount through the end of 2003.

TABLE 1 - Analysis of Contract S-718 Funding and Total Payments

Contract Period	Funding Amounts	Work Order Award Amounts	Authorized Change Order Amounts	Revised Contract Amounts	Total Payment Amounts To Date
Original Two-Year	\$11,000,000	\$7,353,579	\$1,501,294	\$ 8,854,873	\$7,411,193
First Option To Renew	\$5,500,000	\$2,359,639	\$78,801	\$ 2,438,440	\$1,994,864
Second Option To Renew	\$5,500,000	- 0 -	- 0 -	- 0 -	- 0 -
Totals	\$ 22,000,000	\$9,713,218	\$ 1,580,095	\$11,293,313	\$9,406,057

Original 24-Month Contract Period

The original contract period commenced in June 2000 and was for a 24-month period or upon the depletion of the funding (\$11 million), whichever came first. During the initial period, WASD bid and awarded thirteen (13) work orders. WASD, in October 2003, processed the payment for the last completed work order.<sup>4</sup> WASD has spent

<sup>2</sup> The first project was named "Furnish and install 24-Inch D.I. Force Main on S.W. 147 Ave. from S.W. 297 St. to S.W. 302 St., E.R. 46922." The departmental cost estimate for this project was \$407,000.

<sup>3</sup> The contractor pool was later reduced to nine (9) as one of the contractors was suspended from further participation on this contract based upon action by the County's Department of Business Development. This contractor, pursuant to a settlement agreement, was suspended for its failure to use a CSBE subcontractor, as required under the S-718 terms and conditions, during its performance of its first two work orders under the contract.

<sup>4</sup> Although work has been completed, work orders S-718-1A and 1B are still technically open,

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\$7,411,193 (or 67% of the original funding of \$11 million), leaving an unexpended balance of \$3,588,807.<sup>5</sup> All unexpended funds are rolled over to provide additional funding for the option years.

#### First Option To Renew Period

WASD commenced the first option to renew period on October 2002 and has allocated \$9,088,807 (specific funding of \$5,500,000 plus the \$3,588,807 rolled over from the original two-year period). Through December 31, 2003, WASD has bid and awarded four (4) work orders and has paid \$1,994,864 (or 22% of the total available funding).

#### Second Option To Renew Period

WASD has not awarded any work orders under the second option to renew period, as of December 31, 2003.

### OBJECTIVES, SCOPE AND METHODOLOGY

Our audit objectives relative to the topics reviewed in Report 1 were:

- To obtain an understanding of the functions and responsibilities of the WASD Construction Contracts Section (CCS), Construction Management Section (CMS) and Contract Review Unit (CRU) as it pertains to how work orders are bid, awarded, managed, monitored and completed.
- To review WASD's policies and procedures for calculating work order pre-bid estimates. OIG auditors selected for review those work orders that had their award amounts increased by 10 % or more due to change orders.
- To review WASD's policies and procedures for reviewing and awarding bids submitted by contractors.

We reviewed contract documentation for those work orders awarded under S-718, during the period of June 2000 through December 2003. We interviewed WASD personnel from UDS, CCS, CMS CRU and Accounts Payable to gain an understanding of WASD's implementation of its procedures for contract administration and

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as WASD has not obtained from the contractor the final releases of lien or the surety.

<sup>5</sup> These are OIG tabulated figures. See Finding 3.

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monitoring of S-718, including pre-bid estimates, bidding and awarding of work orders, contract payment documentation and reporting of final work order amounts paid.

The following are the sections within WASD and their functions in the contract process:

- UDS prepares the pre-bid estimates and forwards them to SU.
- SU prepares the project specifications and plans and forwards them, along with the final bid estimate, to CCS.
- CCS prepares and sends the bid documents to the participating contractors. Thereafter, CCS receives, evaluates and selects the lowest and most responsive bid from the bid proposals received.
- CMS distributes the work orders to the construction managers (CMs), who manage the actual work process. Also, the CMs, in conjunction with the contractors, prepare the estimates for payment, allowance accounts and change order requests.
- CRU reviews and approves the estimates for payment, allowance account and change order requests, and if applicable, consultant billings.
- Accounts Payable processes contractor payment requests.

Additionally, OIG auditors requested that each of these WASD sections and/or units provide us with copies of its established written procedures.

- UDS and CMS provided no procedures. The managers for both sections informed the OIG auditors that their respective personnel followed "practices" developed over the years.
- CCS provided comprehensive procedures detailing the performance of its functions.
- CRU's procedures only pertained to processing of the estimates for payment applications. As discussed above, its functions include other activities, such as approving change orders and consultant billings.

