



Audit of the Information Technology Department

Report # 07-36

Prepared by
Office of Inspector General

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SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Memorandum

To: Audit and Finance Committee Members:
Mr. Charles J. Dauray, Chair
Mr. Eric Buermann, Member
Mr. Michael Collins, Member
Mr. Paul Huck, Member

From: John W. Williams, Esq., Inspector General
Office of Inspector General

Date: October 8, 2008

Subject: Audit of the Information Technology Department- Project No. 07-36

Enclosed is the report for the Audit of the Information Technology Department. Our objective focused on reviewing major IT functions from a business perspective to determine whether IT activities or applications adequately support the District's programs, determine that IT activities are necessary to meet the District's operational business needs, and determine that IT activities are cost effective.

Overall, our audit revealed that the IT Department has adequate planning, budgetary and project management control processes in place to ensure that information technology activities, projects, and applications support the District's programs and meet its operational needs. The IT Department provides support for the technology infrastructures which are vital to the District's program strategies and goals.

We also found that the IT Department makes extensive use of contract workers. We determined that the cost of using contract workers is approximately 73% more than if in-house staff were hired to perform those same job responsibilities. Our analysis showed that approximately \$2.6 million could be saved by converting these outsourced positions to full-time equivalent in-house positions. It should be noted that such savings would be a recurring annual savings without reducing the level of service provided.

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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 South Florida Water Management District's Information Technology Department's (IT Department) activities from a business perspective to determine whether they adequately support the District's programs.

The IT Department supports a significant portion of the District's technological systems. IT is under the Corporate Resources Area and is predominantly part of the Mission Support program. The District's IT Department is organized into five main divisions: 1) Information Technology Staff, (which includes IT security, budget and finance, and project management), 2) Technology Solutions Division, 3) GIS & Web Development Division, 4) Applications Development Division, and 5) Infrastructure Systems Division.

The IT Department's budget for Fiscal Year 2008 totaled \$35.5 million. This comprises 27% of the Mission Support budget (\$132.8 million) or, approximately 2.8% of the District's overall budget (\$1.283 billion). The Fiscal Year 2008 IT Department budget, allocated by division, is as follows:

Budget Line Item	Info Tech Staff	GIS and Web	Tech Solutions	Application Development	Infrastructure Systems	Total
Personal Services	\$1,752,182	\$1,306,811	\$1,918,473	\$3,386,360	\$3,505,449	\$11,869,275
Contractual Services - External Provider	\$1,158,279	\$1,451,400	\$942,921	\$2,936,713	\$2,869,828	\$9,359,141
Contractual Services - Maintenance, Repairs, and Rentals	\$6,093,056	-	-	-	\$473,925	\$6,566,981
Operating Expenses	\$2,833,323	\$40,440	\$88,612	\$25,414	\$2,692,527	\$5,680,316
Capital Outlay	-	-	\$246,489	-	\$1,780,000	\$2,026,489
Total	\$11,836,840	\$2,798,651	\$3,196,495	\$6,348,487	\$11,321,729	\$35,502,202

The IT Department underwent a major reorganization in 2004. The changes were designed to build a better operational model, increase efficiency, provide integrated technology, and increase the quality of customer service. The process included assessing information technology needs of the District and matching the assessment against the existing skills and composition of the IT Department's staff. An organizational model was developed which resulted in the identification of 107 positions for the reorganized

department. This included centralizing within the IT Department functions that were previously scattered throughout the District. The process also entailed revising job descriptions and responsibilities. As a result, 52 positions were retained and included in the new organization with no change in job function, while 54 positions were re-classified and job requirements and skill sets were revised.

At the beginning of Fiscal Year 2008, the IT Department consisted of approximately 111 full time equivalent employees, along with 79 on-site contract workers. The table below shows the number of employees and contract workers by division as presented in the IT Department’s Strategic Plan for fiscal years 2008 - 2010.

IT Division	Full Time Equivalents	On-Site Contract Workers
Information Technology Staff	15	2
Technology Solutions	20	11
Applications Development	31	41
GIS and Web Development	12	14
Infrastructure Systems	33	11
Totals	111	79

The responsibilities and activities of the five divisions within the IT Department provide vital support to the District’s programs, as described in the following sections.

