

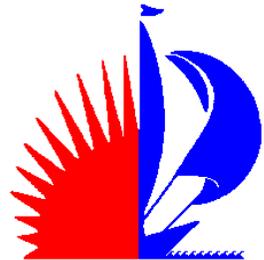
Management Review

of

**17% Engineering/Architectural In-
House Labor Fee Charged to Capital
Improvement Projects (CIPs)**

Report of Audit 05/06-XX-01

January 5, 2006



Office of Management and Budget

Internal Audit

MEMORANDUM NO. 06-10

DATE: January 5, 2006

TO: Public Works Director/Albert Carbon
City Engineer/Peter R. Partington, P.E.

SUBJECT: *Review of 17% Engineering/Architectural In-House Labor Fee Charged to Capital Improvement Projects (CIPs).*

Enclosed is the “subject” Final Report of Audit.

Allyson C. Love
Director, Office of Management and Budget

Attachment - Final Report of Audit

c: City Commission
City Manager/George Gretsas
Assistant City Manager/Kathleen Gunn
Assistant City Manager/Stephen Scott
Finance Director/Bernard Wray

ACL/vf

REPORT OF AUDIT NO. 05/06-XX-01

DATE: October 21, 2005

TO: Public Works Director/Albert Carbon

FROM: Director, Office of Management and Budget/Allyson C. Love/5853

VIA: Assistant Internal Audit Director/Renee Foley

BY: Financial Management Analyst/James Hamill

SUBJECT: Review of 17% Engineering/Architectural In-House Labor Fee Charged to Capital Improvement Projects (CIPs)

BACKGROUND

The City of Fort Lauderdale Public Works Department assesses a 17% internal Engineering/Architectural (EA) fee on general Capital Improvement Projects (CIPs) calculated on the total of actual construction costs. The 17% EA fee is comprised of the following components (Design 7%; Inspection 5%; Survey 3%; Administration 2%). The fee is intended to provide resources to the General Fund to help defray the cost of providing these services and to assure the cost of capital assets accurately reflects all reasonable and customary expenditures to condition an asset for its intended use and location.

According to the Public Works Director (PWD), the 17% EA fee rate has been established for approximately 20 years and was reviewed for reasonableness back in 1988 by an external consultant, Vertex Cost Systems, Inc. (Vertex). According to Vertex's analysis, the 17% rate was inadequate because it did not fully recover personnel, fringe benefits, and other indirect costs for the services provided. Consequently, Vertex recommended the rate be increased to 26%; however, their recommendation was never implemented. The PWD indicated the quality/usefulness of the Vertex study could have been enhanced if Industry Standard comparable percentages were identified and used as a benchmark to substantiate the appropriateness for each of the individual fee component percentages included in the 17% fee structure. Based on observations, Vertex also did not explain the methodology used to derive full cost rates in their report.

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SCOPE

The overall objective of our review was to determine the appropriateness of the 17% EA fee, verify whether it was applied consistently to CIPs, and determine if the methodology as applied resulted in accurate reporting of the cost of capital assets in compliance with Generally Accepted Accounting Principles (GAAP). We interviewed Engineering management and administrative staff, consulted with the City Controller, performed comparative analyses of completed projects with components provided in-house and/or outsourced, surveyed other local municipalities, and conducted research of various EA Professional Associations to assist in the identification of industry average statistics. Project documentation, invoices and analysis were reviewed primarily for fiscal year 2003-2004 during the month of September 2005. The review was completed in accordance with generally accepted government auditing standards.

OVERALL EVALUATION

The Office of Management and Budget (OMB) could not validate the appropriateness of the 17% rate used to allocate EA fees to CIPs. The current method is not supported by written policies and procedures, lacks systematic organization, and has not been applied consistently to general CIPs. This misapplication of the 17% EA fee or exemption of certain projects is contrary to guidance received from the Government Finance Officers Association (GFOA) and places the City at risk of non-compliance with GAAP. According to the GFOA – Governmental Accounting & Financial Reporting a/k/a the “Blue Book”, “Fixed (Capital) assets should be recorded at historical (i.e., original) cost,” which normally equals the governmental expenditures incurred to purchase or construct the fixed asset. “Such expenditures include not only the purchase price or construction costs of the asset, but also any other reasonable and necessary costs incurred to place the asset in its intended location and prepare it for its intended use. Such costs could include the following:

- Legal and title fees;
- Closing costs;
- Appraisal and negotiation fees;
- Surveying fees;
- Damage payments;
- Land-preparation costs;

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- Demolition cost;
- Architect and accounting fees;
- Insurance premiums during the construction phase;
- Transportation charges; and
- Interest costs during construction.”

