



## Office of Internal Audit

**Audit of Minor Construction Projects**

**Report No. 14/15-03**

**September 22, 2014**



OFFICE OF INTERNAL AUDIT

**Date:** September 22, 2014

**To:** Kenneth A. Jessell, Chief Financial Officer and Senior Vice President  
John Cal, Associate Vice President of Facilities Management

**From:** Allen Vann, Audit Director

**Subject: Audit of Minor Construction Projects, Report No. 14/15-03**

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Pursuant to our approved annual plan, we have completed an audit of Minor Construction Projects (projects with an expected construction cost of \$2 million or less). Total minor construction project expenditures for fiscal years 2012 and 2013 were \$31 million and \$24 million, respectively, with an additional \$12.7 million during the first 7 months of fiscal year 2014.

The primary objectives of our audit were to determine whether: (1) internal controls over the construction process are adequate and effective; (2) the contractor selection process is objective and competitive; (3) the construction costs billed by the contractor and paid by the University are properly supported, appropriate, and recorded by the University; and (4) applicable laws, rules and regulations, and University policies and procedures, and construction agreements are complied with.

Overall, our audit disclosed that project controls were functioning as designed for most minor projects costing over \$75,000. Also, construction costs billed by contractors and paid by the University appear to be appropriate and properly supported and recorded. However, the majority of transactions for minor projects falls below the \$75,000 threshold and require significantly more attention by Project Managers and other staff in the Facilities Management Department. The audit resulted in nine recommendations, which management agreed to implement.

We would like to take this opportunity to express our appreciation for the cooperation and courtesies extended to us during this audit.

Attachment

C: Sukrit Agrawal, Chair, BOT Finance and Audit Committee and Committee Members  
Mark B. Rosenberg, University President  
Kenneth G. Furton, Provost and Executive Vice President  
Javier I. Marques, Chief of Staff, Office of the President  
Kristina Raattama, General Counsel  
Daniel Paan, Interim Director of Facilities Construction

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## **OBJECTIVES, SCOPE AND METHODOLOGY**

Pursuant to our approved annual plan, we have completed an audit of minor construction projects. The primary objectives of the audit were to determine whether:

- Internal controls over the construction process are adequate and effective;
- The contractor selection process is objective and competitive;
- The construction costs billed by the contractor and paid by the University are properly supported, appropriate, and recorded by the University; and
- Applicable laws, rules and regulations, and University policies and procedures, and construction agreements are complied with.

Our audit included minor construction projects which began or were completed from July 1, 2012 through January 31, 2014. The audit was conducted in accordance with the *International Standards for the Professional Practice of Internal Auditing*, and included tests of the project and accounting records and such other auditing procedures as we considered necessary under the circumstances.

During the audit, we reviewed the Facilities Management Department's Minor Capital Project Field Guide, University policies and procedures, applicable Florida statutes and University rules. We observed current practices and processing techniques, interviewed responsible personnel, and tested selected transactions. Sample sizes and transactions selected for testing were determined on a judgmental basis. Audit fieldwork was conducted from March to June 2014.

An internal audit of minor construction projects was last conducted in 2008. There were no external audit reports issued with applicable prior recommendations related to the scope and objectives of this audit. During the current audit we observed repeated findings from our earlier audit, which we have highlighted in the applicable sections of this report.

