SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Audit of the Everglades Agricultural Area A-1 Reservoir Construction Management at Risk Contract

Report # 07-21

Prepared by
Office of Inspector General

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BACKGROUND

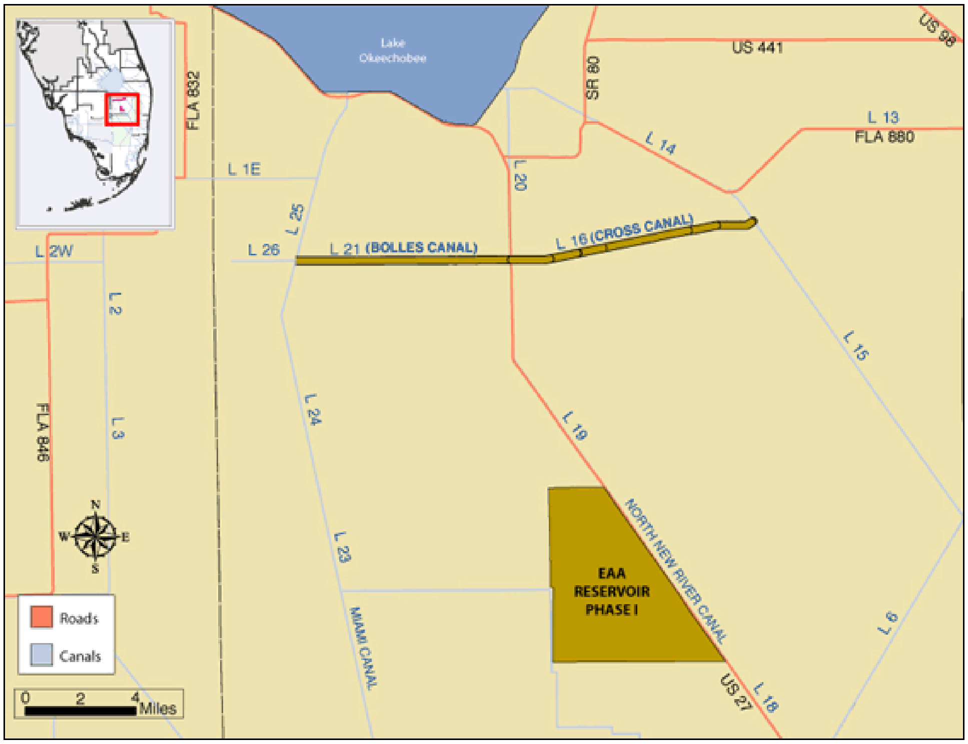
In accordance with the Office of Inspector General's Fiscal Year 2007 Audit Plan, we conducted an Audit of the Everglades Agricultural Area A-1 Reservoir Construction Management at Risk Contract (the "Contract") with Barnard-Parsons Joint Venture. The audit also entailed auditing the equipment hourly rates as set forth in Exhibit D-3 of the Contract.

The Everglades Agricultural Area Reservoir A-1 is one of three above ground reservoirs being built by the District in support of the Comprehensive Everglades Restoration Plan. The Comprehensive Everglades Restoration Plan is a 30 year, $8 billion[1] plan which is being funded, managed, and implemented through a 50-50 partnership between the State of Florida and the Federal government. The reservoirs are considered critical to the overall plan, and have been given priority status under the South Florida Water Management District's (the "District") Acceler8 program. This program accelerates funding, design, construction and completion of several critical Comprehensive Everglades Restoration Plan restoration projects within the next seven years, more than ten years ahead of schedule. The acceleration of these projects was considered necessary to save money, and provide immediate environmental, social and economic benefits. The Everglades Agricultural Area Reservoir A-1 is one of eight accelerated projects approved by the Authorization of Agreement Regarding Acceleration of the Comprehensive Everglades Restoration Plan signed by former Governor Jeb Bush on October 14, 2004. The reservoir's total estimated cost as of February 2007 was approximately $569 million; however, the estimate is periodically revised as design and cost factors are further refined. Based on preliminary negotiations for the embankment phase of the project total cost is likely to exceed $700 million. The project is funded from Certificates of Participation proceeds.

The Everglades Agricultural Area Reservoir A-1 Project, is located on a

[1] $8 billion is the original cost estimate at 1999 price levels and does not reflect price increases due to inflation or design modifications, changes in project scope, and other factors.

16,700 acre site along the north side of Storm Water Treatment Area 3/4 in western Palm Beach County in the Everglades Agricultural Area, generally, west of U.S. Highway 27, between the North New River Canal, and the Miami Canal, and adjoining the Holey Land Wildlife Management Area to the southwest.



When the above ground reservoir is completed, it will consist of the following:

- 22 miles of a perimeter embankment and 15 miles of seepage canal
- A northeast pump station that pumps from the North New River Canal
- A connector canal from the North New River Canal to the new northeast pump station
- Two gated inlet and discharge structures
- One gated outlet structure with spillway and outflow pump station
- One seepage pump station
- Four lane bridge for U.S. Highway 27, to cross the proposed connector canal

The reservoir will have a storage capacity of 190,000 acre feet, holding up to 62 billion gallons of water, with a depth of 12 feet.

When completed, the Everglades Agricultural Area Reservoir A-1 will provide the following benefits and improvements by allowing the District to:

- Capture, move and store regulatory releases from Lake Okeechobee, reducing the number and volume of harmful discharges to coastal estuaries
- Reduce water levels in Lake Okeechobee when needed, benefiting the Lake's environmental health and recovery
- Capture, move and store agricultural stormwater runoff, reducing the need for emergency flood control back-pumping into Lake Okeechobee
- Provide additional water to meet Everglades water demands, lessening water supply dependency on Lake Okeechobee
- Improve operational flexibility to move water within the Everglades Agricultural Area, including flow equalization and optimization of Stormwater Treatment Area performance to further reduce phosphorus inflow into the Everglades
- Improve flood protection for lands adjacent to the Bolles canal
- Provide public access and recreational opportunities

The Reservoir project is divided into the following phases:

- Packet #1 - General Management; includes project mobilization, seepage canal excavation, clearing of existing vegetation over the reservoir site, and removing and stockpiling muck
- Packet #2 – Construction of an On-site Aggregate Processing Plant to Process Materials to be Used to Construct the Embankment
- Packet # 3 – Completion of Canal Excavation
- Packet # 4 – Construction of the Embankment
- Packet # 5 – Pump Purchasing
- Packet # 6 – Construction of Structures
- Packet # 7 – Construction of U.S. 27 Bridge

On June 21, 2006, the District executed a contract (the "Contract") with Barnard Parsons Joint Venture (the "Joint Venture" or "Barnard") to design and begin construction of the Everglades Agricultural Area A-1 Reservoir. The contract is structured as a Cost Reimbursement type where a not-to-exceed guaranteed maximum price (GMP) is negotiated for each Packet. The Joint Venture is paid each month for actual labor, equipment rental, materials, overhead, and a management fee in accordance with specific contract provisions – up to the guaranteed maximum price. The following table summarizes the prices negotiated for GMPs #1 through #3 and the actual amount expended as of December 31, 2007.

GMP#	Status	Guaranteed Maximum Price	Total Charges as of 12/31/07
1	Completed	$53,700,000	$ 43,400,000
2	In Progress	112,700,000	24,000,000
3	In Progress	95,900,000	49,900,000
4	Negotiation	330,900000	0
Total		$593,200,000	$ 117,300,000

OBJECTIVES, SCOPE AND METHODOLOGY

The overall objective of the audit was to determine whether the costs charged to the District were reasonable, and in accordance with the specific contract terms and conditions. To accomplish our objective, we reviewed the contract to obtain an understanding of its provisions and requirements, and designed and performed audit procedures considered appropriate for testing compliance with the Contract.

All contact charges fall classified into one of the following six categories: labor, materials, equipment, subcontract, general & administrative, and management fee. The contract compensation provision for each of these expense categories is as follows:

- Labor – Average salary rate of each employee classification plus a labor burden factor of 56.45% for craft personnel and 68% for supervisory personnel.
- Materials – actual cost paid
- Subcontract – actual cost paid
- Equipment – billed in accordance with the negotiated rates for each GMP using the current version of the Rental Rate Blue Book and adjusted in accordance with provisions outlined in contract Exhibit "D-3" (see below).
- General and Administrative – 11% of cost of the work, except of subcontract expenses (proposed to be reduced to 8.1% for GMP #4, but also would be applied to subcontract expenses).
- Management fee – negotiated rate of 6.9% the cost of the work (proposed to be reduced to 5% for GMP #4).

The Contract provides for the following adjustments to the standard Rental Blue Book Equipment Rates.

- "Ownership cost adjustments -
    - Apply Regional Adjustment factor to the Monthly Rates for operational equipment. Regional Adjustment factors are calculated per Blue Book.
    - Sales Tax will be adjusted to 6.71%.
    - Adjust Equipment Discount to 0%.
    - List Price will be adjusted to match current year list prices from established equipment dealers.
    - Cost of money rate will be adjusted to 8%.
    - Adjust Equipment Overhead to $0.00.