OMB also found specific mention in accounting textbooks¹ that the costs of Engineers, Architects or Supervisors who oversee construction activities are properly included with the cost of capital assets.

FINDING

OMB was unable to validate the appropriateness of the 17% Engineering/Architectural in-house labor fee charged by the City because rates charged were not applied consistently and alternate methodologies were used to allocate Engineering/Architectural soft costs to CIPs, resulting in improper valuation/reporting of capital assets and non-compliance with GAAP.

Inconsistent Rate Application

General CIPs

Our review identified general CIPs with the following application inconsistencies of the EA percentage rate:

Project #	Description	Rate	Fee Assessment
P10952	Holiday Park Tennis Center Resurfacing	N/A	Internal EA fees were not assessed
P09957	Replacement of Fire Station #2	N/A	Internal Engineering services provided but EA fees were not assessed
P10443	Sunset Memorial Gardens Cemetery	5%	EA fee was reduced to 5% due to budget/resource limitations
P10372	One Stop Shop at Lincoln Park	13%	Engineering design component (7%) was outsourced; however, the rate charged was 13% and not reduced to 10% (17% - 7%)

¹ Financial Accounting – A Business Perspective textbook (ISBN 0-256-13196-1)

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Alternate Methods of Charging Engineering Soft Costs to CIPs

Our review also revealed the following alternative methods for charging various types of CIPs for EA services, which diminishes the consistency of the application of the 17% General EA fees.

CIP Project Types	Design	Inspection	Survey	Administration
General CIPs (17%)	7%	5%	3%	2%
Airport CIPs	Directly based on time & cost info from Engineering Tracking	Same as Design	Same as Design	Same as Design
Water Works (WW) 2011 CIPs	Directly-Payroll for staff assigned exclusively to WW2011 Projects	Same as Design	Directly based on time & cost info from Engineering Tracking	Algorithm
CIPs w/Outsourced Design included w/Accelerated Plan	N/A	An overall rate of 13% of total construction costs is charged for Inspection, Survey & Admin which is mathematically Incorrect & should be 10% (17%-7%)		
BCIPs	0%	0%	0%	0%
NCIPs	0%	0%	0%	0%

BCIPs-Business Capital Improvement Projects

NCIPs-Neighborhood Capital Improvement Projects

Identification of Comparable Rates for 17% EA Fee

General CIPs with Outsourced Service Components

An analysis of four CIPs with outsourced components revealed Engineering soft costs (typical of those costs included in the 17% EA fee) as a percent of total construction costs averaged 14.4% or 16.4% (including Administration 2%), which on the surface suggests the 17% internal EA fee is reasonable/appropriate. However, OMB noticed significant variability in the individual project results/percentages and therefore, questions whether the results are representative of the population values because of the small sample size. Pertinent project information was requested from Public Works by September 30, 2005 (OMB Memorandum No. 05-47 attached) to no avail; thus, we were only able to perform a limited review.

Project #	Description	(A) Total Engineering Costs	(B) Total Construction Costs	(A/B) Total Eng Costs as a % of Total Const Costs
P10423	Holiday Park War Memorial Renovation	\$ 350,261.00	\$ 1,761,101.00	19.9%
P09957	Replacement of Fire Station #2	129,574.00	5,617,139.00	2.3%
P10372	One Stop Shop at Lincoln Park	1,135,891.00	3,757,472.00	30.2%
P00168	Ft Lauderdale Stadium Improvement Account	34,132.00	334,379.00	10.2%
Total		\$1,649,858.00	\$11,470,091.00	14.4%

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Airport CIPs

A similar analysis was completed for 10 Airport CIPs, which are all exempted from the 17% EA fee. The Airport Project Engineer explained Airport CIPs are charged based on actual engineering services provided to satisfy grant reimbursement requirements. Our analysis shows 12% would be an appropriate comparable to the 17% EA in-house fee (10% shown below + 2% for Administration).