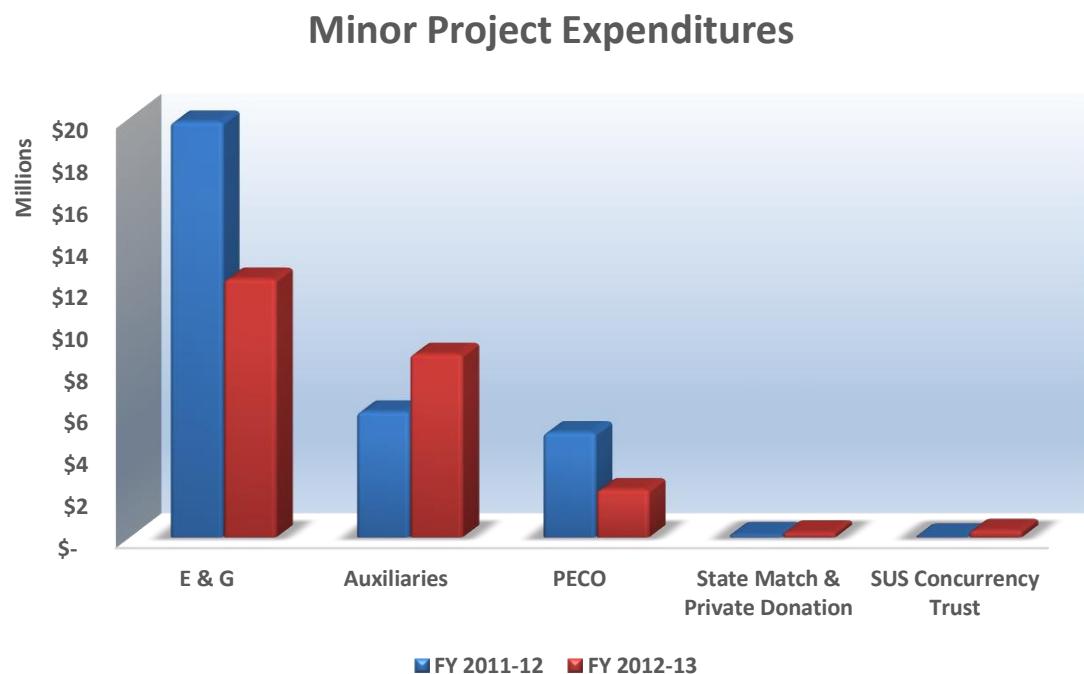
## **BACKGROUND**

The University's capital construction program consists of major and minor construction projects. Minor projects have an expected construction cost of \$2 million or less and include:

- Renovation and/or remodeling of existing space;
- Changes to external aesthetics of building;
- Change in space classification;
- New equipment installation or relocation of existing equipment;
- Feasibility study and programming; and/or
- Minor mechanical or electrical alterations or renovations.

A minor construction project is initiated when the user department completes and submits a Minor Project Request Form to the Construction Services Section of the Facilities Management Department (FMD). Each minor construction project is accounted for in FMD database by project number and Project Manager. The Project Manager works with the user department to establish the scope of the project and budget. The Project Manager also selects the contractor(s) and administers the project.

According to FMD, total minor project expenditures for fiscal years 2011-12 and 2012-13 were \$31 million and \$24 million, respectively. The chart below details minor project expenditures by funding source.



In addition, total minor project expenditures for the 7 months ended January 31, 2014 were approximately \$12.7 million.

Below is an example of a minor construction project (College of Law Library) before and after completion:



*Figure 1- Before*

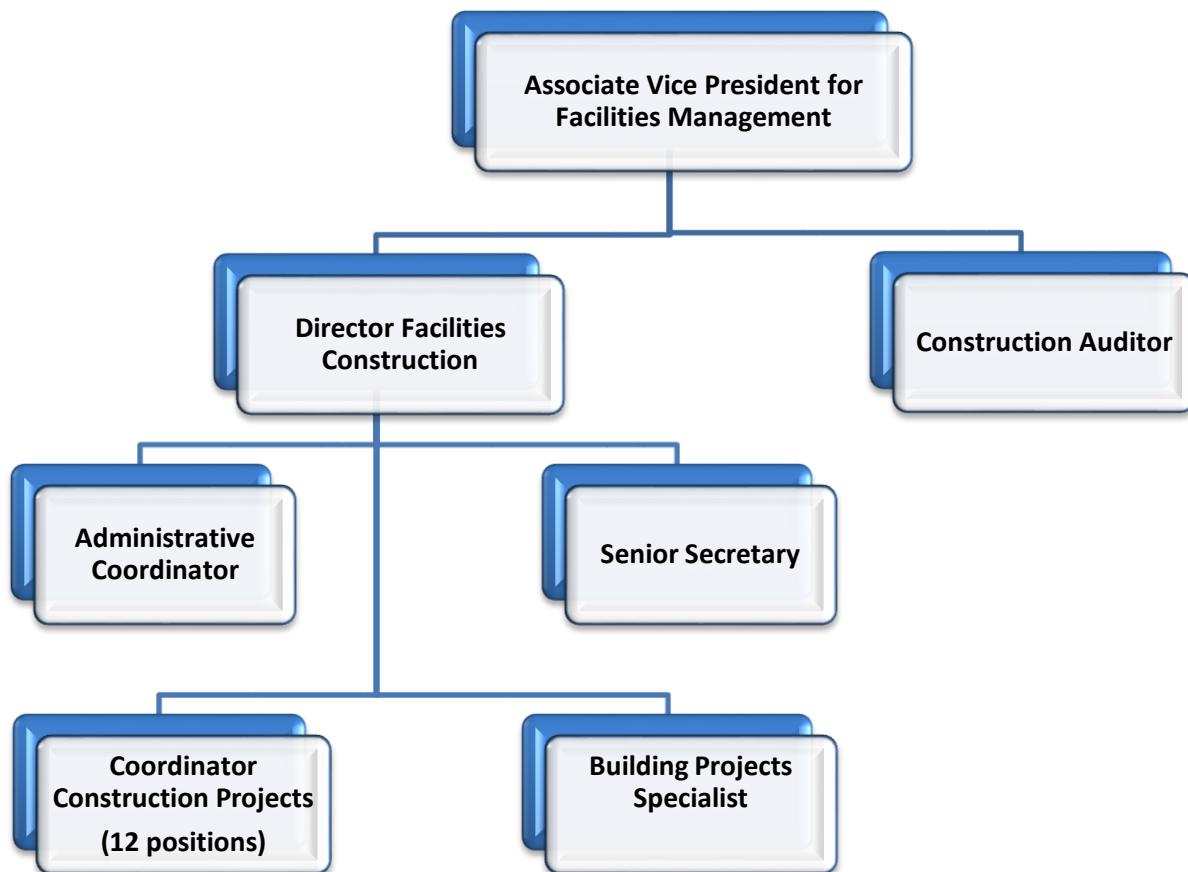


*Figure 2- After*

The Facilities Management Department (FMD) provides professional support to construction, maintenance, and operation of facilities on all campuses to accommodate all aspects of the University. FMD's mission is to provide for the physical development and growth of the University community with quality, sustainable facilities, and diligent oversight of all aspects of the physical environment.

The Construction Services Section of the Department oversees the complete administration of projects in the capital construction program of the University. The Section works closely with architectural and engineering consultants and construction companies for the completion of new construction and refurbishment projects. Typical projects include design, construction, demolition, remodeling, and renovation of a variety of buildings as well as site improvements and infrastructure.

As of January 31, 2014, the Construction Services Section of Facilities Management had 16 employees as depicted in the organization chart below.



In July 2014, the Director of Facilities Construction relocated out-of-state. The Associate Vice President for Facilities Management is in the process of filling this position.

## FINDINGS AND RECOMMENDATIONS

Project controls were functioning as designed for most minor projects costing over \$75,000. Also, construction costs billed by contractors and paid by the University appear to be appropriate and properly supported and recorded. However, the majority of transactions for minor projects falls below the \$75,000 threshold and require significantly more attention by Project Managers and other staff in the Facilities Management Department. Accordingly, our overall evaluation of internal controls over the award and administration of minor construction projects falling below \$75,000 is summarized in the table below.

| INTERNAL CONTROLS RATING       |   |  |   |
|--------------------------------|---|--|---|
| CRITERIA                       | SATISFACTORY  | FAIR   | INADEQUATE  |
| Process Controls               |   |  | X   |
| Policy & Procedures Compliance |   |  | X   |
| Effect                         |   |  | X   |
| Information Risk               |   | X  |   |
| External Risk                  |   |  | X   |
| INTERNAL CONTROLS LEGEND       |   |  |   |
| CRITERIA                       | SATISFACTORY  | FAIR   | INADEQUATE  |
| Process Controls               | Effective   | Opportunities exist to improve effectiveness           | Do not exist or are not reliable  |
| Policy & Procedures Compliance | Non-compliance issues are minor                     | Some instances of non-compliance Issues may be evident | Non-compliance issues are pervasive, significant, or have severe consequences                                   |
| Effect                         | Not likely to impact operations or program outcomes | Impact on outcomes contained                           | Negative impact on outcomes   |
| Information Risk               | Information systems are reliable                    | Data systems are mostly accurate but can be improved   | Systems produce incomplete or inaccurate data which may cause inappropriate financial and operational decisions |
| External Risk                  | None or low   | Moderate   | High  |

The areas of our observations during the audit are detailed below.