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TABLE 2 below is a complete list of all work orders awarded under S-718. Based on the information provided, we selected for audit nine (9) work orders out of a total seventeen (17) work orders awarded under this contract for the period under review (June 2000 through December 2003). The first five (5) of 13 work orders were selected for audit from the original 24-month period based upon criterion that the respective authorized change orders exceeded 10% or more of the original proposal price. The remaining four (4) work orders selected for audit and shaded below represent all work orders issued, as of December 31, 2003, from the first option to renew period.

The nine (9) selected work orders (shaded items) are valued at \$5,909,358, or approximately 61% of the total amount awarded.

**TABLE 2 – Work Orders Awarded**

Work Orders Awarded		Contractor's Name	Work Order Award Amount
1	S-718-1 A	Rockwell General Development	\$330,997
2	S-718-1 B	Rockwell General Development	\$694,250
3	S-718-2 A	Stone Paving	\$375,727
4	S-718-2 B	Stone Paving	\$325,000
5	S-718-4 A	Southeastern Engineering Contractors	\$277,144
6	S-718-4 B	Southeastern Engineering Contractors	\$948,284
7	S-718-5 A	Metro Equipment Service	\$679,780
8	S-718-5 B	Metro Equipment Service	\$346,398
9	S-718-5 C	Metro Equipment Service	\$55,000
10	S-718-7 A	Fountain Engineering	\$826,354
11	S-718-8 A	Boys Engineering II, Inc.	\$996,709
12	S-718-8 B	Boys Engineering II, Inc.	\$1,256,737
13	S-718-8 C	Boys Engineering II, Inc.	\$241,200
14	S-718-8 D	Boys Engineering II, Inc.	\$114,700
15	S-718-9 A	Lanzo Construction	\$952,486
16	S-718-10 A	Ric-Man International	\$1,027,674
17	S-718-10 B	Ric-Man International	\$264,779
<b>TOTAL AWARDED AMOUNT</b>			<b>\$9,713,219</b>



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In total, these 17 work orders are held by eight (8) different contractors, with one (1) contractor holding four (4) work orders; another contractor holding three (3) work orders; four (4) contractors holding two (2) work orders each; and two (2) contractors holding one (1) work order each. Tasco Plumbing and RJR Construction are the two contractors that received blanket purchase orders who have not been awarded a work order.<sup>6</sup>

## FINDINGS AND RECOMMENDATIONS

### SECTION I WORK ORDER PRE-AWARD PROCEDURES AND PRACTICES

#### Finding No. 1: The Lack of Procedures for Preparing Pre-Bid Estimates Results in Undocumented Work Order Estimates

As previously stated, UDS did not have written policies and procedures to document its process for compiling the estimated costs used to prepare the pre-bid estimates.<sup>7</sup> According to UDS management and staff, they follow practices developed by staff over the years. However, current practices do not include preparing records to support pre-bid estimates. As a result, work order pre-bid estimates were not documented and there is no record of how UDS staff arrived at "fair and reasonable" amounts to be used to evaluate and award work orders under this contract.

OIG auditors found that the UDS manager directs his staff to prepare a pre-bid estimate yet there are no instructions or procedures describing how to actually prepare the estimate. Procedures detailing the type of information to be included, such as scope of work, work type, materials, etc., are non-existent. The manager has the authority to override any quantities, unit costs or scope of work included in the pre-bid estimate.

The OIG found that managerial changes were in fact later made to the pre-bid estimates reviewed as part of this audit, changing unit quantities or unit costs, or both. However, the files do not show any reason(s) for or explanations of the adjustments. During the course of the audit, the UDS manager acknowledged that he ordered that those changes

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<sup>6</sup> Tasco submitted bids for two (2) work orders, including the original work order, but has failed as of December 31, 2003, to win an award. RJR Construction submitted bids for seven (7) work orders, including the original work order, but has also failed, as of December 31, 2003, to win an award.

<sup>7</sup> Sometimes a consultant is hired to prepare the pre-bid estimates. None of the work orders reviewed by the OIG included a pre-bid estimate prepared by a consultant.

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be made based on his experience and his perception of what it would cost WASD for that particular work order to be performed by a contractor.

Although UDS provided to the OIG auditor schedules that purportedly were used as the source of the cost figures for some of the pre-bid estimates reviewed, these schedules did not back-up the cost figures shown on the pre-bid estimates. The OIG finds this situation a cause for concern, as there is no assurance that the pre-bid estimates are based on reliable, documented cost data. Furthermore, when asked by OIG auditor, the UDS staff could not recreate their pre-bid estimates using this data.