Information Technology Staff

The Information Technology Staff Division employs 15 full-time equivalent employees, utilizes the services of two on-site contract workers, and has a fiscal year 2008 budget of \$11,836,840. The division’s budget includes: \$600,000 for IT security outsourcing (firewall and virus threat monitoring); \$2,624,073 for the lease of the personal computers used throughout the District; and \$5,763,056 for contracted services, maintenance, and repairs (the greater part of which includes enterprise software licenses for most of the IT applications used by the District).

The Information Technology Staff division primarily provides support for the administration of the information technology function, information security, budgeting and finance, and project management. The Information Security section is responsible

for the District's network and internet security, including 24/7 monitoring for virus, hacker and other types of external and internal threats. The section also provides discovery for public records requests of electronically held information (e.g. emails), and performs the change control function for SAP, SCADA, SFWMD, CERP, and water monitoring systems. The Finance section is responsible for the business function of the IT Department, including hardware and software purchasing, budgeting for the IT Department, coordinating IT budget requirements throughout the District, and managing IT related contracts (including approximately 130 maintenance contracts and the IT Professional Services contract). The Project Management section supports IT projects management, implements standards and tools, manages and reports on the IT Department's project portfolio, and provides coaching and mentoring to Division resources. The Project Management section is also responsible for the Capability Maturity Model Integration (CMMI) project. The CMMI is a process improvement approach to streamline and standardize processes within IT, and also to document projects, systems, and business practices in an accurate and efficient way. The end result of this project will be repeatable processes that will reduce re-work and errors in IT projects. This project is considered by IT management to be vital for the future success of the IT organization and therefore, a significant amount of staff hours is being invested in training, process definition, and documentation.

Technology Solutions Division

The Technology Solutions Division has approximately 21 full-time equivalent employees and 11 on-site contract workers. The Division's Fiscal Year 2008 budget totaled \$3,196,495. The Division is comprised of Support Services, and Desktop Technology. The Support Services section provides front-end problem management for service calls through the help desk. Additional support personnel are assigned throughout the District's geographical regions. The Desktop Technology section provides back-end support including: developing standard software loadsets, managing hardware and software assets, providing desktop related services and deliverables, providing oversight for computer lease agreements, performing software and hardware

installs, developing, managing, and testing the standard PC images, and deploying and testing software patches.

The Technology Solutions Division also provides Resource Area Consultants, which are technicians who specialize in each District Resource Area. Their primary responsibilities are to handle high level, high priority information technology issues which arise in their assigned areas, coordinate and participate in deployment of new technology, provide communications and presentations on information technology initiatives, consult with assigned resource area regarding IT budget development, and support the Emergency Operations Center as needed.

The Technology Solutions Division is responsible for providing district-wide technology support through the helpdesk, receiving information technology equipment purchase requests, installing software and hardware, developing desktop hardware and software standards, and maintaining back-up for desktop applications and information. This division is also responsible for managing the District's personal computer lease which covers the installation and maintenance of approximately 2,600 personal computers throughout the District.

GIS and Web Development Division

The Geographical Information System (GIS) and Web Development Division (the "GIS & Web Division") has 12 full-time equivalent employees and 14 on-site contract workers. Their Fiscal Year 2008 budget totaled \$2,798,651.

The GIS & Web Division has dual responsibilities for maintaining the GIS applications, and the District's website. The Division provides GIS support including data management, application development, planning, implementation, support and maintenance. The Division also provides website development support. Appendix B lists the functional responsibilities of the GIS Section, while Appendix C lists the responsibilities of the Web Development Section.

The GIS system at the District has been used in some form since the mid-1970's. The division is responsible for most aspects of the system including infrastructure, hardware, software, servers, and management of the data repositories. GIS is distributed throughout the District in each area including Land Management, Land Acquisition,

Regulation, Everglades Restoration Resources Area, and the CERP zone. There are two major systems in GIS, namely, ArcGIS and Google Earth Enterprise System. ArcGIS is a comprehensive system that allows users to analyze and model the large amounts of geological and hydrological data that is collected by the District and maintained in the GIS Data Catalog. The Google Earth Enterprise system allows the user to view satellite images, maps, and terrain of the District's service area. It also is integrated and operates with the GIS system. Elements from the GIS Data Catalog can be integrated into and shown with Google Earth.