- Operating cost adjustments -
    - Annual Field Labor Hours will be adjusted to 0 hours. All mechanic labor and equipment will be billed to the project as a direct expense.
    - Annual Field Parts will be adjusted up 20% to account for severe field operating conditions.
    - Annual Miscellaneous Supply Parts will be adjusted up 20% to account for severe field operating conditions.
    - Annual Ground Engagement Components (GEC) will be adjusted up

20% to account for severe field operating conditions.
  - Primary Engine Fuel/Electrical Consumption factor will be removed from the rate and charged to the project as a direct expense.
  - Hourly Lube Costs will be reduced 66% of the standard Blue Book rate in order to remove the lube labor and lube equipment from the equipment hourly rate.
  - Fuel Costs will be removed from the equipment hourly rate and charged to the project as a direct expense.

- Standby Rate -
  - Standby Rate will be calculated by the following: Standby – Depreciation + Cost of Facilities Capitol
  - Standby will be reviewed on a monthly basis and calculated by subtracting the total monthly operated hours minus the monthly hours used to calculate the equipment rate, which is 200 hours for production equipment and 160 hours for ancillary equipment.
  - Equipment inactive for more the 15 days within a rental period shall be deemed not used and the rental and operating cost terminated. Should extenuating circumstances such as hurricane preparedness, adverse weather, specialty equipment, or limited availability exists, the CMP shall request special consideration for compensation prior to billing."

Our specific audit objectives included:

- Ensuring labor costs included in the Applications for Payment were calculated and charged in accordance with the contract terms
- Assessing whether the labor fringe benefits rate was supportable and reasonable
- Determining that equipment rental rates were established in accordance with the contract; and that the process for tracking and recording equipment utilization was adequate and accurate
- Determining the propriety of the charges for materials, supplies and subcontractor services; and that they were in accordance with the contract and properly supported by invoices
- Determining that overhead rates and management fees were reasonable, calculated correctly, and charged in accordance with contract terms.

Audit objectives were expanded to also determine whether equipment hourly rates fairly represent the true cost to own and operate equipment for the Contract. Specific audit objectives regarding equipment pricing included:

- Assessing whether the Rental Rate Blue Book standard hourly rates provide a good standard that fairly represents the cost to own and operate equipment.
- Determining whether adjustments made to the Rental Rate Blue Book standard rates to accommodate contract and project specific conditions are reasonable and justified.
- Determining whether the daily rates for pickup trucks are reasonable and justified.

The scope of the audit included reviewing a sample of costs, submitted by Barnard Construction Company, Inc. (Barnard) in the monthly payment applications to the District. This included payment requests submitted during the period of July 2006 through February 2007, which totalled $30,782,327. The scope of the audit related to equipment pricing focused on hourly rates for the embankment phase of the Everglades Agricultural Area A-1 Reservoir project (GMP#4). We plan to continue conducting periodic audits of Barnard's Contract charges through completion of the contract. We also plan to audit Parson's charges, which will be addressed in a separate audit report.

The methodology for reviewing the payment applications and the detailed charges billed to the District entailed using the following audit procedures:

- Reviewing the contract, amendments, and other relevant documents.
- Meeting with District staff and contractors responsible for managing the project to obtain an overview of accounting procedures, records, and documentation.
- Selecting a sample of expenses detailed in the contractor's payment requests and reviewing supporting invoices.
- Reviewing and testing the contractor's process for determining labor rates and hours worked.

- Reviewing and testing payroll documentation, including recalculating payroll amounts and tracing payments to employees.
- Reviewing and testing the contractor's process for determining equipment rental rates and documenting utilization.
- Reviewing and testing the contractor's process for billing materials and subcontractor's costs, and calculating overhead and management fees.

The methodology for analyzing the reasonableness of hourly equipment rates entailed applying the following audit procedures:

- Selected a sample of 16 pieces of equipment that will generate the largest number of chargeable hours on the embankment phase of the project.
- Obtained a breakdown of the various cost components (e.g., depreciation, maintenance, repairs, tires, etc.) for each piece of equipment to determine the criteria used for calculating the hourly rates.
- Analyzed each cost component as identified in the Rental Rate blue Book (e.g., depreciation, repairs, tires, etc.) to determine whether their standard cost factors fairly represent the current market cost for such component.
- Analyzed adjustments made to the Rental Rate Blue Book cost components to determine whether they are reasonable and warranted.

Our audit was conducted in accordance with Generally Accepted Government Auditing Standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

AUDIT RESULTS

Executive Summary

This audit was performed in two phases. The first phase focused on determining that Barnard's charges for labor, equipment, materials, subcontracts, overhead, and management fee were billed in accordance with Contract provisions. In the second phase, we examined the equipment rates proposed for GMP #4 to determine whether equipment hourly rates fairly represent the true cost to own and operate the equipment.

The results of the first phase of the audit were communicated to Acceler8 staff in September 2007 and the results of the second phase were communicated in November 2007. In the interim, staff worked diligently to resolve the issues presented in this report. Staff used the information from the equipment audit phase to assist in negotiating GMP #4. Most of the issues have been resolved and also resulted in assisting staff with negotiating significant cost savings for GMP #4. The format of this audit report is slightly different from our typical audit report in that we present each audit issue raised, followed by the resolution of that issue. There are recommendations for a few issues that require further consideration.

Audit of Contract Charges

During the first phase, we found that Barnard's general and administrative overhead rate and payroll burden factors were reasonable. We also found that salaries were billed in accordance with the contract. We also found that equipment usage was billed in accordance with negotiated contract rates. However, audit procedures that entailed testing a sample of materials and subcontractor expenses charged by Barnard identified areas where improved documentation, strengthened review procedures, and clarified contract ambiguities were needed.

We performed a review of documentation for materials and subcontract expenses at Barnard's headquarters in Bozeman, Montana. These audit procedures revealed the following:

- Insufficient descriptions of materials or services provided on vendor invoices,
- Documentation lacking as to delivery and receipt of equipment and materials,
- Double payment of an $8,550 invoice, and
- Questionable direct cost charges.

We also found costs that were not correctly classified as materials or subcontractors. This distinction was important because the Contract (for GMPs 1-3) allows an overhead factor of 11% to be added to materials costs, but not to subcontractor costs. In addition, because of the cost classification issue, the District's procedures for awarding subcontracts were not always followed, due to the vendor being considered a supplier rather than a subcontractor.

The contract provided for Barnard to purchased two vehicles to be used by District Acceler8 staff. The sales tax (6%), general and administrative expense (11%), and management fee (6.9%) added $13,895 to the cost of these vehicles. These costs could have been avoided if the vehicles had been purchased directly by the District. Further, vehicle needs for District staff will be purchased directly.

The contract requires that the ownership of all fixed assets purchased for the project that were direct charged to the District (e.g. site office equipment) be turned over to the District upon project completion. However, we found that no inventory of these assets was maintained. An inventory of these assets has now been compiled and being maintained so that there will be a record of them upon project completion.

We noted that the District did not require actual engine hour readings to substantiate the billing hours for equipment usage, but instead relied upon estimates in the Equipment Utilization Report that Barnard submitted. Contract language over equipment utilization also needed to be strengthened. A contract worker has been engaged to monitor equipment usage and the contract criterion for standby eligibility has been modified.

We found that holiday pay was double charged; once in the labor overhead, and again as direct charges. Barnard agreed to provide the District with a $93,052 credit to rectify this issue. Correcting this issue now will also save approximately $300,000 over the remaining contract term.

We questioned whether the contract language allowed the Management Fee to be charged on the 11% general and administrative expense. The law firm that assisted the District with negotiating the contract provided a different interpretation of the contract language, which concluded that the management fee is allowed on general and administrative expenses. Board Counsel also concurred with this interpretation.

The Contract required Barnard to obtain builder's risk insurance to cover potential damage to the project during construction due to earthquakes, flooding, and windstorm. The District's current practice is to self-insure its existing water control structures and equipment but to require builders risk insurance on projects during construction. The estimated cost to provide this insurance for GMPs #1 through #4 is approximately $15.5 million. The overhead and management fee on this amount adds another $2.9 million, bringing the total cost to $18.4 million. Furthermore, the 5% deductible still leaves the District exposed to significant potential losses, which could be as much as $35 million.

District staff explored various insurance options and presented several alternatives to the District's Governing Board. The final direction was for the District to purchase a policy directly with different coverage limits that better address the District's risk exposures. The total future cost to continue with Barnard's policy for GMP's #1 through #4 is $15.7 million (including general and administrative expense and management fee). The District's proposed policy would be $7.2 million, for a cost savings of $8.5 million. Furthermore, the maximum deductible for the proposed policy is $2.5 million per occurrence compared to 5% for Barnard's policy.

We also found that Barnard has met their SBE goals as of December 31, 2007. Barnard has also made a good effort to utilize local and in-state vendors. Of the $33.4 million spent on subcontracts and supplies, 79% went to vendors within the State of Florida, 63% to vendors within the District's region, and 22% to vendors in the Glades and Clewiston vicinity.

We questioned whether the District should resume managing a lease agreement with New Hope, the company farming within the reservoir during construction. The lease management responsibilities were assigned to Barnard. Resuming management of this lease would save approximately $250,000 in management fees over the remaining project life.