### **1. Competitive Procurement**

The University Board of Trustees' (BOT) Regulation 2201 requires competitive solicitation for purchase transactions of \$75,000 and above. The University has also developed the following procedures for competitive purchases under \$75,000, in which individual departments, including Facilities Management, select vendors/contractors.

| Amount              | Bid/Quotation Requirements   |
|---------------------|--|
| Less than \$15,000  | An informal verbal quotation is recommended.   |
| \$15,000 - \$24,999 | Up to two written or verbal quotes must be documented.   |
| \$25,000 - \$74,999 | Two or more written quotations must be obtained unless waived by the Director of Purchasing Services when deemed in the best interest of the University. |

During the audit period, five outside construction managers and twelve other professionals (architects, engineers, and inspectors) were selected by FMD based on competitive solicitation(s) and were awarded continuing service agreements that can be used for any minor construction project. For minor construction projects less than \$75,000 each Project Manager, at a minimum, must follow the Bid/Quotation Requirements outlined in the in table above.

During the audit period, 620 minor construction projects, with a total estimated cost of approximately \$48.7 million were initiated. This represents 1,485 purchase orders to 203 different vendors. We selected and tested 51 minor construction projects, which consisted of 255 purchase orders to 70 different vendors with a total estimated cost of \$9.4 million, as follows:

| Amount               | Total Volume of Minor Construction Projects Purchase Order Activity |                     | Audit Sample Size |                    |
|----------------------|---|---------------------|-------------------|--------------------|
|                      | Number  | Amount              | Number            | Amount             |
| Less than \$15,000   | 1,092   | \$ 5,428,618        | 179               | \$1,085,209        |
| \$15,000 to \$24,999 | 125   | 2,470,095           | 23                | 456,050            |
| \$25,000 to \$74,999 | 175   | 7,894,215           | 38                | 1,813,121          |
| \$75,000 and over    | 93  | 32,922,713          | 15                | 6,054,503          |
| <b>Total</b>         | <b>1,485</b>  | <b>\$48,715,641</b> | <b>255</b>        | <b>\$9,408,883</b> |

### **a) Contractor Selection Process**

The Construction Services Section of Facilities Management uses a database to organize and manage vendor information by trade specialty, purchase order, and payment for major and minor construction projects. Each Project Manager selects a contractor from a master vendor list in the FMD database to perform their minor construction project.

For the 51 projects reviewed it was evident that competitive bid/quotation requirements were followed. However, for 38 projects it was not evident when and what information was sent to the contractors by the Project Managers. Also, there was no information to determine when the proposals were received as they were not time stamped and dated.

We also observed that the Project Manager selected the same contractors repeatedly. For example, one Project Manager selected 2 out of 30 eligible general contractors for his four projects. Three of his projects with a total cost of approximately \$600,000 were awarded to a single general contractor. Another Project Manager selected only three out of 30 eligible general contractors for all ten of her projects. Seven of her projects with a total cost of approximately \$293,000 were awarded to a single general contractor.

According to the eight Project Managers we interviewed, they favor selecting contractors based on their past satisfactory experience with them. However, there is no formal vendor evaluation system which documents that the prior work was satisfactory. In addition, there were no detailed procedures for requesting and receiving proposals.

The lack of documentation and adequate written procedures made it difficult to ensure that the contractor selection process was fully objective and competitive.

### **b) Split Orders**

For 49 of the 51 projects tested, the contractors were selected by meeting bid/quotation requirements established by the BOT regulation and University purchasing procedures. However, there were 2 projects where general contractors were selected based on written quotations rather than competitive solicitation, despite each project's cost exceeding \$75,000. They were:

1. A \$390,723 project for the renovation of multiple rooms at the College of Law (Project No. 12-0532) was "awarded" piecemeal to one general contractor, by splitting the project's scope and issuing ten separate purchase orders with each valued at less than the \$75,000 threshold, as noted below.

| <b>PO Date</b> | <b>PO Number</b> | <b>PO Amount</b>  | <b>Change Order Amount</b> | <b>Total Amount</b> |
|----------------|------------------|-------------------|----------------------------|---------------------|
| 07/11/2012     | 101337           | \$ 50,562         | -                          | \$ 50,562           |
| 08/07/2012     | 103346           | 74,983            | \$ 11,206                  | 86,189              |
| 08/21/2012     | 103347           | 14,879            | -                          | 14,879              |
| 09/14/2012     | 104791           | 72,920            | -                          | 72,920              |
| 11/16/2012     | 104790           | 22,300            | 6,950                      | 29,250              |
| 11/16/2012     | 107186           | 74,671            | -                          | 74,671              |
| 04/25/2013     | 112681           | 22,426            | -                          | 22,426              |
| 05/09/2013     | 113274           | 14,789            | -                          | 14,789              |
| 07/18/2013     | 116102           | 13,995            | -                          | 13,995              |
| 12/16/2013     | 121502           | 11,042            | -                          | 11,042              |
| <b>Total</b>   |                  | <b>\$ 372,567</b> | <b>\$ 18,156</b>           | <b>\$ 390,723</b>   |