GIS has data elements that are common to each resource area's needs; however, specific requirements may vary. The GIS Section has the responsibility for the "enterprise view" of GIS specifications and development. Historically, each user department collected and stored data based on their specific needs. The GIS Section provides a wider enterprise view and has introduced standardization and efficiencies into the collecting and sharing of GIS data among the departments.

The GIS Section also maintains the Data Catalog, which contains approximately 977 data sets. There are multiple data layers within each data set, meaning that there is a substantial amount of information collected and stored. These data sets consist of a wide range of data including structure and canal locations, water flows, land use, land purchases, permit boundaries, roads, etc.

Much of the GIS data is generated by the District, while other data is obtained from outside sources (e.g. county appraisers, government agencies, commercial ventures, etc.). The GIS Section manages the data through Data Stewards who are responsible for maintaining the data base, and insuring that the data is complete and accurate.

The ArcGIS system is installed on approximately 170 desktops, with an additional 300 staff accessing the system via the Citrix network server. The CERP zone is a separate installation with approximately 30 to 40 users.

The Web Support Section's function consists of web design and programming for the District's internal and public web portals. The portal provides a single point of access to a wide variety of information about the District. Examples include: internal communications, District organization and contact information, shared databases, career

opportunities, budget and strategic plans, links to related websites, templates for business processes, etc.

Following the reorganization in 2004, the Web Support Section was down-sized to one person, the Web Development Manager. The rest of the function is outsourced, so that a contractor provides staffing for the Web team. Four full-time contractors are provided: 1) Web Architect, 2) Web Developer, 3) Web Designer, and 4) Business Analyst.

Applications Development Division

The Applications Development Division employs 31 full-time equivalent employees, and 41 on-site contract workers. The Division's Fiscal Year 2008 budget totals \$6,348,487. Overall, the division supports 28 systems that run 196 applications that are directly related to the District's mission (see Appendix A).

The Division is composed of four sections: 1) Application Support, 2) Applications Development, 3) Business Systems and 4) Application Architecture.

The Application Support section is responsible for providing administration and support for in-house developed applications and purchased applications.

The Applications Development section is responsible for providing high level project management and support for applications development. The section has adopted the cost saving approach of customizing "off the shelf" software rather than developing new applications from scratch. Major projects the section is currently working on include: CMT (Compliance Monitoring and Tracking for the Regulation Division), E-permitting (web based permitting application), Documentum (document management system currently used by CERP, to combine installations into one application), IRIS (Integrated Real Estate Information System for Land Management and Acquisition), and E-recruiting (a web based human resources application).

The Business Systems section is responsible for providing technical support for business functions. The section supports the technical aspects of SAP including security, network sever, workflows, and core systems administration. They also support the Budget System (which runs on Oracle) and LGFS (SAP's predecessor, which is now read only for archival purposes).

The Application Architecture section is responsible for data architecture, applications administration, and applications architecture. This section develops internal application standards and procedures, and assists project managers to ensure the necessary skills and knowledge are applied to new projects and activities and ensure compliance with the technical standards.

Infrastructure Systems Division

The Infrastructure Systems Division employs 33 full-time equivalent employees and 11 on-site contract workers. The Division's Fiscal Year 2008 budget totals \$11,321,729. The budget includes the following: \$473,925 for maintenance and repair (which includes the District's phone system, power plant, Emergency Operations Center, and microwave towers); \$1,871,532 for operating expense of the local/long distance phone service, cellular phone service, etc.; \$1,050,000 in capital outlay for data center enhancements, \$502,000 in capital outlay for computer equipment, and \$223,000 in capital outlay for network field equipment.

The Division provides systems administration, network operations center management, digital broadcasting, and telecommunications administration. The Division consists of the following four subsections: Systems Services, Database Services, Network Services, and Network Planning.

The Systems Services section is responsible for supporting Messaging, MS Windows XP Professional (operating system), Solaris (operating system), Linux (operating system), Disk Storage, and Citrix/VM Ware administration. Following are some of this section's responsibilities:

- Managing e-mail (Microsoft Outlook) and BlackBerry wireless e-mail devices.
- Managing three operating systems and the servers in the data center. The operating systems include Microsoft Windows XP Professional, Solaris, and Linux. The VM Ware allows more than one operating system to run on a server.
- Managing over 120 terabytes of storage capacity with a three tier approach. Tier 1 requires fast retrieval, Tier 2 virtual attached storage (mid range speed), and Tier 3 is archived storage with slower retrieval time.