Audit of Equipment Hourly Rates

The contract provides for using the Rental Rate Blue Book as the basis for establishing equipment hourly rates. Our analyses revealed that, overall, the Rental Rate Blue Book standard provides a good basis and methodology for establishing equipment rates. However, we found that some of the adjustments made to customize the standard hourly rates are not justified and results in overstating equipment cost by approximately 11.7%. The most significant overstatements were to the following cost components:

- Depreciation –
  - In establishing hourly rates for the EAA Reservoir A-1 Contract, the equipment prices were adjusted upward based on list price quotes that Barnard supplied. Additionally, the discount percentages were adjusted to zero. When we requested an explanation from District staff as to why the discounts were adjusted to zero they informed us that during negotiations, Barnard's representatives contended that most of their equipment pieces are Caterpillar brand and that Caterpillar dealers do not sell their products at discounts, and thus they must pay list price for their equipment. We found that Caterpillar dealers do

provide discounts from list price. For the sample of equipment we selected, the average discount was 10.8%. We estimated that using list prices instead of discounted prices to calculate hourly depreciation rates resulted in overstating GMP #4 equipment cost by approximately $5.1 million.

  - Another factor effecting deprecation cost is that a 6.71% sales tax rate was used in establishing total acquisition cost instead of 6.0%.
  - Due to the specialized nature of the aggregate processing equipment the hourly rates for these were established through customized calculation using vendor quotes. Although the actual cost for aggregate plant equipment is not final, it appears to be reasonable.

- <u>Cost of Capital</u> - We found that Rental Rate Blue Book appropriately uses the interest rate established by the Secretary of the Treasury. This rate was 5.75% during the second half of 2007 when GMP #4 was being negotiated. However, Barnard asserted that the prime interest rate should be used, and thus the rate was adjusted up to 8%. This upward adjustment to the Cost of Facilities Capital is not justified because facilities capital cost of money is an imputed cost related to the cost of contractor capital committed to facilities and is determined without regard to whether the source is owner's equity or borrowed capital. It is not a form of interest on borrowing by the firm. The average rate established by the Secretary of the Treasury over the past four years was 4.89%. It was reduced to 4.75% as of January 1, 2008. Barnard agreed to reduce the rate to 5.25%.

- <u>Double Shifts Affect Cost of Capital</u> - Double shifts will be operated during embankment construction. Rental Rate Blue Book's Facilities Cost of Capital formula assumes normal annual usage. When equipment is used more hours than the standard usage, the contractor recovers their investment in the equipment over a shorter period of time through higher depreciation charges. Hence, the Cost of Facilities Capital is fully recovered once the normal usage number of hours has been billed. Thus, the Cost of Facilities Capital should be reduced to zero for hours billed in excess of the normal annual usage. We recommended a separate lower overtime rate be established for equipment usage in excess of normal usage. Barnard agreed to an overtime rate at 82% of the standard rate.

- Tires - The Rental Rate Blue Book standard hourly rates for tires were adjusted significantly upward. This was due to both increasing the tire prices by approximately 80% and decreasing the useful lives by 20%. The tire purchase prices were adjusted significantly upward based on Barnard's contention that tire prices had increased significantly due to a tire shortage. We confirmed with a local equipment dealer that there was a temporary tire shortage at one time but that the shortage no longer exists. Thus the price premium is not justified for GMP #4. Based on independent quotes obtained from local equipment dealers the Rental Rate Blue Book tire prices appeared reasonable. We did find that the EAA Reservoir site conditions justified adjusting the useful tire lives down by 20%.

- Pickup Trucks - We found that the daily rates for pickup trucks are overstated. The contract rates for GMPs 1 - 3 provide \$56 per day for a ½ ton 4 X 4 standard truck and \$72 per day for a ¾ ton 4 X 4 crew cab truck. (For GMP #4 Barnard is requesting the ½ tons be increased to \$64 per day.) That means that over a four-year project life the District will be billed for about 1000 hours, or \$56,000 for a ½ ton and \$72,000 for a ¾ ton – about twice what it cost to purchase them. In addition, the District is direct billed for the fuel cost and maintenance/repair labor. Barnard's only other cost responsibilities are for insurance, maintenance/repair parts, and tires. Our analyses revealed appropriate daily rates should be around \$30 for a ½ ton and around $40 for a ¾ ton. We also found that a significant amount of pickup truck usage is for Barnard's employees commuting to work. We questioned management as to whether they intended for the District to directly absorb daily commuting cost for Barnard's employees. In management's opinion, this is an acceptable practice. They informed us that in the construction industry it is normal to provide this benefit to workers for projects in remote locations.

Adjustments were made to reduce some Rental Rate Blue Book cost components to zero because these costs are being direct billed. Also, some maintenance components were adjusted slightly upward to accommodate for site conditions (i.e., muck and rock). Our research revealed that these adjustments were reasonable and justified.

We estimated that the net effect of all the proposed adjustments to the Rental Rate Blue Book's standard values results in overstating total equipment cost for GMP #4 by approximately $18.1 million. Barnard agreed to approximately $19.4 million of price concessions in equipment and other cost categories. These prices concessions are summarized as follows:

- Facilities Cost of Capital - Barnard agreed to reduce the rate to 5.25%. This resulted in reducing equipment cost by approximately $5.4 million.
- Overtime Rate - Barnard agreed to overtime rates that are 18% below the regular rates. This resulted in reducing equipment cost by approximately $ 2.1 million.
- Depreciation, Tires, and Pickup Trucks – No adjustments were made directly to these cost items, except that Barnard agreed to adjust the sales tax rate to 6%. However, staff succeeded in negotiating cost concessions in other areas. Approximately $11.9 million in cost concessions were agreed to on general and administrative expense and the management fee. (See table on page 16.)

Summary of Cost Savings

The following table summarizes the cost savings that ensued from resolving the various audit issues and staff's assiduous negotiation efforts:

Cost Savings	Amount (1)
GMPs 1 – 3	
Credit for Double Payment	$ 9,000
Credit for Holiday Pay	93,000
District Provided Builders Risk Insurance	3,078,000
Subtotal - Cost Savings – GMPs 1-3	$ 3,180,000
GMP #4	
District Provided Builders Risk Insurance	$ 5,392,000
Reduced Rate for Cost of Facilities Capital	5,379,000
Overtime Rate for Second Shift Equipment Usage	2,115,000
Change in G&A* Rate Methodology	5,942,000
Management Fee Reduction from 6.9% to 5.0%	6,015,000
Subtotal - Cost Savings – GMP 4	$ 24,843,000
Total Cost Savings	**$ 28,023,000**

* G&A = General and Administrative Expense
(1) Rounded to thousands.

The issues presented in this report will also assist with realizing savings with negotiating the remaining GMP's. The effect of potential cost savings in negotiating future GMP's is not reflected in the above table (e.g. builders risk insurance for GMP's 5 – 7). Hence, total cost savings for the project from addressing the various audit issues will likely exceed $30 million.

Barnard's initial proposal for GMP #4 was $400 million. Staff's first two negotiation rounds focused predominately on unit quantities, which resulted in reducing the cost to $360 million. Subsequent negotiation rounds focused predominately on pricing issues, which reduced the cost to $330.9 million. Staff's diligent negotiation efforts have resulted in reducing the initial proposal by nearly $64 million – about 16.3% less than the initial proposal (including the effect of removing builders risk insurance from the scope of work).

Audit of Contract Charges

General and Administrative Overcharges Due to Misclassified Expenses

Audit Issue

During our review of invoices supporting material and subcontractor charges to the District, several miss-classifications and inconsistencies were noted. The definitions of subcontractor and material expenses were not clear as they are applied to the payment application detail. This has lead to confusion over proper classification of project costs and failure, in some cases, to follow prescribed procedures for awarding subcontracts.

The contract defines a subcontractor as "*an individual or legal entity having a direct contract with Construction Manager at Risk or with any other subcontractor for the performance of a part of the work at the project site.*" The contract does not specifically provide a definition for materials. A general definition for materials is a product furnished by the contractor which is incorporated in the work.

Barnard uses only four basic cost categories in its project cost accounting, namely; labor, equipment, materials and subcontractor expense. Materials seems to be the "catch-all" category with a wide range of costs including insurance, travel expense, utilities, field office setup, and to an extent, subcontractor expense. According to Barnard's management, a cost is only categorized as subcontractor if the work is performed at the project site.

The significance of this is that the contract language allows an 11% general and administrative (overhead) charge on materials but not on subcontractor expense. Because of the confusion and inconsistent application of the definitions, the 11% has been charged on items it should not have been charged on. Based on our review of expenses paid to subcontractors (companies that appeared on Barnard's list of contractors), approximately $477,000 was charged as material expenses that appeared to be subcontract expenses. This resulted in a possible overpayment of approximately $52,400 in general and administrative expense because the 11% overhead factor was applied to these items. The above stated effect does not include other questionable items categorized as material expenses including jobsite trailer setup and rent, totaling $174,000.

In addition, the confusion and inconsistencies carry over to the procedures followed, and the documentation maintained to procure subcontractors. We observed that required procedures were not followed in all cases for work awarded to "subcontractors", due to the entity not being correctly identified as a subcontractor. The contract requires obtaining three quotes for subcontracts under $500,000, and three bids for contracts over $500,000. This requirement may be circumvented by classifying the expense as a material rather than as a subcontract.