The Project Manager received one quotation exclusively from the same contractor for the 4 purchase orders that were less than \$15,000. The Project Manager solicited at least two written quotations from the contractor and other contractors for the remaining 6 purchase orders. The contractor consistently provided the lowest price for the work awarded under the six purchase orders (see the finding related to the Contractor Selection Process section). The Project Manager stated that by dividing the project's scope into multiple purchase orders it was more cost effective than using the required construction delivery method(s) of using either a preselected construction manager or obtaining a bid. According to management, the Project Manager was reprimanded.

2. A \$100,365 project for the conversion of a laboratory space at the Health Life Sciences Building II (Project No. 11-1010) was awarded to a construction company without competitive solicitation. An initial purchase order was issued in the amount of \$73,730, just below the \$75,000 threshold, based on three written quotations. Subsequently, four change orders totaling \$26,635 were issued. Three of the change orders totaling \$23,745 included American Disabilities Act (ADA) and State Fire Marshal compliance requirements, which were omitted from the original scope of work. Before selecting a contractor, our Project Manager and an architect hired by the University for this Project could have identified the ADA and State Fire Marshal requirements. Apart from this project we noted on four other minor projects there were five change orders totaling \$25,109 to the same contractor, which included compliance with the State Fire Marshal and building code requirements.

## **Recommendations**

|  |   |
|--|---|
| The Facilities Management Department should: |   |
| 1.1  | Institute a formal process documenting contractor performance.  |
| 1.2  | Revise and update written procedures for requesting and receiving proposals.  |
| 1.3  | Provide more supervision to Project Managers with a view towards encouraging them to:<br>a. Avoid splitting orders;<br>b. Comply with the University's competitive solicitation requirements for projects costing at least \$75,000;<br>c. Ensure a wider selection of eligible vendors; and<br>d. Minimize the processing of ADA or building code requirements as change orders. |

## **Management Response/Action Plan:**

- 1.1 FMD concurs with the recommendation and recognizes the need to advance beyond the informal evaluations currently used. FMD will develop an automated electronic evaluation system to cover the Architectural/Engineering and Construction disciplines for each project completed.

Implementation date: February 27, 2015

- 1.2 FMD concurs with the recommendation. The Project Management Field Guide will be updated to address how proposals are requested and received.

Implementation date: March 31, 2015

- 1.3 FMD concurs with the recommendation. Prior to the publication of the audit report, the Construction Department Organization Chart was divided into two divisions – Major Capital Projects and Minor Capital Projects -- reporting to the Director of Construction, in order to improve overall project management and to enhance project oversight. The Director of Construction will continue to directly manage the Project Managers assigned to each major capital project. An Assistant Director, Minor Capital Construction, reporting to the Director, will focus specifically on minor capital projects. This will enhance the overall management of construction projects, and provide the capacity to ensure all purchase orders comply with University procedures for competitive solicitations and non-splitting of orders. We note, as mentioned in the audit report, 49 of 51 examined projects were done properly. FMD acknowledges that change orders identified in the audit included ADA or Building Code requirements which added cost to projects. Such additional costs are typical when the Authority Having Jurisdiction (AHJ) interprets the code during site inspections. To mitigate that potential, FMD will ensure Project Managers meet with the Building Code Official and/or the State Fire Marshal to discuss project scope.

Implementation date: Immediately

## **2. Insurance Monitoring**

The University requires all vendors/contractors to maintain commercial liability, automobile liability, workers compensation and professional liability (architects and engineers) insurance for the joint benefit of the vendor and the University. Also, the Project Managers informed us that a vendor must maintain current insurance policies to be qualified to work for minor construction projects. The Analysis, Assessment and Risk Management Section (AARM) of Facilities Management is responsible for tracking vendor insurance requirements. Accordingly, AARM maintains a database to track vendor insurances. However, the eight Project Managers we interviewed said they do not validate the vendor's insurance coverage before issuing a purchase order.