- Supporting the modeling cluster of computers linked to provide greater computing power needed to run the sophisticated modeling programs used by the District.
- Performing base level system performance monitoring.
- Developing and maintaining disaster recovery plans for supported systems.

The Database Services section is responsible for Oracle Database Administration, SQL Server Administration, Database Backups, and Oracle Application Administration.

The Systems Services section also monitors storage space, tests upgrades, and performs maintenance. They are also involved in the disaster recovery plan.

The Network Services section is responsible for LAN/WAN Maintenance, IP Telephony, Meeting Place (audio based conference facilitating software), and Video Teleconferencing.

The Network Planning section is responsible for 1) RF Design, 2) Network Standards, 3) Communications Projects, and 4) Tier 3 Problem Escalation. The responsibilities also include microwave communications, and oversight of transmission tower maintenance and communications system planning. The section maintains the telemetry network, including the communication tower network which provides voice, data, e-mail, and Wide Area Network communications throughout the District's service area.

OBJECTIVE, SCOPE, AND METHODOLOGY

The objectives of the audit were to review major IT functions from a business perspective to determine whether IT activities or applications adequately support the District's programs, determine that IT activities are necessary to meet the District's operational business needs, and determine that IT activities are cost effective.

To accomplish the audit objectives, an overview of IT activities was obtained by reviewing the following:

- The Information Technology Organization Chart,
- Mission Statement,
- IT Steering Committee Minutes,
- Division Website,
- The Mission Support – Strategic Plan,
- IT Project Management Plans and Charters,
- IT Annual Work Plans,
- FY 2008 Budget and the Budget Process, including Customer Survey Results, and
- Documentation and Information Related to the IT Re-engineering plan.

In addition, IT division directors and managers were interviewed to obtain an understanding of their division's purpose and function, staffing levels, and major projects and budget items. It should be noted that certain other IT functions are performed outside of the Information Technology Department, such as SAP and SCADA; however, the IT Department performs certain support functions for these systems. These functions are outside of the scope of this audit, but will be addressed in separate audits.

Our audit was conducted in accordance with Generally Accepted Government Auditing Standards. These 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

Overall, our audit revealed that the IT Department has adequate planning, budgetary and project management control processes in place to ensure that information technology activities, projects, and applications support the District's programs and meet its operational needs.

The IT Department provides support for the technology infrastructures which are vital to the District's program strategies and goals. Appendix A lists the systems and describes their purpose, all of which in some way support the District's four areas of responsibilities of improving water quality, flood control, natural systems, and water supply.

We also found that the IT Department makes extensive use of contract workers. We determined that the cost of using contract workers is approximately 73% more than if in-house staff were hired to perform those same job responsibilities. However, in some instances using contract workers is more practical, such as short term projects, or functions that are difficult to staff such as 24/7 IT security monitoring. Due to staffing limitations imposed by a hiring moratorium, it appeared that the IT Department used more expensive contract workers in positions which are of a permanent, on-going nature. We identified 39 out of 79 (approximately one-half) outsourced positions that we consider to be of a permanent recurring nature. Our analysis showed that approximately \$2.6 million could be saved by converting these outsourced positions to full-time equivalent in-house positions. It should be noted that such savings would be a recurring annual savings without reducing the level of service provided.

Activities Adequately Support District's Programs

We noted that several processes have contributed to ensuring that the IT Department's activities and projects support the District's programs. The departmental reengineering effort in 2004 implemented an organizational model that increased efficiency and effectiveness by centralizing IT functions, integrating technology, and matching the skills and composition of the department with the technology needs of the District. The Department has developed a three-year Strategic Plan which was developed

in concert with their “customers” needs, which were ascertained through interviews and surveys and participation by the IT Steering Committee, to ensure the alignment with the District’s Strategic Plan. We noted that the budget development process also helps to ensure that the IT Department’s activities support District goals, since funding decisions are made according to the District’s strategic priorities.

The District’s four primary areas of responsibility of improving water quality, flood control, natural systems, and water supply are accomplished through eleven programs described in the Strategic Plan. These programs include:

- Coastal Watersheds
- Comprehensive Everglades Restoration Plan (CERP)
- District Everglades
- Kissimmee Watershed
- Lake Okeechobee
- Land Stewardship
- Modeling and Scientific Support
- Operations and Maintenance
- Regulation
- Water Supply
- Mission Support

The activities and projects within each of the District’s eleven strategic programs are dependent on the systems and applications supported by the IT Department. Appendix A (Systems Supported by the Information Technology Department) lists and describes the 28 systems supported by the IT Department and indicates the primary program that is supported by the particular system. The GIS and Web Development Division also directly supports each of the District’s strategic programs through the ArcGIS and Google Earth Enterprise systems, and the District’s Web portal, as shown in Appendices B and C.