Resolution of Audit Issue

Staff addressed the above issues by requiring District procedures be followed. Also, for GMP #4 the general and administrative expense percentage has been lowered to 8.1%, but will also be applied to subcontractor expenses. Thus, the classification of expenses between materials and subcontracts will be irrelevant for GMP #4. This change will result in a savings of approximately $5.9 million. However, this will remain an issue that will continue to require monitoring through completion of GMP's #2 and #3.

A clear definition of "material cost" was developed and incorporated into the contract. Also, a procedure was developed and a staff resource was assigned responsibility for ensuring compliance with the contract procedures for procuring subcontractors.

Recommendation

1. **Eliminate any confusion over the classification of material versus subcontractor expense.**

Management Response: Agreed. As the audit indicates, staff has addressed this issue in two ways. Previously the agreement excluded "subcontractor" costs from the G & A. However if the work performed was not subcontracted, the contractor listed expenses such as insurance policies as material. Under the proposed amendment, the G &A has been reduced from 11% to 8.1% for all expenses. It is anticipated that the District will save $5.9 million dollars.

Secondly, staff has proposed amended language to address this issue in the contract. Barnard Parsons is reviewing this language and a resolution will be reached prior to the execution of the amendment. Further, more detail will be required as explanation for the expenses.

Responsible Department: Procurement and Everglades Restoration Resources.

Estimated Completion: February 2008

Inventory of Property Purchased for Job Site Should be Maintained

Audit Issue

Barnard incurred significant expenses for network and computing equipment, survey equipment, and office furnishings to establish the on-site project offices. These items were charged directly to the District (conservative estimate of $311,500, based on sampled expenses). We noted that neither Barnard nor the District was maintaining an inventory list of such items. In our opinion this makes it difficult to identify and control the assets to ensure that all will be accounted for and returned to the District at the project's conclusion, as required by the Contract. The Contract, Section 6.11 - Job Site Facilities, states that Barnard is responsible for these items until the conclusion of the project, at which time the items are to be inventoried and become the property of the District. Florida Statute Chapter 274 – Tangible Personal Property Owned by Local Government establishes requirements for the recording of property and for the periodic review of property for inventory purposes.

District and Barnard personnel were not aware of any accountability requirements to record, list, or otherwise "control" the tangible personal property. Also, it was not clear to us whether Florida Statutes Chapter 274 applies since the contract states that the contractor shall maintain ownership responsibilities until the conclusion of the project. However, the District is reimbursing the contractor for such purposes with taxpayer money, so "ownership" is a legal issue which needed to be reviewed.

In addition, Contract section 11.01, E – Miscellaneous Costs, excluded costs of data or information processing systems and software residing at the construction managers home or branch office. Based on the review of invoices, it was noted that many of the computer related items were shipped to Barnard's main office for the stated purpose of setting them up. There was no record, however, that the items were shipped to the job site, or where they were located.

The effect of not maintaining a record or inventory list of the property is that the items could be lost, stolen, or otherwise unaccounted for, prior to the conclusion of the project.

Resolution of Audit Issue

During our audit fieldwork we discussed this issue with District staff. They concurred and proceeded with compiling an inventory of fixed assets for which ownership reverts to the District upon project completion. This inventory is now up to date.

Office of Counsel researched the issue regarding the applicability of Florida Statute Chapter 274 and determined that the statute does not apply until such time as the tangible personal property is owned by the District. Therefore, according to the contract, Chapter 274 would not apply until the project is concluded and the property is transferred to the District. As set forth in the Contract "At that time, the CMR shall provide the District with a complete inventory for each unit of equipment. The inventory shall describe the equipment and identify the purchase price, serial number, model number and condition. Where said equipment has a title, said title shall be transferred to the DISTRICT or to his designee."

Invoice Review Revealed Inadequate Descriptions And Other Questioned Costs

Audit Issue

We performed a review of documentation for materials and subcontract expenses at Barnard's headquarters in Bozeman, Montana. These audit procedures revealed the following:

- Insufficient descriptions of materials or services provided on vendor invoices,
- Documentation lacking as to delivery and receipt of equipment and materials,
- Double payment of an invoice, and
- Questionable direct cost charges.

Following are specific details regarding our review of Barnard's supporting documentation for material and subcontractor expenses:

- Numerous invoices lacked sufficient detail to indicate what was purchased, where it was shipped, and what services were provided. This information is essential in order to substantiate whether the expenses were properly charged to the project.
- A duplicate payment of an invoice in the amount of $8,550 for tool storage boxes was identified. The vendor corrected the original invoice by issuing a credit and a new invoice. The credit was not passed through, and the District was again charged for the new, corrected invoice.
- A charge to the expense category "materials" for $1,100 was noted for air travel by a Barnard executive. The contract does not allow cost

reimbursement for contractor home office personnel. It appears that this expense may represent overhead instead of direct charges.

- A charge of $7,229 for the purchase of small tools was not properly documented. There was no documentation that the items were received, nor was there documentation that Barnard paid for the items prior to being reimbursed by the District.
- Multiple charges totaling $61,341 were billed to the District as a subcontractor expense, for repairs to equipment. There is some question as to whether these charges should have been paid by Barnard, rather than the District. The equipment rental rate paid to Barnard included factors for repair parts and overhaul costs. Contract Exhibit D-3, pertaining to equipment rental, breaks down the rental rate into various components, including ownership costs and operating costs. The ownership costs component included hourly factors for overhaul labor and overhaul parts, while the operating cost component included a factor for field parts only. The field labor component is adjusted to zero, since this component is to be direct billed to the District. The invoices did not specify whether the charges were for field labor, overhaul labor, or parts. The District did not require specific documentation for this type of expense to ensure it is paying only for the field labor on equipment repairs, (and not overhaul parts and labor, and field parts), as set forth in the contract.

Resolution of Audit Issue

Staff instructed the contractor to ensure that their invoices contain sufficient descriptions of the products or services delivered. Also, the District has received credit for the $8,550 duplicate payment. The other issues have not yet been resolved and require further research.

Recommendation

2. **Research the remaining unresolved issues identified regarding direct charges for materials and subcontract expenses.**

   Management Response: Agreed. Staff will review the previous invoices and will seek reimbursement from the contractor if applicable.

   Responsible Department: Procurement and Everglades Restoration Construction.

   Estimated Completion: April 2008

Cost Saving Opportunity by Directly Purchasing Vehicles for District Staff

Audit Issue

Two Chevy Blazers were purchased by Barnard from a local dealership for $58,142 and charged to the District with the description "District Blazers." The vehicles have been assigned to the Acceler8 office in West Palm Beach and are used by District staff members that supervise the EAA Reservoir project. The District could have saved $13,895 by purchasing these vehicles directly and avoiding sales tax (6%), overhead (11%), and management fee (6.9%). This extra cost is partially offset by the fact that Barnard is required to insure these vehicles and not charge such cost directly to the District.

Resolution of Audit Issue

Additional vehicle needs for District staff will be purchased directly through the District's procurement process.

Process for Monitoring Equipment Hours Should be Strengthened

Audit Issue

Acceler8 field office staff did not require actual engine hour readings to substantiate the billing hours for equipment usage. Instead, they relied on an Equipment Utilization Report that Barnard submitted. The Equipment Utilization Report was based on supervisor's estimates, and would therefore not be as accurate as the actual engine readings.

Weekly estimates made by Barnard construction supervisors were used to track equipment usage. Barnard's staff stated that monthly meter readings are taken and compared to the estimates. The project Construction Manager recommended in the January 2007 equipment utilization report that: "[t]he District should require the actual engine hour meter readings, and thus be provided with an auditable number of hours worked." Inaccurate estimates may lead to over charging equipment costs to the District. Engine meter readings are more accurate and can be more easily verified.

Resolution of Audit Issue

A contract worker has been assigned the responsibility of monitoring equipment hour meters to ensure that the District is charged for the proper number of hours.

Enhance Contract Definition and Monitoring of Standby Equipment

Audit Issue

Contract provisions require a monthly review of equipment "standby" hours and charges. Equipment inactive for more than 15 days within a rental period shall be deemed not used and the rental and operating cost terminated. Standby rates are charged for non-production hours while the equipment was on site. The rates were calculated as depreciation plus cost of facilities capital, which generally represented 50% to 60% of the production rental rate.

The Construction Manager recommended in his *January 2007 Equipment Utilization Report* that "the District should consider a re-examination of current contract language and possible adjustments, such as establishing minimum required utilization rates."

District staff had not adequately implemented the Construction Manager's recommendations to remove equipment from the jobsite due to under or non-utilization. In addition, the contract provision covering inactive equipment leaves a loophole which could allow equipment with low utilization rates to be considered active and remain on the site. The Contract requires a monthly review of equipment "standby" hours and charges. It further states, "Equipment inactive for more than 15 days within a rental period shall be deemed not used and the rental and operating cost terminated." It was noted that with this criteria, equipment could be used for one hour just two days per month (15 days apart) and still meet the criteria for "active".