Service Component	(A) Airport CIP Actual Amts as a % of Total Construction Costs	(B) Applicable % Rate of 17% Internal EA Fee	(B-A) Difference
Engineering/Design Costs	5.3%	7.0%	1.7%
Testing/Inspection/ Construction Mgmt.	4.3%	5.0%	.7%
Survey	0.4%	3.0%	2.6%
Total	10.0%	15.0%	5.0%

Industry Standard Comparables

No Industry Standards were available to compare to rates charged by the City. We contacted the following sources to attempt to identify Industry Standard comparables and were unsuccessful to conclusively determine this information is generally available.

- Editorial Research Director at the Engineering News Record
- R.L. Townsend & Associates (Construction Cost Control Consultants)
- The National Society of Professional Engineers
- The American Society of Civil Engineers
- American Institute of Architects (AIA)

The City Architect explained the AIA used to publish these industry average statistics; however, because of antitrust considerations they stopped publishing industry average cost information. We obtained from the AIA's general counsel their Antitrust Compliance Statement and Procedures which stated the following:

“Statistical data may obviously be compiled for legitimate purposes. Statistical information also may cause problems from an antitrust standpoint, however, if their use somehow harms competition. This might happen, for instance, if statements in AIA publications were to suggest what production, price, or specific market demand should or would be in the future.”

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Based on the aforementioned, our ability to obtain industry average statistics for cost comparison purposes is inhibited.

Methodologies Used by Other Cities

Based on discussions with representatives from other Broward municipalities, the following practices were revealed:

Municipality	Methodology
City of Hollywood	All engineering design, survey, inspection and construction management costs are accumulated in an Internal Service Fund and allocated to CIPs based on a budgeted annual rate which can vary from year to year but usually falls within the range of 15 to 20%. A deficit fund balance in the Internal Service Fund at fiscal year end would tend to increase the budgeted rate for the following period and a surplus balance would have the opposite effect.
City of Sunrise	All engineering design work and survey is outsourced. Construction management and inspection is performed in-house and actual costs for these services are charged to a capital projects cost center during the year. At each fiscal period end the controller allocates these accumulated costs to specific CIPs based on what staff represents as the % of their time spent on each project during the year (subjective estimate).
City of Coral Springs	All engineering design, survey and construction management services are outsourced. There are no internally assessed charges for these services.

RECOMMENDATIONS AND MANAGEMENT COMMENTS

In order to fully evaluate the appropriateness of the 17% EA fee, the *Public Works Director* should:

Recommendation 1. *Require staff to track their time worked on new projects for a given period of time (e.g., one year) in order to determine more accurately whether the actual costs associated with the hours worked on a particular component is comparable to the fee being charged to/paid by user Departments through the 17% EA fee. Periodically, verify hours in the Engineering Tracking System reconcile to hours in the Cyborg Payroll System for accuracy.*

Management Comment. *Management concurred with the recommendation and stated:* “The Engineering Division will institute a time tracking system for new capital projects; it will be based on a significant expansion of the time tracking system already undertaken for the enterprise functions of Executive Airport and Parking (i.e.,

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similar time sheets). This should be possible for the design, surveying, and inspection components of projects. Administration (2%) is more difficult. By definition, staff engaged on this activity handle multiple projects and generic functions related to the overall capital program. Recording large numbers of small amounts of time would be excessively difficult and time consuming. As discussed with your staff on December 8, the time tracking system will not be applied to staff in support functions (e.g., administrative/financial). For staff engaged on delivery of capital projects, we will develop time categories for non-capital related work and general functions (e.g., staff meetings). We propose to have the time recording system as outlined above to commence in two months. Validation of total staff costs on complete projects will be able to commence after January 1, 2006. We will reconcile the pilot time tracking with the payroll system for the staff included in the new system on a quarterly basis.” **Estimated completion date February 13, 2006.**

Recommendation 2. *Establish a project inventory control system to assure all pertinent project information is recorded in a centralized database and readily available. An independent user/reviewer should be able to determine the project name/number, start/completion dates, cost by component and total construction cost, and project status (open/closed), etc.*

Management Comment. *Management concurred with the recommendation and stated:* “We agree with the need to establish a project inventory control system. We are in the process of transferring an established system/database from the *WaterWorks 2011* CIP to City Hall servers. This system was developed by CH2M Hill, a large engineering consultant, and is currently used throughout the *WaterWorks 2011* Program. We are fortunate to be able to obtain that system and some initial technical support, at no charge. The timetable is a little uncertain because Information Technology (IT) needs to assist and we need to train our staff to use the system. We project having the system running at City Hall within three (3) months. Within a further three (3) months, some example projects would be set up within the system. The plan is to have the majority of engineering projects set up on this system by January 2007.” **Estimated completion date January 31, 2007.**

Recommendation 3. *Periodically reconcile project cost data in inventory control system above to project costs recorded to date in the City’s Financial Accounting*

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Management Information System (FAMIS) (e.g., Project Summary Inquiry Screen 6200, etc.) for proper valuation of capital assets to ensure accountability.