In addition to providing program support through specific IT systems and applications, the IT Department also provides the following beneficial and necessary services:

- Automates manual processes to improve timeliness and efficiency of information for better decision making
- Improves customer service and access to information via the Website
- Collects and reports required regulatory data
- Maintains and protects the IT infrastructure through 24/7 security monitoring and virus software
- Manages the data center and upgrades obsolete technology as needed
- Manages and maintains network services and personal computers
- Provides back up and recovery of data and applications
- Enables complex modeling through computer clustering by combining the computing power of several servers
- Supports the District's communications systems including local and long distance telephone, e-mail, BlackBerry, telemetry and communication towers, and video teleconferencing.

Extensive use of Contract Workers Increases Overall Cost

IT outsourcing is used often times to improve service and efficiency levels, reduce costs, manage internal workload, add business value, provide staffing for limited-term projects, and provide needed skills that would not otherwise be available.

At the beginning of Fiscal Year 2008 the IT Department employed approximately 111 full-time equivalent (FTE) employees at a budgeted cost of approximately \$11.9 million. In addition approximately 79 on-site contract workers provide services, at a budgeted cost of approximately \$9.3 million annually. Some of the contract workers are used for short term projects; however, we found that contract workers are also used to perform activities that are long-term, recurring, and permanent in nature. In many cases a contract worker was utilized for a particular position or function because of FTE limits for District staff. While it may be cost effective to use contractors for short term projects,

or projects requiring highly specialized knowledge or skills, the use of contractors may not be appropriate or cost effective in all cases. Positions which are of a long term or permanent nature may be more cost effective if filled by hiring full-time employees.

Through discussions with IT management we identified 39 out of 79 outsourced positions which were considered to be of a necessary, ongoing, and permanent nature. We analyzed the cost of these 39 positions by reviewing the outsourcing contracts for each of the 39 positions. We then determined the appropriate District job descriptions, salary grades and other employment expenses applicable to the outsourced positions assuming that the positions could be filled with internal staff. The results of our analysis are shown in the following table:

Annual Cost Comparison*	
Staffing Method	Amount
Cost to Contract	\$ 6,086,771
In-House Staff Cost	<u>3,520,228</u>
Difference – Amount	\$ 2,566,543
Difference - Percent	73%

*Complete details are shown in Appendix D

As shown in the above table, the cost for a contract worker to perform information technology functions was, on average, approximately 73% higher than hiring an employee to perform the same services. Our calculations revealed that approximately \$2.6 million could be saved annually if the services performed by these 39 contract workers were performed by in-house staff.

Recommendations

- 1. Consider hiring full time employees for IT positions considered permanent and ongoing.**

Management Response:

We agree that the addition of the 39 FTEs to cover core functions that are currently performed by contractors would result in a savings of approximately \$2.6 million dollars per year on an ongoing basis. We would prefer to have FTEs performing these core functions because we believe our staffing model would be

more stable. We also recognize that there may be limitations to the number of FTEs that can be added at this time.

Responsible Department:

The Executive Office, the Budget Division and the IT Department would be responsible for identifying the key positions and approaching the Governor's budget office and our Governing Board for authorization for the new FTE positions.

Estimated Completion:

To allow for coordination, we estimate 15 months for completion by October 2009 (Fiscal Year 10)

2. **Develop a written outsourcing strategy which optimizes the use of contract workers on a cost effective basis.**

Management Response:

We agree that a strategy and a plan of action and milestones should be completed to optimize the use of contract workers. We already have several processes in place that control this function.

Responsible Department:

Two groups will need to interact with Information Technology to complete this project successfully. The coordination needs to be done with the Executive Office and the Budget Office regarding the District's on-going strategy of whether to hire additional FTEs or rely on contract labor. Our Governing Board will also be guiding policy decisions in this area.

Estimated Completion:

Three months, with a completed draft plan by November 30, 2008.