Resolution of Audit Issue

The same contract worker engaged to monitor equipment hour meters has also been assigned the responsibility for monitoring equipment utilization. Also, the contract language was strengthened regarding the 15 day inactivity criteria.

Holiday Pay Billed as Both Direct and Indirect Charges

Audit Issue

Holiday pay for Barnard's salaried employees was being directly charged to the District. The Contract provided for all payroll overhead costs to be included as part of the fixed multiplier markup rate (including sick leave, holidays, vacations, etc.). We noted that sick leave and vacation pay were being properly charged to overhead.

The practice of directly charging holiday pay is out of compliance with the Contract. Based on our review of the factors included in the labor overhead multiplier, we determined that holiday pay was included in the markup rate (68%). Therefore, holiday pay was charged twice, once in the multiplier, and again as a direct charge.

Resolution of Audit Issue

Acceler8 staff calculated the actual amount inappropriately charged for holiday pay to be $93,052. Barnard has agreed to credit the District for this overcharge. Correcting this practice now will also save the District approximately $300,000 over the remaining life of the project.

Ambiguous Contract Language Regarding Management Fee on General and Administrative Expense

Audit Issue

We questioned whether Barnard's Construction Management Fee is being incorrectly calculated. According to contract provisions, it appears that the management fee is not permitted on general and administrative expenses.

The Contract defines the Construction Management Fee as 6.9% of the Cost of Work (Contract Exhibit D). The Contract further states that the Cost of Work shall not include overhead and general expenses (Contract Article 11.02 Section C). However, we noted the General and Administrative expense is included in the Cost of Work subtotal to which the 6.9% is applied in calculating Barnard's fee. This interpretation would result in past overcharges of $315,372 and approximately $4.1 million over the remaining course of the project.

Resolution of Audit Issue

District staff requested Ruden McClosky address this issue – the law firm that represented the District with negotiating the original contract. They provided a different interpretation of the contract language. Ruden McClosky concluded that the 11% general and administrative factor should be included in the "Cost of Work" and therefore that Barnard is entitled to the 6.9% management fee on the cost of said work. Legal counsel for the Governing Board concurs with Ruden McClosky's interpretation.

Also, documents prepared during original contract negotiations show the 11% factor being added to cost before applying the management fee. Thus, it appears that it was staff's intention to allow the 6.9% management fee on general and administrative expenses.

Consider Other Alternatives for Builder's Risk Insurance

Audit Issue

The Contract required that Barnard obtain builder's risk insurance to cover potential damage to the project during construction. Total premiums for the insurance policies for GMP's #1 through #3 are $7,435,157. The overhead and management fee on this amount will add another $1,387,326, bringing the total cost to $8,822,483.

As of January 8, 2008, a total of $5,005,602 in premium payments have been made on these policies, which were passed on to the District. Adding $933,995 for Barnard's overhead and management fee brings total District payments to $5,939,597. If the policies had been cancelled as of January 8, 2008, approximately $3,260,000 of this amount would be refundable (including

Barnard's general and administrative expenses and management fee).

Barnard provided a GMP #4 estimated insurance premium of $ 8,025,000. The overhead and management fee on this amount will be an additional $1,497,385, bringing the total cost to $ 9,522,385. Thus, the total cost to insure GMP's 1 through 4 under Barnard's policies would be $18,344,867, including general and administrative expense.

The District could realize considerable cost savings by self-purchasing the builder's risk insurance and avoid paying Barnard's overhead and management fee. We further noted, in reviewing the policy, the builder's risk insurance basically provides coverage for losses from "physical damage to insured property at the insured project" due to earthquakes, flooding and windstorms. The deductible amounts for each occurrence are fairly high at $1 million, with exceptions for flood and windstorm damage where the deductible is 5% of the total insured value at the time of the loss, subject to a minimum deductible of $1 million. Thus, deductibles could be as much as $35 million per incident.

The District's current practice is to self-insure its existing water control structures and equipment but to require builders risk insurance on projects during construction. We also recommended that staff consider self insuring as an alternative to purchasing builders risk insurance.

Resolution of Audit Issue

District staff explored various insurance options (including self insurance) and presented several alternatives to the District's Governing Board. The final direction was for the District to purchase a policy directly with different coverage limits that better address the District's risk exposures. The total future cost to continue with Barnard's policy for GMP's #1 through #4 is $15.7 million (including general and administrative expense and management fee). The District's proposed policy would be $7.2 million, for a cost savings of $8.5 million. Furthermore, the maximum deductible for the proposed policy is $2.5 million per occurrence compared to 5% for Barnard's policy.

Small Business Enterprise Participation Goals Met

Audit Issue

At the time the Contract was executed, the District was in the rule making process for the Small Business Enterprise (SBE) program. However, the following Contract language in the General Terms [Exhibit "B", Section 1.2.7.5(e)] required the contractor to adhere to the SBE rule in the event it was adopted:

> "In the event that DISTRICT adopts, by rule or otherwise, a small business enterprise participation program for the benefit of qualified firms to participate in DISTRICT sponsored projects such as the Project subject of this Contract, CMR shall take any and all steps necessary to implement such small business enterprise participation program and to meet the goals set forth therein without delay or hindrance for all solicitations related to GMP Agreements executed after the rule takes effect."

The SBE Rule was subsequently implemented and applies to all GMP's following GMP #1. Since it was infeasible to retroactively apply the SBE Rule's criteria used in evaluating proposals, the SBE Rule's, criteria for "Subcontracting Requirements" [Section 40E-7.670(3)] was applied in establishing the SBE goals for each GMP. The goals and SBE participation for GMPs #2 and #3 are shown in the following table:

GMP	Goal	Utilization as of 12/31/07
2	13.0%	13.8%
3	16.0%	18.6%

As shown in the above table, Barnard has so far exceeded the SBE utilization goals for GMP's #2 and #3. As of December 31, 2007, Barnard has paid a total of $12.7 million to SBE vendors. The SBE goal established for GMP #4 is 11%.

We examined the Procurement Departments documentation showing how the SBE participation goals were established for each GMP and confirmed that they were established in accordance with the SBE Rule's criteria for "Subcontracting Requirements" [Section 40E-7.670(3)].

Barnard has also been effective in utilizing local vendors and those within the State of Florida as illustrated in the following table:

Subcontractors & Suppliers Utilization (in Millions)							
GMP	**Total**	**Florida**		**SFWMD**		**Glades&Clewiston**	
1	$ 11.7	$ 8.7	75%	$ 5.8	50%	$ 1.9	16%
2	7.2	5.7	78%	4.6	64%	2.0	27%
3	14.5	11.9	82%	10.6	73%	3.6	25%
Total	**$ 33.4**	**$ 26.3**	**79%**	**$ 21.0**	**63%**	**$ 7.5**	**22%**

Resolution of Audit Issue

None Required

Reconsider Assignment of
New Hope Lease Responsibilities

Audit Issue

The Contract's General Conditions, Section 2.07, assign the District's obligations for a Land Management Services lease (the "Lease") with Okeelanta, New Hope, (the "New Hope" or "Lessee") to the Joint Venture. The lease was executed on January 5, 2006 with Hew Hope to settle a dispute regarding when the District could terminate their right to farm the land upon which the EAA Reservoir is being built. The lease provides for an orderly transition of the lands farmed by New Hope out of farming to accommodate the District's implementation of the District's project. The Lessee is permitted to continue farming areas in the center of the EAA Reservoir while it is under construction.

The Lease requires the District to compensate New Hope for certain land management services during construction, including operating and maintaining water infrastructure (e.g. canals, pumps, etc.), in order to prevent any adverse water management impact to the District's project. Lease terms provide that compensation to New Hope over the lease period shall not exceed $8,994,230. The lease responsibilities were assigned to Barnard in order to avoid the possibility of claims in the event that the Lessee failed to properly manage the infrastructure, which could result in adverse conditions that may impact construction activities.

Barnard pays the compensation directly to the Lessee and direct bills the same amount to the District plus the 6.9% management fee (which drops to 5% for GMP #4). The 11% for overhead is not allowed in accordance with contract terms (and will also not be allowed under proposed terms for GMP #4). The management fee results in increasing the lease cost by approximately $525,000. Approximately $250,000 could be saved over the remaining project life if the District resumed management of the Lease (as of February 15, 2008).

Recommendation

3. **Reconsider whether the additional cost of assigning the lease to the Joint Venture compared to the risk of the District managing the lease.**

Management Response: Staff recommends that Barnard Parsons Joint Venture continue to manage the lease on the site. The lease area is an integrated part of the construction footprint and it is standard practice that the contractor should bare ultimate responsibility for the site. The two entities have to work closely on the water management of the site not only to ensure construction moved forward in a timely manner, but additionally to ensure the crop is protected throughout construction.

Further, the two parties have to coordinate daily ongoing activities at the site. Should the District have to manage the lease, it would require additional staff to support the lease.

Responsible Department: Everglades Restoration Construction.