For the original 24-month contract period, the OIG selected for review any work order where the respective authorized change orders exceeded the original proposal price by ten percent (10%) or more. Of the thirteen (13) work orders awarded, this criterion resulted in the OIG selecting five (5) work orders from the original contract period.

TABLE 3 shows the cumulative changes over the original pre-bid estimate for the five (5) work orders selected from the original contract period.<sup>8</sup>

TABLE 3 - Changes in pre-bid estimates

Work Order No.	1 <sup>st</sup> Estimate	2nd Estimate Change		3rd Estimate Change		4 <sup>th</sup> Estimate Change	
	\$ Amount	\$ Amount	%	\$ Amount	%	\$ Amount	%
S-718-7 A	\$765,280	\$787,942	3%	\$860,528	3%	\$860,000	12%
S-718-4 B	\$853,700	\$868,136	2%	\$830,000	2%	-	-
S-718-4 A	\$214,402	\$283,500	32%	\$311,956	32%	-	-
S-718-8 C	\$226,834	\$255,501	13%	\$245,000	13%	-	-
S-718-8 B	\$836,967	\$914,776	9%	\$954,672	9%	1,333,000	59%

Written policies and procedures guide staff in the performance of their functions. Also, undocumented cost data means that there are no benchmarks to evaluate if the sources and the basis for the changes to the final pre-bid estimates are appropriate and justified.

<sup>8</sup> The other four (4) work orders selected for audit from the first option to renew period where not analyzed for this particular issue.

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The OIG is also concerned that a lack of procedures and experienced personnel available to train new employees may compromise UDS operations. Without written policies and procedures, the experiences with and history and practices of this informal process will leave, or, at least, change when current employees terminate their county service, leaving less experienced employees in their place.

Recommendation No. 1:

UDS should formalize its current "practices" in writing and/or establish and implement new written policies and procedures detailing the process by which staff should gather data and prepare the pre-bid estimates. The written procedures should also specify the documentation to be maintained by staff to support the amounts included in the pre-bid estimates.

WASD's Response

Finding No. 1: WASD's estimates are developed by staff with many years of utility experience, both in the office and in the field. In addition to their institutional knowledge, they utilize estimated, bid and final cost data from past projects in developing estimates for future projects. They also determine the complexity of the project, which varies with the location, and analyze alternative methods for construction/installation. While we cannot control the contracting market conditions and the resulting bids, we believe our estimates appropriately reflect the level of effort required to complete proposed projects. The Report identified the lack of written procedures governing the estimation process and recommends that current practices be written. We concur with your recommendation and have instructed staff to prepare written bases for estimating policies, documenting current practices, and to have such policies completed within 30 days. For your information, and contrary to other types of capital projects, such as buildings, utilities do not rely on national averages to develop bases for pipeline estimates. Costs for pipe installation are very regional and vary considerably depending upon the age and size of the utility, the size of the existing pipelines, the availability of information and the existence of other underground utilities, the type of soil conditions and the water table. We are currently compiling cost information from past projects and are in the process of creating an estimating database for staff use. In addition, we have implemented a tracking system on each estimate to document project estimate changes as they occur during the project life.

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*Finding No. 1 and the recommendation are adopted and no further rejoinder is necessary.*

Finding No. 2: Several work orders contain disproportionately large aggregate sum amounts, which should be further broken down for pricing and bidding purposes

Aggregate sum items<sup>9</sup> are work order items in the bid proposal for which there are no specified quantities or units of measure, are priced as lump-sums, and are paid based on percentage-of-completion. For example, work order S-718-8 D includes two (2) Aggregate Sum items, for \$60,000 and \$49,000, respectively, which total \$109,000 or 95% of the total work order amount. The third item is for \$5,700 to reimburse the contractor for required permits, fees, inspections, and impact fees, if authorized by the Engineer.

Contract Section 25, *SCOPE OF PAYMENT*, states:

“For each of the Items included and for which an aggregate sum price is stated in the Proposal, the aggregate amount to be paid therefor by the County for said Item will be made in accordance with the cost breakdown previously submitted to, and satisfactory to, the Engineer as required in Section 9 “Information and Drawings to be Furnished by the Contractor”. Only those elements of the cost breakdown for the Item completed and incorporated in the completed Project by the Contractor and acceptable to the Engineer will be paid for.”  
(Emphasis added by OIG).