APPENDIX A
APPLICATIONS DEVELOPMENT DIVISION
SYSTEMS and APPLICATIONS SUPPORTED

SYSTEM	DESCRIPTION	PRIMARY PROGRAM(S) SUPPORTED
DBHYDRO	Hydrological and chemical analysis database which includes monitoring and experimental data	Coastal Watersheds, District Everglades, Kissimmee Watershed, Lake Okeechobee, Water Supply
DCVP	Data Collection Validation Processing System used in Operations and Hydro Data Management Division for validation and archiving of hydrometeorologic data	Coastal Watersheds, District Everglades, Kissimmee Watershed, Lake Okeechobee, Water Supply
EDMS	Biological database and applications for Lake Okeechobee	Lake Okeechobee
EMPACT	Web application with map based interface to time series data and environmental media, photos, documents and videos related to the Living Everglades	District Everglades
ERDP	Biological database and applications for the Everglades	District Everglades
HYDR_EDT	Web based Oracle application which allows users to create, delete, modify, and query the look up tables and structure information tables in DBHYDRO	Coastal Watersheds, District Everglades, Kissimmee Watershed, Lake Okeechobee, Water Supply
IMS/OPRP	Application to load Army Corps of Engineers data into DCVP database	Coastal Watersheds, District Everglades, Kissimmee Watershed, Lake Okeechobee, Water Supply
LIMS ESCORT	Application to download water quality sample information	Coastal Watersheds, District Everglades, Kissimmee Watershed, Lake Okeechobee, Water Supply
NEXRAD	Radar based rainfall data management system Processes data every 15 minutes	Coastal Watersheds, District Everglades, Kissimmee Watershed, Lake Okeechobee, Water Supply
OS	Application processes and loads multiple array ARDAMS files (data received from field instruments) into the DCVP database	Coastal Watersheds, District Everglades, Kissimmee Watershed, Lake Okeechobee, Water Supply
REGULATION	System with multiple applications relating to the water use permitting process, from application, review, approval, and tracking of post permit compliance	Regulation
WATER QUALITY	Water quality database which stores DBHYDRO data in a denormalized manner, used for certain types of queries	Coastal Watersheds, District Everglades, Kissimmee Watershed, Lake Okeechobee, Water Supply

**APPENDIX A
Continued**

SYSTEM	DESCRIPTION	PRIMARY PROGRAM(S) SUPPORTED
LIMS	Laboratory Information Management System used to manage data collected in the field and upload to database	Coastal Watersheds, District Everglades, Kissimmee Watershed, Lake Okeechobee, Water Supply
DOCUMENTUM	Application for the storage and retrieval of District and CERP documents	CERP
EXPEDITION	Application used to manage construction projects	CERP, District Everglades, Kissimmee Watershed
IRIS	Integrated Real Estate Information System used by Land Resources Department with several modules for land acquisition and management	Land Stewardship
P3E	Web based application (Primavera) used for contract management and tracking District projects	All
BUDGET	Financial budget application	Mission Support
LAMIS	Legacy land management application	Land Stewardship
ATLAS	Legacy Advanced Technology Land Acquisition System	Land Stewardship
RIGHT OF WAY	Application for management of canal and levee rights of way	Operations and Maintenance
WEEDAR	Weed Data and Reporting data base application for managing and analyzing invasive plant control data	District Everglades, Lake Okeechobee, Land Stewardship
LGFS	Legacy finance/procurement application	Mission Support
ROSS	Legacy human resources/ payroll application	Mission Support
PERSONIC	Legacy recruitment application	Mission Support
CONTINGENT WORKER	Human Resources Application/ data base for managing contract employees	All
REMEDY	Application with modules for Help Desk, Change Management, Asset Management, and Service Level Management	Mission Support
SAP	Application with modules for ESS/Portal, Business Warehouse, Finance, Plant Management, Human Resources, Payroll, Project Systems and Job Scheduler	Mission Support

APPENDIX B
GIS FUNCTIONAL RESPONSIBILITIES

The GIS Section has the following functional responsibilities:

- GIS Program Administration including GIS Working Group Coordination
- GIS systems planning and development
- Software, license and maintenance contract updates
- GIS server application administration including ArcSDE, ArcIMS, and Citrix
- Desktop GIS application administration including ArcGIS
- GIS technical support
- GIS training coordination
- GIS project and application development and contract management
- Spatial application development (i.e. EOC, ePermitting, CERP, IRIS, and ArcHydro)
- ArcGIS desktop enhancements
- ArcIMS map services productions and maintenance
- Establishment of data collection, quality, and documentation standards
- Management of the GIS Data Library and GIS Data Catalog
- Coordination and stewardship of GIS data of enterprise significance