Estimated Completion: February 2008

Audit of Equipment Hourly Rates

Rental Rate Blue Book is an Appropriate Standard When Properly Applied

Audit Issue

The EAA Reservoir A-1 Management at Risk Services Contract Exhibit D, paragraph G, states that "Equipment Rates shall be negotiated using the then current version of the Rental Rate Blue Book". The Rental Rate Blue Book and the associated Equipment Watch Custom Cost Evaluator are accepted by the construction industry as authoritative in their methodology for determining ownership and operating costs for construction equipment.

We found that the Rental Rate Blue Book standard provides a good basis and methodology for establishing hourly equipment rates. The Rental Rate Blue Book breaks the cost down into the following components:

- Ownership Cost
  - Depreciation – refers to capitalization of the acquisition cost of equipment on straight line basis over its economic life.
  - Cost of Facilities Capital – is not the same as interest charges, but is an allowance for the cost of money invested in machinery, whether the machinery is purchased in cash or financed over time. The cost of money rate is set by the U.S. Treasury Department each January 1 and July 1.
  - Overhead – annual direct costs of normal risk insurance and property taxes, along with the indirect costs of storage, security, mechanics supervision, inspection, licenses, and record keeping.
  - Overhaul Labor – cost is accrued to offset charges incurred to replace, rebuild, and recondition major cost components, whether the repair is performed in the contractor's maintenance facility or at an outside shop. It does not include complete overhauls and remanufacturing which are done to extend the economic life of the equipment.

- Overhaul Parts – costs are accrued to offset costs for periodically replacing, rebuilding, and reconditioning major components, such as engines, transmissions, undercarriages, etc. It does not include complete replacing, rebuilding and reconditioning which are done to extend the economic life of the equipment.

➢ Operating Cost

- Field Repair Labor – cost is accrued to offset charges incurred to perform normal field repair and maintenance. Field labor includes replacing parts consisting of anything short of a major component overhaul or replacement.
- Field Repair Parts – costs are accrued to offset the costs for supplying parts necessary to keep the equipment operating in good condition. These parts consist of anything short of a major component overhaul or replacement.
- Ground Engaging Component Cost – include repair and/or replacement, either in whole or part, of ground engaging components such as pads, drums, teeth, and cutting edges.
- Tires – costs include the repair and/or replacement of tires. Listed tire costs are based on the current price of tires, typical contractor discounts, sales taxes, and the tire life listed, which reflects average working conditions.
- Electric/Fuel – fuel costs are calculated using average load factors, equipment horsepower, and the price of fuel per gallon.
- Lube – includes the cost of oils, grease, coolants, and filters.

The Rental Rate Blue Book methodology also provides the ability to make adjustments to the various standard cost components using their Custom Cost Evaluator in order to tailor rates for specific project and contract conditions. Many adjustments were made to the Rental Rate Blue Book standard rates in establishing the equipment rates for the Contract. We examined all these adjustments to determine whether they are reasonable and justified. Our analyses and conclusions are presented in the following sections.

Resolution of Audit Issue

None required.

Rental Rate Blue Book Uses an Appropriate Depreciation Methodology

Audit Issue

The Rental Rate Blue Book and the Custom Cost Evaluator database contains cost information for most equipment manufactured within the past twenty years, including information necessary for the calculation of depreciation. The Rental Rate Blue Book and Equipment Watch Custom Cost Evaluator draw from the same database.

The depreciation cost component is defined in the Rental Rate Blue Book's User Guide as the "capitalization of the acquisition cost of equipment over its economic life." The following table provided a hypothetical example of how the Rental Rate Blue Book calculates the hourly depreciation rates for equipment:

Formula for Hourly Depreciation Rates		Example
Manufacturers List Price		$500,000
Less: Typical Dealer Discount (10%)	–	(50,000)
Discounted Purchase Price	=	$450,000
Plus: Sales Tax (6%)	+	27,000
Plus: Freight Cost	+	10,000
Total Acquisition Cost	=	487,000
Less: Salvage Value (20%)	–	(97,400)
Depreciable Basis	=	$389,600
Divided by Useful Life (Hours)	÷	10,000
Depreciation Cost Per Hour	=	$38.96

As can be seen in the above example, adjusting any of the factors used in the depreciation formula will result in modifying the hourly depreciation rate.

Resolution of Audit Issue

None required.

Equipment Purchase Prices Are Overstated

Audit Issue

The Rental Rate Blue Book database provides standard values for the following: equipment prices, typical dealer percentage discount to list price, and the discount price at which the equipment is typically sold. The database is updated every six months to maintain current values. The database's standard values are used in calculating total hourly costs. The Rental Rate Blue Book's Custom Cost Evaluator also allows users to input adjustments for changes in equipment prices not reflected in the database.

In establishing hourly rates for the EAA Reservoir A-1 Contract, the equipment prices were adjusted upward based on list price quotes that Barnard supplied. This was done based on Barnard's assertion that the Rental Rate Blue Book list prices were outdated and did not reflect current market prices. Additionally, the average discounts from list price percentages were adjusted to zero. When we requested an explanation from District staff as to why the discounts were adjusted to zero they informed us that during negotiations (for the original contract), Barnard's representatives contended that most of their equipment pieces are Caterpillar brand and that Caterpillar dealers do not sell their products at discounts, and thus they must pay list price for most of their equipment.

We first tested the reasonableness of the Rental Rate Blue Book list prices. The District's Fleet Manager assisted us with obtaining quotes from local equipment dealers for a sample of 16 equipment pieces (mostly Caterpillar). We then compared the independent quotes to the Rental Rate Blue Book's standard values, as well as to those prices used for establishing the hourly rates for the Everglades Agriculture Area Reservoir A-1 Contract. (We were unable to obtain quotes for 5 of the 16 pieces because of the specialized nature of the equipment and apparent lack of local dealers carrying the equipment.) We found that the list prices we obtained from local dealers were generally higher than the Rental Rate Blue Book, thereby confirming Barnard's assertion that the Rental Rate Blue Book's rates were not current. Conversely, we also found that the Rental Rate Blue Book discount percentages were lower than those actually offered by the local dealers that provided the quotes. Further research revealed that Caterpillar dealers have a factory program called Governmental Merchandising Program, which has additional discounts over the standard factory discounts for their governmental customers. Private contractors are not eligible to receive these additional governmental discounts, even if the equipment is used for governmental projects. We found that the price quotes we obtained reflected governmental pricing, thereby explaining why the discounts were higher than those in Rental Rate Blue Book. Nonetheless, we found that Caterpillar dealers do sell equipment to contractors at discounts from list prices.

In addition to the independent quotes, we requested Barnard to provide copies of invoices to verify what they actually paid for the equipment. Barnard supplied us with the requested documentation for 9 of the 16 equipment pieces. This information further confirmed that equipment, including Caterpillar, can be purchased at discounts from list prices.

Since the quotes that the District's Fleet Manager obtained reflected the governmental pricing, the Rental Rate Blue Book discounts were considered reflective of those available to contractors and were the discounts used in our analysis. Rental Rate Blue Book discounts from list prices for the equipment sampled ranged from 5% to 18%. When we compared normal discounted prices available to non-government customers to the list prices that Barnard contended should be used in establishing hourly equipment rates, we found that, on average, equipment purchase prices were overstated by 10.8%. We estimated that adjusting the Rental Rate Blue Book discount to zero results in overstating equipment cost for GMP #4 by approximately $5.1 million. (Estimate reflects an assumed escalation factor of 3% annually.)

Barnard's more recent explanation is that discounts were not used in the rate calculations in order to provide a "cushion" for future equipment price increases, since the contract did not have a provision for rate escalations. This is not an equitable trade-off for the District. One factor to take into account when considering escalations factors is that the recent downturn in the housing market has significantly curtailed land development activity and, consequently, has curtailed the demand for heavy earth moving equipment. Such economic conditions do not provide equipment manufacturers with much pricing power.

Resolution of Audit Issue

See page 50 regarding resolution of this issue.

Incorrect Sales Tax Rate

Audit Issue

Another cost factor affecting total acquisition cost is sales tax. We noted that 6.71% was being used as the Palm Beach County Sales Tax rate. The Rental Rate Blue Book formula adds sales tax to the equipment purchase price when establishing the total acquisition cost to be depreciated.

Based on our research of the Florida Department of Revenue's Tax Rate charts and the Discretionary Sales Surtax Information chart, we noted that the appropriate sales tax rate in Palm Beach County is 6%, plus a county surtax of .5% on the first $5,000 on a single sale of tangible personal property, or $25 maximum (.005 X $5,000).

The Custom Cost Evaluator's standard value was 5.4%. Barnard used 6.71% based on Florida State Sales Tax of 6.0%, plus Palm Beach County Sales Tax of 0.5% and Use Tax of 0.21%. The formula did not take into account that the 0.5% on Palm Beach County Sales Tax applies to only the first $5,000, which is insignificant when purchasing pieces of equipment that typically cost several hundred thousand dollars each. The Use Tax of .21% does not exist and thus unwarranted. The appropriate rate to use is 6.0%.

Resolution of Audit Issue

Barnard agreed to adjust the sales tax rate to 6.0%.

Depreciation Overstated Due to Understating Residual Values on Some Equipment

Audit Issue

Salvage value is one of the factors that affect the hourly rates for equipment (see section regarding Depreciation).