Contract Section 9, *INFORMATION AND DRAWINGS TO BE FURNISHED BY THE CONTRACTOR*, states:

“The Contractor shall furnish such cost breakdowns as required by the Engineer, including a detailed estimate giving a complete breakdown of the Contract price and a breakdown of the cost of various portions of the work for use in preparing monthly estimates and for allocating costs in the classified property accounting system of the Department. The cost breakdowns

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<sup>9</sup> OIG Auditors reviewed nine of seventeen work orders issued under this contract.

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shall be physical items with mobilization, bond, patent fees and royalties, insurance, home office expenses, overhead, and all other general costs and profits, prorated to each physical Item. No payment will be made to the Contractor until these breakdowns are submitted in a form satisfactory to the Engineer." (Emphasis added by OIG).

TABLE 4 shows the percentage of "aggregate sum" items for each of the nine (9) work orders selected.

TABLE 4 - Work orders reviewed with "Aggregate Sum" items

Work Order No.	Work Order Award Date	Contractor	Work Order Award Amount	Aggregate Sum Amounts Per Work Order	Percent Aggregate Sums	No. of Aggregate Sum Line Items / No. of Total Line Items to Work Order	
<b>Original Contract Period</b>						<b>Quantity</b>	<b>Percent</b>
S-718-4 A	10/06/00	Southeastern Engineering Contractors	\$277,144	\$58,900	21.3%	5 / 19	27%
S-718-4 B	02/01/01	Southeastern Engineering Contractors	\$948,284	\$106,700	11.3%	5 / 31	17%
S-718-7 A	01/24/02	Fountain Engineering	\$826,354	\$15,000	1.8%	2 / 30	7%
S-718-8 B	01/11/01	Boys Engineering II, Inc.	\$1,256,737	\$80,300	6.4%	6 / 28	22%
S-718-8 C	05/09/01	Boys Engineering II, Inc.	\$241,200	\$43,000	17.8%	4 / 14	29%
TOTALS / AVERAGE			\$3,549,719	\$303,900	8.6%	22 / 122	18%
<b>First Option to Renew Period</b>						<b>Quantity</b>	<b>Percent</b>
S-718-10 A	10/24/02	Ric-Man International	\$1,027,674	\$645,611	62.8%	21 / 45	47%
S-718-9 A	01/30/03	Lanzo Construction	\$952,486	\$902,500	94.8%	7 / 15	47%
S-718-8 D	02/06/03	Boys Engineering II, Inc.	\$114,700	\$109,000	95.0%	2 / 3	67%
S-718-10 B	05/21/03	Ric-Man International	\$264,779	\$252,779	95.5%	13 / 14	93%
TOTALS / AVERAGE			\$2,359,639	\$1,909,890	80.9%	43 / 77	56%
TOTALS FOR ALL WORK ORDERS REVIEWED			\$5,909,358	\$2,213,790	80.9%	65 / 199	33%

The first five (5) work orders on the table above are from the original contract period and were selected for this portion of the audit review because respective authorized

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change orders exceeded the original proposal price by ten percent (10%) or more and not because of the disproportionate aggregate sums in the work order proposal.

The last four (4) work orders were all awarded during the first option to renew period and were selected for this review to analyze current practices and procedures. These four (4) work orders include unexplained and disproportionate amounts of "aggregate sum" items as a percentage of the total work order amount. The amount of "aggregate sum" items (\$1,909,890) over the total work order awarded amount (\$2,359,639) is approximately 81%. The OIG is concerned about the magnitude of the amounts and increase frequency of occurrence shown in this trend, for which WASD did not provide an explanation.

The OIG observed that aggregate sum items ranged in dollar amounts from \$350 to \$573,000. At times, a work order may comprise multiple, smaller dollar aggregate sum items. At other times, work orders may comprise one or two large dollar aggregate sum items that make-up the majority of the work order amounts. The OIG's issue is with these larger to very large aggregate sum items.

From the same four (4) work orders, the OIG scheduled those aggregate sum items in excess of 20% of the work order amount. Those items still accounted for a large and/or substantial 41% of the combined work orders amounts.