Fifty-one vendors, which were hired for minor projects during the audit period, were selected to test for insurance requirements. Our test of the database disclosed that 15 vendors had current insurance certificates, but at the time of our fieldwork there was a lack of certainty concerning the insurance coverage for the remaining 36 vendors:

- 19 vendors' insurance information were missing;
- 13 vendors were not listed in the database, thus no insurance information was available; and
- 4 vendors' insurance was expired.

We shared this information with Facilities staff and they subsequently obtained proof of insurance from 31 of the vendors. The lack of adequate documentation of vendor insurance coverage places the University at risk.

### **Recommendations**

|  |   |
|--|---|
| The Facilities Management Department should: |   |
| 2.1  | Ensure that the insurance database is complete with proof of insurance for all vendors. |
| 2.2  | Monitor vendor insurance coverage before issuing a purchase order.                      |

### **Management Response/Action Plan:**

- 2.1 FMD concurs with the recommendation and notes that the new insurance tracking database has been installed and implemented. The shortfall identified was in the coordination between the Construction Department and the Analysis, Assessment & Risk Management (AARM) group. AARM, in collaboration with the Construction Department, is now reviewing all active vendors to ensure current proof of insurance is available in the database. We note that certificates of insurance were provided for 46 of the 51 vendors identified in the audit report.

Implementation date: January 31, 2015

- 2.2 FMD concurs with the recommendation and will verify insurance documentation in the insurance database prior to processing a Purchase Order. Insurance verification as part of the permit application process is in place and effective; this process will continue.

Implementation date: January 31, 2015

### **3. Project Management**

The Construction Services Section of Facilities Management is responsible for overseeing the complete administration of all capital construction projects. The Section uses a database to keep track of vendors by trade specialty and financial data related to major and minor construction projects. The Section also has a FMD Minor Capital Project Field Guide, which serves as guide in managing minor construction projects. Each minor construction project is assigned to a Project Manager who oversees the project from initiation to close-out and is responsible for maintaining the project files.

Our observation in this area is discussed as follows:

#### **a) Establishment of Project Scope**

The FMD Minor Capital Project Field Guide requires the Project Manager to perform certain steps prior to selection of the contractor, including meeting with the user, and developing and validating the project scope.

We reviewed 51 project files to determine how the project scope was developed and if the scope was validated by the user and the Project Manager before the work was performed by a selected contractor. The results of our review are as follows:

- The manner in which the Project Managers develop and validate the project scope with the end users was informal. User sign-off documentation to support the approval of the project was likewise informal.
- 31 projects (61%) did not have documents to support project cost estimates as required under the current FMD Minor Capital Project Field Guide.

We noted that 66 change orders totaling \$716,815 were issued for the 51 selected projects. 82% of the change orders (54 change orders) were attributed to additional scope or changes in scope requested by the users, while 18% (12 change orders) included provisions for building and/or State Fire Marshal code violations.

According to the Project Managers, the users are constantly changing the scope of the project while expecting the project cost to remain the same. However, without documented evidence detailing the agreed upon project scope and budget, it is difficult to determine if the change orders were due to a change in scope by the user, a lack of due diligence in managing the project, or a design error.

#### **b) Tracking of Minor Projects**

Apart from the University's official financial record keeping system (PantherSoft), the Construction Services Section of Facilities Management maintains a stand-alone database as a means for tracking minor construction projects. Their database includes the following information:

- Approved vendors such as architects, engineers, construction managers, general contractors, and trade contractors to provide minor construction services.
- Initiated minor projects detailing project location, user name, Project Manager name, budget, and minor project number.
- Requisition dates, purchase order numbers and amounts, vendor names, and minor project status.

The Junior Project Manager was responsible for entering the information into the database and each Project Manager was responsible for informing him of necessary changes.

According the former Director of Facilities Construction Management, the information in the database was used to analyze the volume of work assigned to contractors based on Project Manager and trade specialty. Also, each Project Manager uses the database to select a vendor for his or her assigned minor projects.