We reviewed a sample of 16 Rental Rate Blue Book Custom Cost Evaluator calculations for reasonableness and compared them to an independent source - the U.S. Army Corps of Engineers publication *EP 1110-1-8 Construction Equipment Ownership and Operating Expense Schedule (Region III) Appendix D Equipment Hourly Calculation Factors*.

Our analysis revealed that the salvage values used for 5 of the 16 equipment pieces were significantly lower when compared to the U.S. Army Corps of Engineers salvage values. Since the Rental Rate Blue Book's database did not contain salvage values for these five equipment pieces, the salvage values were entered as a user adjustment. The effect of the lower salvage values results in increasing the depreciation basis, thereby increasing the hourly depreciation rates.

Resolution of Audit Issue

See page 50 regarding resolution of this issue.

Economic Useful Life Hours Are Reasonable

Audit Issue

Economic useful life is another factor that affects equipment hourly rates. (See section regarding depreciation.) The Rental Rate Blue Book uses standard values from its database for the useful life component.

A sample of 16 Rental Rate Blue Book calculations was selected and the useful life values were reviewed for reasonableness by comparing the values to the U.S. Army Corps of Engineers Equipment Hourly Calculation Factors. We found that the useful life values used by the Rental Rate Blue Book were comparable to the U.S Army Corps of Engineers values.

We concluded that the Economic Life Hours used by Rental Rate Blue Book are reasonable. No changes were made to the economic useful life factors in calculating the hourly rates for the EAA Reservoir A-1 Management at Risk Contract. The standard useful life values should continued to be used.

Resolution of Audit Issue

None required.

Actual Cost for Aggregate Processing Plant Equipment Appears Reasonable

Audit Issue

An aggregate processing plant is being constructed at the EAA Reservoir site (GMP #2) to crush rock that will be used in constructing the embankment (GMP #4). This plant requires many specialized pieces of equipment that are not commonly purchased. Consequently, the Rental Rate Blue Book did not contain standard costs for many of these pieces of equipment and the hourly rates had to be developed using the Custom Cost Evaluator. Thus, the various cost component factors were manually entered.

The completed plant consists of a combination of approximately 16 separate types of equipment. At the time of our audit fieldwork, three pieces had not been purchased yet. The purchase price for the equipment was input based on quotes that Barnard provided from various vendors. We obtained the supplier’s price quotes from Barnard for each piece of equipment, as well as the actual invoices and cancelled checks.

We found that the price quotes agreed with the amounts input into the

Equipment Watch Custom Evaluator. Since 13 of the 16 pieces had already been purchased we also compared the actual purchase price to the price quotes and found that in some cases the actual purchase price was more than the quoted price and in some cases the actual purchase price was less. After combining all 13 pieces together we found that quoted prices totaled $6,316,002, while invoiced prices totaled $5,906,823, for a net difference of $409,179, or 6.48%.

The quoted prices were used by Barnard for the pricing proposal, which occurred prior to the actual purchase of the items. The time between the price quotes and the actual purchase may account for the differences. The aggregate processing plant was substantially completed subsequent to us completing our audit fieldwork and is now in operation. According to District staff, the final plant configuration in not completed and will include some additional conveyor belts and other components that were not included in the estimate. Consequently, the final cost for the plant is projected to exceed the total estimated cost. However, the District will still be charged hourly rates established based on the estimated costs.

Recommendation

4. **Compare the final cost of the aggregate plant to the estimated cost to determine that the hourly rates are reasonable.**

   Management Response: Staff will review and compare the negotiated estimates verses the actual costs once all the equipment has been purchased. The estimates where created by actual quotes based on what was believed to be the best configuration of the rock crushing plant. However, the contractor does have the risk of configuring the plant to work most efficiently. In this respect additional equipment has been purchased beyond what was negotiated at the contractor's risk. Further, components of equipment have been reconfigured thus making it unusable in the future.

Responsible Department: Everglades Restoration Construction.

Estimated Completion: April 2008

Cost of Capital Overstated

Audit Issue

One of Rental Rate Blue Book ownership cost components is the Cost of Facilities Capital. We found that Rental Rate Blue Book appropriately uses the rate established by the Secretary of the Treasury. However, Barnard asserted that the prime interest rate should be used, and thus the rate was adjusted up to 8%. This upward adjustment to the Cost of Facilities Capital is not warranted.

Facilities capital cost of money is an imputed cost related to the cost of contractor capital committed to facilities. The facilities capital cost of money is determined without regard to whether the source is owners equity or borrowed capital. It is not a form of interest on borrowing by the firm. The cost of money rate is based on the interest rates specified semi-annually (in January and July) by the Secretary of the Treasury. This rate was 5.75% during the second half of 2007 when GMP #4 was being negotiated; however, it appears that 5.75% was the peak for the current interest rate cycle. The rate dropped to 4.75% as of January 1, 2008, as a result of recent Federal Reserve interest rate cuts. The average rate over the past four years (approximate project duration) was 4.89%. We estimated that this overstated equipment cost by approximately $6.2 million (including general and administrative expense and management fee).

Resolution of Audit Issue

Barnard agreed to reduce the Cost of Facilities Capital rate to 5.25%. In our opinion this is a reasonable rate considering the length of the project. This resulted in savings of approximately $5.4 million (including general and administrative expense and management fee).

Consider Establishing an Equipment Overtime Rate

Audit Issue

The Rental Rate Blue Book formula assumes normal annual usage, which for most pieces of equipment is typically in the range of 1,200 to 1,300 hours. When equipment is used more hours than the standard usage, the contractor recovers their investment in the equipment over a shorter period of time through higher depreciation charges. Hence, the Cost of Facilities Capital is fully recovered once the normal usage number of hours has been billed. Thus, the Cost of Facilities Capital should be reduced to zero for hours billed in excess of the normal annual usage.

The significance of this issue is that double shifts will be running during the embankment construction. Thus, many pieces of equipment will be operating 16 hours per day with little down time. This some will result in many predominant equipment pieces being used as much as 4,000 hours per year, or about three times the Rental Rate Blue Book's standard usage.

Currently, each piece of equipment has two hourly rates – an operating rate and a standby rate. The difference in the cost of operating equipment in excess of normal usage could be addressed by creating a third "overtime" hourly rate. An appropriate methodology for establishing overtime rates would be to take the standard rate and reduce the Facilities Cost of Capital amount to zero. (To facilitate monthly billings the standard annual rate should be converted to a monthly rate at one-twelfth the annual rate.) Our research revealed that the U.S. Army Corps of Engineers uses a similar methodology for hours in excess of normal annual usage.

Resolution of Audit Issue

Acceler8 staff negotiated a lower overtime rate based on 82% of the full hourly rate, resulting in an estimated savings of approximately $2.1 million.

Overhaul Labor and Parts Fairly Stated

Audit Issue

No adjustments were made to the Rental Rate Blue Book's overhaul cost. The standard value appears reasonable and should continue to be used.

Resolution of Audit Issue

None required.

Provide an Adjustment Factor for Equipment Insurance

Audit Issue

The Rental Rate Blue Book provides a General and Administrative cost factor. This cost component was adjusted to zero because this is covered in the 11% overhead factor already added to labor, materials, and equipment. Rental Rate Blue Book includes equipment insurance in the general and administrative cost component; however, equipment insurance is not included in Barnard's general and administrative expense. Thus, it is appropriate to include a cost factor in hourly equipment rates to cover insurance cost. Barnard has proposed adding 2% to hourly rates to cover this cost. Our analysis concluded that insurance cost is in the range of 1.86% to 2.33%. We concluded that Barnard's proposal to add 2% appeared reasonable and recommended that the District's negotiating team accept Barnard's proposed rate. The estimated cost for the equipment insurance for GMP #4 is approximately $1.6 million.

Resolution of Audit Issue

Two percent was included in hourly rates to cover the insurance cost.

Field Repairs Labor is Direct Billed and Appropriately Adjusted to Zero

Audit Issue

The labor cost component for field repairs was reduced to zero since the salaries for on-site mechanics are being direct billed to the District. This adjustment is appropriate and should continue to be made.

Resolution of Audit Issue

None required.

Field Repair Parts Adjustments Acceptable

Audit Issue

The parts component of field repairs was adjusted up 20% from Rental Rate Blue Book's standard rates due to site conditions that are more strenuous than normal conditions (i.e., muck and rock). Based on our research, the adjustment appears reasonable and justified.

Resolution of Audit Issue

None required.

Ground Engagement Component Adjustments Acceptable

Audit Issue

The Ground Engagement Components cost was adjusted up 20% from Rental Rate Blue Book's standard rates due to site conditions that are more strenuous due to frequent contact with rocks. Based on our research, the adjustment appears reasonable and justified.

Resolution of Audit Issue

None required.

Tires Prices Inflated

Audit Issue

We analyzed tire cost to determine whether the tire prices and tire life factors, as adjusted in the Rental Rate Blue Book Custom Cost Evaluator, are reasonable and representative of true cost. The tire cost component takes into account the cost of a set of tires and the average life of the tires. The Rental Rate Blue Book standard hourly rates for tires were adjusted significantly upward. This resulted from both increasing the tire prices by approximately 80% and decreasing the useful lives by 20%. The hourly tire costs were more than doubled in many cases.