*TABLE 5 - Aggregate Sum Line Items in Excess of 20% of Work Order Amounts  
(Not previously included in the draft report.)*

Work Order Number	Total Number of Line Items	Number of Aggregate Sum Line Items	Aggregate Sum Items In Excess of 20% of Work Order Total		Total Aggregate Sum Items in Excess of 20% by Work Order	Work Order Award Amount
			Line Item Number	Amount		
S-718-10 A	45	21	-0-	\$0	\$0**	\$1,027,674
S-718-9 A	15	7	B-1	\$202,000 (21%)	\$775,000	\$952,486
			B-3	\$573,000 (60%)		
S-718-8 D	3	2	1	\$60,000 (32%)	\$109,000	\$114,700
			2	\$49,000 (42%)		
S-718-10 B	14	13	5	\$86,680 (32%)	\$86,680	\$264,779
<b>TOTALS</b>	<b>77</b>	<b>43</b>		<b>\$970,680</b>	<b>\$970,680</b>	<b>\$2,359,639</b>

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*\*\* For Work Order S-718-10 A, while no one aggregate sum item dollar amount exceeds 20% of the work order amount (which would be \$205,535), the OIG auditors observed four (4) significantly large dollar amount aggregate sum items. These items ranged from \$85,000 to \$113,704. As noted in the original finding, the OIG auditor's main concern lies with these large individual aggregate sum item amounts.*

It appears from the four (4) work orders issued under the first option to renew period that WASD is moving from a work order format that requires specific quantities and unit costs to a format—use of aggregate sum items—that does not include the disclosure of such information. The OIG questions how WASD is able to adequately evaluate the bids submitted by contractors, in the absence of such significant cost data. Notwithstanding the Department's apparent prime concern with selecting the lowest bid submitted, by foregoing detail pricing, material specifications and quantities, the Department is sacrificing its ability to more completely evaluate proposals and to monitor awarded work orders.

The OIG is concerned with the direction of this trend and the increasing magnitude of the aggregate sum amounts. We do not believe that the intent of the S-718 contract was to serve as a method to award what are effectively becoming lump-sum work orders. We believe that it is not unreasonable to assume that the intent of the contract was for WASD to issue individual work orders, each one with WASD-described work units and specified quantities, and priced by a competitive process. This is spelled out in the aforementioned Contract Section 9.

The required detail—work units and quantities—facilitate a clearer, less ambiguous work award, monitoring and payment process. The “aggregate sum” work order process, as currently used by WASD, may be wanting in specified work scope and material requirements and paid on a percentage-of-completion basis. Disproportionate sized aggregate sum items defeat the benefits obtained by requiring itemized cost breakdowns.

Given the ratio of “aggregate sum” items to specified items noted in the last four (4) work orders reviewed, WASD is losing its ability to more closely monitor and pay for work progress and to ensure that the contractor is installing quality materials and equipment in the finished product.

Recommendation No. 2:

WASD should establish procedures on the appropriate use of aggregate sum items, including clear standards on acceptable dollar values as a percentage of the total work order amounts.

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In addition, management should review work orders containing disproportionately large value aggregate sum items to determine whether they could be restructured into specific work unit items and quantities or, at a minimum, ensure that complete documentation justifying their use is prepared and maintained with the work order file.

WASD's Response

Finding No. 2: The Report states that "WASD is moving from a work order format that requires specific quantities and unit costs to a format—use of aggregate sum items—that does not include the disclosure of such information." We respectfully disagree with that comment. The work order format has not migrated from specific quantities and unit costs to aggregate sums. We have used both methods in the past and will continue to do so as deemed appropriate for future projects, depending upon the specific needs of each project. The four (4) work orders issued during the first option to renew period and reviewed by the auditors consisted of "associated systems" projects.

Two of the projects were canal crossings, one was a canal control structure and the fourth was an overflow storm drainage system for the Hialeah Water Treatment Plant. These types of projects are typically bid as "aggregate sums" because of the nature of the work. By bidding the work as an aggregate sum or a lump sum, the proposers must estimate the overall level of effort needed to complete the work using the most cost efficient means that will deliver a completed job. These aggregate bid items are typically for activities of a short duration and generally are located at a discrete, limited site, such as a canal crossing. It is for these types of projects that the expression "the sum of the parts is typically greater than the whole" holds true. We have found it to be more cost effective to bid these types of projects with a lump, or aggregate, sum price. We reviewed the "quotation form" for these four projects and present the following:

1. S-718-10A covered the relocation of water and sewer mains at culvert and canal crossings along SW 8 Street. There were 43 individual bid items, 21 of which were bid as aggregate sums. Of those 21 items, 6 items were under \$5,000 each and 4 were under \$15,000. The other 11 items included the furnishing and installing or the demolition of individual structures at culverts and canals.