Our review of the database disclosed that it often contained incomplete and inaccurate project information, as follows:

- 133 minor projects totaling \$10,829,340 in awards are shown as active and awarded to various vendors without purchase order numbers; purchase requisition submittal dates for these projects ranged from January 2012 to February 2014.
- 14 minor projects totaling \$304,133 in awards are reported as active and awarded to various vendors in January 2012, although all of the purchase orders were already closed;
- 11 minor projects totaling \$153,694 in awards have no vendor information despite having purchase order numbers; and
- 9 minor projects totaling \$139,377 in awards have incorrect Project Managers assigned.

Although the current database is an improvement over the one previously used and commented in our 2008 audit (Report No. 07/08-06), incomplete and inadequate information in the database can negatively impact the award and administration of minor construction projects.

### **c) Maintenance of Project Records**

According to the former Director of Facilities Construction, each Project Manager is responsible for the maintenance of their own project files. Open project files are kept in the Project Manager's office but closed project files are to be filed in a central location.

Closed project files are not always stored in a central location, but rather in each Project Manager's office. A similar finding was noted in our 2008 audit (Report No. 07/08-06). In addition, one of the selected Project Managers, on his own initiative, discarded the original documentation for his projects in favor of maintaining electronic files. This Project Manager was assigned to manage a total of 34 minor projects during the audit period. According to management, the Project Manager is no longer with the University and access to all electronic project files have been obtained by FMD.

According to University Policy 150.110, *FIU Records*, all FIU employees, officers and agents must comply with State retention schedules for University records. The Policy further states that employees may not destroy or delete University records in their possession and control except in accordance with the record retention schedules applicable to the University.

Missing or destroying original project files could negatively impact University operations in the event of a claim or a public records request. In addition, the lack of a centralized repository for important records represents an avoidable control deficiency.

### **d) Minor Capital Project Procedures Manual**

The Facilities Management Department developed a Minor Capital Project Field Guide (Guide) to assist the Project Managers with the administration of minor construction projects. During the audit, we noted that the Guide was outdated and was not being followed by the Project Managers.

For example, the Guide was created in February 2009 and the last revision was made in June 2009. Also, the Guide requires a Customer Satisfaction Survey and a Vendor Scorecard to be completed by each Project Manager at the end of each minor project. However, none of the 51 project files we reviewed had a Customer Satisfaction Survey or a Vendor Scorecard. The eight Project Managers interviewed informed us that they do not complete the customer satisfaction surveys and/or vendor scorecards.

The Guide also has templates, which include a Preliminary Due Diligence form for the establishment of project scope and budget; a Request for Quotation form from contractors; and a Project Filing Reference to be used by the Project Managers. However, the former Director of Facilities Construction Management informed us that the Project Managers are not required to use the templates outlined in the Guide.

In order to effectively communicate management expectation, it is a good business practice to maintain an adequate and updated minor capital project procedures manual.

It provides the Project Managers with a readily available reference source, guidance and training tool enumerating duties and responsibilities, and provides for the consistent application of Facilities Management's procedures/guidelines.

## **Recommendations**

|  |   |
|--|---|
| The Facilities Management Department should: |   |
| 3.1  | Enhance its procedures to support the establishment and validation of the project scope and cost estimate prior to the selection of a contractor. |
| 3.2  | Ensure that the minor project information in the database is complete, updated, and accurate.   |
| 3.3  | Ensure the maintenance, availability and monitoring of minor project files.   |
| 3.4  | Periodically update its Minor Capital Project Field Guide and ensure that the Project Managers follow the Guide.                                  |

## **Management Response/Action Plan:**

- 3.1 FMD concurs with the recommendation. While current procedures are aligned with the size and complexity of the project, the Field Guide will be revised to clarify guidelines for establishing scope and budget.

Implementation date: March 31, 2015

- 3.2 FMD concurs with the recommendation and will immediately implement procedures to update the database. The department also notes that the database is intended to be a management tool, and will not have the same precision or completeness of the financial reporting system, as an example.

Implementation date: January 31, 2015

- 3.3 FMD concurs with the recommendation and will develop procedures for creating and maintaining project files.

Implementation date: March 31, 2015

- 3.4 FMD concurs with the recommendation and will implement a periodic process to review the Field Guide and provide refresher training to Project Managers.

Implementation date: March 31, 2015

#### **4. Construction Costs**

Our audit disclosed that the construction costs billed by the contractor were properly paid with supporting documentation and timely recorded. We tested 26 payment applications totaling \$1,148,391 selected from 10 minor projects. All transactions tested were properly supported and recorded in University's books and records. No reportable anomalies were noted in this area.