The sample of 16 pieces of equipment selected for review included five pieces that use tires. We obtained an independent quote for tires for these pieces of equipment from a local heavy equipment dealer. The independent quote confirmed that the Rental Rate Blue Book standard cost fairly represents actual cost. The tire purchase prices were adjusted significantly upward based on Barnard's contention that tire prices had increased significantly due to a tire shortage. We confirmed with a local equipment dealer that there was a temporary tire shortage at one time but that the shortage no longer exists. Establishing tire prices for a four year project based on prices during a temporary tire shortage is an inappropriate methodology. Adjustments to the Rental Rate Blue Book tire prices are not justified.

We compared the Rental Rate Blue Book useful tire life to those used by the U.S. Army Corps of Engineers and found them to be comparable. However, the Rental Rate Blue Book standard useful life is based on normal site conditions. Using the U.S. Army Corps of Engineers criteria for useful tire life, normal ware assumes that equipment is used predominately on soft surfaces such as dirt, sand, clay, etc. Usage predominately on hard surfaces shortens tire life by approximately 20%. The equipment will be operated predominately on a limestone surface. Thus, decreasing the tire useful life by 20% appears to be justified.

Resolution of Audit Issue

See page 50 regarding resolution of this issue.

Fuel Cost is Direct Billed and Appropriately Adjusted to Zero

Audit Issue

The fuel cost component was adjusted to zero because this is being direct billed to the District. This adjustment is appropriate and justified and should continue to be used.

Resolution of Audit Issue

None required.

Lube Cost Adjustments Acceptable

Audit Issue

The labor component of lube cost was removed since the salaries for on-site mechanics are being direct billed to the District. This adjustment is appropriate and justified and should continue to be used.

Resolution of Audit Issue

None required

Pickup Truck Daily Rates Exceed Actual Cost

Audit Issue

Part of the equipment cost includes 79 pickup trucks, of which 10 are 4X4 ½ ton standard and 69 are 4 X 4 ¾ ton crew cabs. The billing rates established in contract Exhibit D-3 allows $7 per hour for vehicles classified as ½ ton and $9 per hour for a ¾ ton. (For GMP # 4 Barnard is proposing the ½ tons be increased to $8 per hour.) The Contract allows for billing eight hours per day regardless of the actual operating time.

The annual amount billed per year for each pickup class is shown in the following table:

Pickup Class	Daily Rate	Annual Work Days	Annual Billing Per Truck
½ Ton	$ 56	250	$ 14,000
¾ Ton	$ 72	250	$ 18,000

Additionally, the labor for maintenance and repairs, as well as the fuel are direct billed. Thus, these costs are in addition to those shown in the above table.

The Rental Rate Blue Book formula was used in establishing the above rates. Our analysis revealed that although the Rental Rate Blue Book formula is an appropriate standard for establishing rates for pickup trucks it was inappropriately applied. Upward adjustments to list price, sales tax, and facilities cost of capital factors were made to the Rental Rate Blue Book standard values. The list price of a ½ ton pickup truck was increased from $19,885 to $30,370, and the list price of a ¾ ton pickup truck was increased from $28,010 to $34,500, with no discounts. These upward adjustments are not justified. Furthermore, all eight hours per day were considered operating hours when, in reality, they are likely operated no more than two or three hours per day. Therefore, the other five or six hours per day should be charged at the standby rate instead of the operating rate.

Properly applying the Rental Rate Blue Book formula results in the following operating and standby rates:

Pickup Size	Hourly Rates	
	Operating	Stand-By
½ Ton	$ 5	$ 3
¾ Ton	$ 7	$ 4

Assuming three hours per day at the operating rate and five hours per day at the stand-by rate results in the following daily rates:

Pickup Size	Daily Rates		Total
	Operating	Stand-By	
½ Ton	$ 15	$ 15	$ 30
¾ Ton	$ 21	$ 20	$ 41

Applying the above rates would result in the following annual cost differences per vehicle:

Pickup Size	Current Rate	Proposed Rate	Difference
½ Ton	$ 14,000	$ 7,500	$ 6,500
¾ Ton	$ 18,000	$ 10,250	$ 7,750

Since pickup trucks are on-road vehicles, we also compared the cost of owning and operating them using the Edmunds.com website's "True Cost of Ownership" feature. This feature provides a breakdown of all the costs associated with operating a particular vehicle over a five year period. We ran this analysis for several typical pickup trucks on Barnard's equipment list, adjusted them for direct billed items, and then added the cost for the first four years (approximate length of the project).

The results are shown in the following table:

Pickup Size	Four-Year Cost	Billed Hours (for 4 yrs.)	Cost Per Hour
½ Ton	$ 35,470	1,000	$ 35.47
¾ Ton	$ 39,910	1,000	$ 39.91

This analysis further supports our conclusion that the current rates significantly exceed the true cost to own and operate the pickup trucks.

The following table shows our estimate of the effect that the overstated pickup truck daily rate will have over the project duration:

Project Phase	Approximate Cost at Current Rates	Approximate Cost at Proposed Rates	Cost Difference	
GMP 1	$ 720,000	$ 410,000	$ 310,000	Based on ~ 40 trucks
GMP's 2 - 7	$ 4,146,000	$2,346,750	$1,799,250	Based on ~ 79 trucks
Total	$ 4,866,000	$2,756,750	$ 2,109,250	
Percent Overstated			**43.3%**	

In summary, the results of our analyses reveal that the pickup truck daily rates of $56 and $72 for ½ ton and ¾ ton, respectively, exceed the true cost of owning and operating these vehicles.

Resolution of Audit Issue

See page 50 regarding resolution of this issue.

Questionable Pickup Truck Usage

Audit Issue

In addition to using the pickup trucks at the job site, approximately 90% of them are also used by Barnard employees for commuting to work. Most of these employees live in either Palm Beach County or Broward County. We also reiterate that the fuel for these vehicles is directly billed the District. Management, in consultation with the Governing Board, should review this matter as to whether they intended for the District to directly absorb the commuting cost for Barnard's employees. In addressing this issue, consideration should be given as to whether the District would provide the same benefit to District employees if the EAA Reservoir field office was their primary work place where they were required to report to work daily.

Resolution of Audit Issue

In management's opinion, this is an acceptable practice. Management informed us that in the construction industry it is normal to provide this benefit to workers for projects in remote locations.

Ensure that the District is Charged for Equipment Models Actually Used

Audit Issue

Another method contractors may use to over charge for equipment cost is to bill the hourly rate for a larger equipment model than was actually used to perform the work. This issue should be monitored to ensure that the District is billed for the correct equipment models.

Resolution of Audit Issue

The same contract worker engaged to monitor equipment hour meters has also been assigned the responsibility for ensuring that the District is charged for the correct equipment models.

Resolution of Equipment Cost Issues

We estimated that the net effect of all the proposed adjustments to the Rental Rate Blue Book's standard values results in overstating total equipment cost for GMP #4 by approximately $18.1 million. Barnard agreed to approximately $19.4 million of price concessions in equipment and other cost categories. These prices concessions are summarized as follows:

- Facilities Cost of Capital - Barnard agreed to reduce the rate to 5.25%. This resulted in reducing equipment cost by approximately $5.4 million.
- Overtime Rate - Barnard agreed to overtime rates that are 18% below the regular rates. This resulted in reducing equipment cost by approximately $ 2.1 million.
- Depreciation, Tires, and Pickup Trucks – No adjustments were made directly to these cost items, except that Barnard agreed to adjust the sales tax rate to 6%. However, staff succeeded in negotiating cost concessions in other areas. Approximately $11.9 million in cost concessions were agreed to on general and administrative expense and the management fee.

Consider Using Conventional Fixed Bid Procurement Approach for Future Construction Projects

It should be noted that although the contract management at risk procurement and contract method has been used in the past, the District should consider the more traditional and conventional procurement approach to accelerate construction projects in the future. We recommend that this approach would require the District to pre-qualify contractors with the skills, knowledge, and expertise in the construction of reservoirs and embankments. The pre-qualification process, which the District will develop, would result in a list of qualified contractors who would be the only contractors authorized to submit bids on projects though the District's procurement solicitation process. Of course, the construction procurement solicitation process would include completed design drawings and specifications and other contract terms and condition which would include, but not be limited to; all unit quantities, and the cost for all labor, materials, equipment, subcontract, insurance, overhead, and management fee, necessary to complete the project that would require a low bid from the pre-qualified list of contractors. This process should also include procedures to address any ambiguities in the bid package being offered. In addition, the Governing Board's rule on Small Business Enterprise should be fully enforced to assure Small Business Enterprise participation, since this rule has an established methodology and formula to implement the same. Once the bid has been submitted there should be no further negotiations for the cost of the project unless changes are necessary during the construction process, which would be addressed through the District's established change order or claims process. The construction management at risk approach requires significant monitoring efforts by District staff as well as significant auditing efforts.

We suggest management, in consultation with the Governing Board, consider using the conventional fix bid procurement approach for future construction projects. If it is decided to continue using the construction management at risk contract approach, consider retaining the negotiating team composition used for GMP #4 (i.e. combination of District staff and Board Counsel) that possesses the familiarity and experience with the process.