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2. S-718-9A covered the installation of a 36-inch water main crossing the Miami River Canal.
3. S-718-8D covered the construction of emergency overflow structures at the Hialeah Water Treatment Plant. This project consisted basically of one large concrete structure and the aggregate bid items were to furnish and deliver (\$60,000) and to install (\$49,000) the structure.
4. S718-10B covered the construction of a water control structure. The project consisted of the furnishing and installation of various concrete structures, sheet piles, culverts, catwalks, recorders, slide gates and motors and other associated systems. Each item was properly classified as a separate bid item and was labeled as an aggregate sum.

Projects under this blanket contract are awarded to the lowest bid proposer, provided that the contractor has submitted all documentation and is properly licensed. Additional cost breakdowns may be required by WASD and are addressed in Section 9 of the General Covenants and Conditions. The Report also states that with the use of aggregate sum bid items, "WASD is losing its ability to ensure that the contractor is installing quality materials and equipment in the finished product". We do not agree with this statement and no supporting documentation was cited in the Report. WASD's Engineering Division is responsible to assure the quality of materials and equipment in the finished projects by thorough technical specifications, shop drawings submittals and field inspection.

WASD will continue to exercise due diligence in identifying and utilizing "aggregate sum" bid items and specific quantities and unit costs formats, as appropriate. In addition, the use of aggregate sum items will be discussed during the Bid Document Review Meeting that is held prior to the letting of each construction project. Your office is notified of these meetings and provided copies of the contracts to be discussed prior to those meetings.

*OIG Rejoinder*

*During the audit field work, the OIG asked CMS staff to provide the cost breakdowns indicated in Section 9 of the contract's GCC but no documentation was submitted during this period.*

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*On June 18, 2004, WASD provided documentation to the OIG auditors showing how it breaks down aggregate sum items for payment purposes for the four (4) work orders with the highest percentage of Aggregate Sum items as part of the total work order amount. These four (4) work orders were S718-8 D, S-718-9 A, S-718-10 A and S-718-10 B. The additional documentation, not previously submitted by WASD, consisted of Schedules of Value for each of these four (4) work orders. The OIG was able to determine that the additional cost breakdowns indicated in the schedules of value are incorporated in WASD's estimates for payment.*

*The greater detail shown by these schedules provides WASD with an enhanced ability to monitor and pay for work performed as the project progresses than would be possible had it used only the original aggregate sum amounts. However, given the greater detail provided on the schedules, the OIG questions why WASD does not chose to fashion these large aggregate sum items into more discrete price items for bid purposes in the first place.*

*In conjunction with its response to "exercise due diligence in identifying and utilizing "aggregate sum" bid items and specific quantities and unit costs formats," the OIG believes that WASD is responsive to our finding and recommendation.*

**Finding No. 3:** Monthly pay estimates are prepared and presented for payment by CMS staff without adequate assurance and review of supporting documentation substantiating work performed and/or quantities used for which payment is being requested.

The CM and the contractors jointly prepare the pay estimates, based on their understanding and agreement that a certain phase of the work order has been performed and completed. The documentation of this process, however, was missing from the construction contract records maintained by CMS and reviewed by the OIG auditors. Although the CM is part of CMS, the location of these records was unknown to CMS staff during the audit field work.

WASD files do not support its contractor payments with regards to the work performed, labor provided and materials supplied. There should be records documenting the percentage of completeness and the costs incurred as of the payment requisition date.

For the nine (9) work orders originally reviewed, there were no records on-hand that meet this objective. The CM is the WASD representative responsible for ensuring

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complete project records which document project activities and are necessary to support the amounts requested.

WASD may be paying for work without having a basis for the amount that it paid. WASD has no assurance and no records to support that the amount paid corresponds to actual labor costs incurred by the contractors or for materials and equipment purchased and delivered as indicated in the work or aggregate sum item descriptions. WASD may be unknowingly financing the contractor's expenditures before they actually occur at the project site, if they occur at all.

Recommendation No. 3 WASD should re-emphasize to its construction managers the necessity of maintaining adequate supporting documentation for the payments requested. Supervisory personnel in CMS should take appropriate steps to ensure that estimates for payment accurately reflect documented percentage of completion and that only those elements of the work that are completed and incorporated in the completed project will be paid for.

WASD's Response

Finding No. 3: WASD respectfully disagrees with this finding. Contract S-718, General Covenants and Conditions ("GCC"), Section 26, 6<sup>th</sup> paragraph, first sentence states "For the purpose of preparing a monthly estimate, the Contractor jointly with the Inspector shall prepare the estimate..." This joint process is in accordance with the provisions of GCC Section 25, 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> paragraphs. The estimate generated results in a "red-line" document containing measured quantities or percentages of completion of the schedule of values items. The "red-line" document accompanies the original pay estimate submitted to Accounts Payable for payment. Copies of the red-line document are filed with the Compliance Unit's project payment records in the Construction Management Section. In addition, Daily Reports, indicating the daily progress of construction including installed quantities, are available. It is our understanding that these documents were provided to your representative, and we are concerned that your Report states that there were no records on hand documenting the percentage of completion.