Management Comment. *Management concurred with the recommendation and stated:* “The timetable for this recommendation, with which we agree, is dependent on the discussion under Recommendation 2. We agree that capital assets need to be properly valued to include soft costs.” **Estimated completion date January 31, 2007.**

Recommendation 4. *If the City continues to charge the 17% EA fee, establish written policies and procedures for consistency in the way the methodology is applied to CIPs. If an individual service component is outsourced, the percentage thereof should be deducted accordingly from the 17% composite rate.*

Management Comment. *Management concurred with the recommendation and stated:* “In order to accord with the last sentence under Recommendation 3, we will continue to charge the 17% Engineering/Architectural fee for the time being. The only projects where this will not be changed are NCIP/BCIP projects where, on more than one occasion, the Commission has directed us not to charge this fee. The Engineering Division Financial Administrator will write a memo to all relevant engineering staff clarifying this policy and indicating how to deal with design/surveying/construction management project components that are outsourced. We will forward a draft of this memo for your review prior to March 1, 2006. This memo will be based on current practices. After January 2007, the pilot time tracking system will enable a review of the appropriate percentages based on actual costs.” **Estimated completion date March 15, 2006.**

EVALUATION OF MANAGEMENT COMMENTS

Management comments provided and actions taken and/or planned are considered responsive to the recommendations.

Attachment – OMB Memorandum No. 05-47

MEMORANDUM NO. 05-47

DATE: September 22, 2005

TO: Albert Carbon, Public Works Director

FROM: Allyson C. Love, Director, Office of Management and Budget/5853

VIA: Renee Foley, Assistant Internal Audit Director

BY: James Hamill, Financial Management Analyst

SUBJECT: Review of 17% Engineering/Architectural In-House Labor Fee Charged to Capital Improvement Projects (CIP)

Public Works requested the Office of Management and Budget perform a review to determine the appropriateness and verify the application of the above-referenced 17% in-house labor fee. To satisfy the objective of the review, we met with Public Works management several times in the past week and discovered there is no consolidated/centralized completed project list with essential project information. Staff has informed us it would require significant manual effort to organize the information.

To accomplish the audit objective and complete a meaningful analysis, we need a report of recently completed projects, which have substantially outsourced any of the components (e.g., design, inspection, survey); and/or when services were performed in-house and the hours were tracked by person for a particular capital project, a schedule of the hours worked to determine whether the cost of labor to actual construction cost is in line. At a minimum, we require the following project information:

- Closed CIP Project #
- Project Name/Description
- Project Start/End Date
- Project Actual Construction Cost
- Total Project Cost

In terms of identifying Industry Standard comparables we have contacted the following sources and haven't been able to conclusively determine that this

information is generally available.

- Editorial Research Director at the Engineering News Record
- R.L. Townsend & Associates (Construction Cost Control Consultants) they suggested 5-10% for design fee)
- The National Society of Professional Engineers
- The American Society of Civil Engineers

We would appreciate any other referrals to assist in the identification of reliable/authoritative industry standard comparable information.

Please provide the information requested by *September 30, 2005*; otherwise, we will have no choice but to cease conducting our review at this time. OMB must complete our audits with due diligence; however, we are not responsible for trying to find all project information amongst staff who may or may not have worked on the project and/or assemble information. Another alternative to move this forward would be for all staff to track time worked on projects for a given period of time (e.g., a year) in order to determine more accurately whether the cost associated with the hours worked on a particular component is comparable to the fee being charged to/paid by user Departments.

c: Kathleen Gunn, Assistant City Manager
Stephen Scott, Assistant City Manager
Bernard Wray, Finance Director
Mehrdad Fayyaz, Assistant City Engineer
Ed Udvardy, Manager of General Services

ACL/RF/jj

Project No.: 2005-09