Verification of actual labor costs and materials and equipment costs, as the

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Report suggests, is not standard industry practice nor is it required by the contract, unless the costs are incurred as part of a change order claim. Payments are made on the basis of bid prices and percentage of completion.

*OIG Rejoinder*

*WASD, in its response, stated that supporting documentation was available, specifically referring to the "red-line" documents and Daily Reports.*

*The OIG auditors reviewed the "red-line" documents, prepared jointly by the CM and the contractors, and which precedes the pay estimates. The OIG's issue with the "red-line" documents and subsequent pay estimates is that neither provided adequate field documentation supporting the payments requested for work performed. CMS staff was asked but did not provide such documentation during field work. The few Daily Reports on file were also reviewed but were found to be inadequate to provide reasonable assurance that work was being performed and that materials and equipment were being installed.*

*Accordingly, on June 11, 2004, the OIG asked WASD to provide such supporting documentation for the following five (5) work orders: S-718-4 B, S-718-7 A, S-718-8 A, S-718-8 B and S-718-10 A.*

*On June 18, 2004, WASD provided to OIG auditors documentation for work orders S-718-4 B and S-718-10 A, reasonably supporting work performed and/or the type and quantity of materials used and installed. The records provided consisted mostly of the CM/Inspector's Daily Reports and, in one instance, an Inspector's Red Book.*

*WASD could not provide supporting documentation for work orders S-718-8 A and S-718-8 B. WASD acknowledged that it did not find similar supporting documentation, such as provided above for these two work orders. Also, it was pointed out that the CM/Inspector who monitored both of these work orders no longer works for WASD.*

*The OIG considered the documentation submitted by WASD for S-718-7 A not adequate, as there were periods during the project wherein the work performed was not documented by the CM/Inspector, even though WASD continued to make payments to the contractor during these periods.*

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*WASD also indicated during the subsequent meetings that it will use better record-keeping practices ensuring that the CM/Inspectors maintain more complete documentation justifying payments made to contractors.*

*The subsequent results indicate that WASD project files are not complete. The OIG believes that WASD should improve its record keeping and may schedule a follow-up audit to check WASD's progress in this respect. The OIG reaffirms its recommendation.*

## SECTION III BID PROCESS AND AWARD OF WORK ORDER CONTRACTS

No exceptions noted

The OIG auditors found that CCS performed the functions of bidding and awarding work orders according to its written procedures. For this review, the OIG auditors reviewed the documentation generated during the bidding and awarding processes for the five (5) work orders selected for audit from the original 24-month contract period. The OIG determined that the records maintained in these five work order files sufficiently documents that CCS followed and adhered to its written procedures. As noted earlier, CCS was the only WASD section or unit that provided written procedures.

OIG auditors analyzed the sample of five (5) work orders to see that:

- CCS verified the mathematical accuracy of the final pre-bid estimates received from the Specifications Unit and assigned a date to receive bids from the participating contractors.
- CCS timely sent the Master Specifications and Original Plans along with invitations for bids to the remaining pre-qualified contractors eligible to bid,<sup>10</sup> as evidenced by the transmittal forms used to track delivery of these documents to the contractors.

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<sup>10</sup> The low bidder in the previous project (work order "awardee") cannot participate in the immediately following project, leaving the pool of pre-qualified contractors with nine (9) participants. Subsequent to Rockwell's suspension from the contract, the blanket was reduced to nine (9) contractors, and thus the "eligible to bid" contractors was reduced to eight (8). This quasi-rotation ensures that one contractor cannot win all the work orders issued under the blanket contract.

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- CCS received, evaluated, and selected the lowest, responsive bids from the participating pre-qualified contractors at the end of the bid submittal date.
- CCS, after the selection was made, promptly sent a letter of acceptance to the selected bidder and notified each participating bidder of the final selection, including a tabulation of all the bids submitted for consideration.
- CCS awards and then issues the work order, on behalf of WASD.
- CCS requested and received from CMS, within two (2) days average time, a *Notice To Proceed* date, after the County's Risk Management Division approves the insurance documentation.
- CCS timely prepared and mailed the *Notice To Proceed* to the contractor, along with two (2) executed copies of the work order contract, one for the contractor and one for its surety company.

SECTION III INACCURATE CONTRACT REPORTING OF AMOUNT PAID

Finding No. 4: CCS reported inaccurate final work order amounts paid

Accurate and timely reporting of the contract's individual work order award and expenditure amounts are required to adequately monitor the contract's overall budget. CCS inaccurately reported the final work order amounts for 16 of the 17 work orders awarded. As of December 31, 2003, CCS had overstated these amounts by \$1,320,752 (TABLE 6).

TABLE 6—Work Order Paid Amount Differences

Work Order No.	Contractor	Work Order Amount Reported by CCS	Work Order Amount Tabulated by OIG	Difference
S-718-1 A	Rockwell General Development	\$339,683	\$330,997	\$8,686
S-718-1 B	Rockwell General Development	\$727,778	\$673,240	\$54,538
S-718-2 A	Stone Paving	\$393,098	\$306,949	\$86,149
S-718-2 B	Stone Paving	\$344,928	\$321,082	\$23,846

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Work Order No.	Contractor	Work Order Amount Reported by CCS	Work Order Amount Tabulated by OIG	Difference
S-718-4 A	Southeastern Engineering Contractors	\$361,351	\$309,266	\$52,085
S-718-4 B	Southeastern Engineering Contractors	\$1,408,478	\$1,265,474	\$143,004
S-718-5 A	Metro Equipment Service	\$726,494	\$621,233	\$105,261
S-718-5 B	Metro Equipment Service	\$346,398	\$322,814	\$23,584
S-718-5 C	Metro Equipment Service	\$55,000	\$50,000	\$5,000
S-718-7 A	Fountain Engineering	\$1,235,025	\$1,043,043	\$191,982
S-718-8 A	Boys Engineering II, Inc.	\$1,027,810	\$791,014	\$236,796
S-718-8 B	Boys Engineering II, Inc.	\$1,396,904	\$1,126,137	\$270,767
S-718-8 C	Boys Engineering II, Inc.	\$269,002	\$249,945	\$19,057
S-718-8 D	Boys Engineering II, Inc.	\$114,700	\$111,915	\$2,785
S-718-9 A	Lanzo Construction	\$952,486	\$954,491	\$(2,005)
S-718-10 A	Ric-Man International	\$1,027,674	\$928,457	\$99,217
S-718-10 B	Ric-Man International	\$264,779	\$264,779	Still open as of 12/31/2003
Totals		\$10,991,583	\$9,670,836	\$1,320,752

The final contract amount, as reported by CCS and called "Totals Dollars Used To Date," includes only the work order award amounts and the sum of all the authorized change order amounts for each of the work orders awarded during the reporting period. CCS does not adjust for those work order items not paid or not used at the completion of the project. Such items include allowance accounts, credits for items not used, under-runs, and other changes not included in the final payments. CCS is overstating amounts paid to the contractors. As a result, WASD may have more money available to fund additional projects under this contract.

CCS generally reports these amounts internally (within the Department, through the WASD intranet site, and to other County users (including the OIG). However, their

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inaccurate reporting may lead users to formulate erroneous assumptions about S-718 contract funding and expenditures.

CCS was unaware of the adjustments made for bid items not paid and did not compare its figures with comparable figures generated by CMS, CRU or Accounts Payable prior to releasing the information. For example, CCS does not get a copy of the CMS-generated *Certificate of Final Acceptance* where these adjustments are shown, before reporting the final contract amount for these work orders.<sup>11</sup> CMS shows these paid amounts, at the completion of a project, when it prepares the work order's *Certificate of Final Acceptance*.

One component of the final work order amounts reported by CCS is the "Total Community Small Business Enterprise (CSBE) Dollars Used To Date." The OIG found that these reported amounts are also overstated. This issue will be addressed in Report 3.

Recommendation No. 4:

CCS, CMS and CRU should coordinate among themselves to ensure that work order amounts are accurately reported, including all information regarding payment adjustments and final amounts paid.

WASD's Response

Finding No. 4: WASD acknowledges this issue and has already corrected the error. Now, a copy of the Certificate of Final Acceptance form, indicating the final contract amount, is submitted to the Construction Contracts Section, the office in charge of the blanket contract reporting. In that way, credit adjustments, under-runs and other charges are recognized and overstatements are corrected.

*Finding No. 4 and the recommendation are adopted and no further rejoinder is necessary.*

*The OIG appreciates the cooperation and courtesies extended by County staff that was involved in our review of Contract S-718.*

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<sup>11</sup> The OIG auditors also found erroneous cost information in five (5) *Certificates of Final Acceptance*. Correction by WASD is pending.