APPENDIX C
WEB SUPPORT FUNCTIONAL RESPONSIBILITIES

The Web Support Section has the following responsibilities:

- Overall Web site architecture and technical design
- Daily performance management and monitoring of Web infrastructure
- Web Content Management System Administration
- Site traffic analysis
- Capacity planning and management
- Usability Engineering Standards and Guidelines
- Translate business requirements into application logical design
- Physical implementation of application logical design
- Test applications prior to deployment
- Modifications of existing applications
- Provide quality assurance and quality control
- Technical support to DPI and other Departments

APPENDIX D

COMPARISON OF CONTRACT WORKER'S COST AND EMPLOYEE'S SALARY

	Annualized Contract Rate	SFWMD Salary Grade Equivalent	Salary Grade Midpoint	Average Benefits	Total Salary Plus Benefits	Difference Between Contract Rate and FTE Rate	Percent Difference	Cost Factor
Technology Solutions								
Installation Tech Level 1 (1)	\$62,400.00	5	\$36,088.00	19,767.40	\$55,855.40	\$6,544.60	11.72%	1.12
Installation Tech Level 2 (1)	\$83,200.00	9	\$43,867.20	21,128.76	\$64,995.96	\$18,204.04	28.01%	1.28
Installation Tech Level 2 (1)	\$83,200.00	9	\$43,867.20	21,128.76	\$64,995.96	\$18,204.04	28.01%	1.28
Admn Helper (1)	\$52,000.00	1	\$29,681.60	18,646.28	\$48,327.88	\$3,672.12	7.60%	1.08
Inventory Coordinator (1)	\$62,400.00	5	\$36,088.00	19,767.40	\$55,855.40	\$6,544.60	11.72%	1.12
Help Desk Support Analyst (1)	\$124,800.00	17	\$64,792.00	24,790.60	\$89,582.60	\$35,217.40	39.31%	1.39
Help Desk Support Technician (1)	\$68,640.00	5	\$36,088.00	19,767.40	\$55,855.40	\$12,784.60	22.89%	1.23
Help Desk Support Technician (1)	\$97,760.00	9	\$43,867.20	21,128.76	\$64,995.96	\$32,764.04	50.41%	1.50
Help Desk Support Technician (1)	\$93,600.00	9	\$43,867.20	21,128.76	\$64,995.96	\$28,604.04	44.01%	1.44
Technical Trainer (1)	\$114,400.00	17	\$64,792.00	24,790.60	\$89,582.60	\$24,817.40	27.70%	1.28
Subtotal for Division	\$842,400.00				\$655,043.12	\$187,356.88	28.60%	1.29
GIS and Web Development								
GIS -Data	\$176,800.00	20	\$75,025.60	26,581.48	\$101,607.08	\$75,192.92	74.00%	1.74
IRIS GIS Systems Support	\$145,600.00	20	\$75,025.60	26,581.48	\$101,607.08	\$43,992.92	43.30%	1.43
Web Lead System Analyst	\$214,240.00	22	\$82,700.80	27,924.64	\$110,625.44	\$103,614.56	93.66%	1.94
Web - Portal Business Analyst - Lead	\$183,040.00	20	\$75,025.60	26,581.48	\$101,607.08	\$81,432.92	80.14%	1.80
Lead Applications Developer	\$187,200.00	20	\$75,025.60	26,581.48	\$101,607.08	\$85,592.92	84.24%	1.84
Web Designer	\$124,800.00	17	\$64,792.00	24,790.60	\$89,582.60	\$35,217.40	39.31%	1.39
ODSS Lead Bus. Analyst	\$183,040.00	20	\$75,025.60	26,581.48	\$101,607.08	\$81,432.92	80.14%	1.80
Cerp GIS Web Developer Sr.	\$133,120.00	17	\$64,792.00	24,790.60	\$89,582.60	\$43,537.40	48.60%	1.49
Cerp GIS ArcObjects Devel Sr.	\$133,120.00	17	\$64,792.00	24,790.60	\$89,582.60	\$43,537.40	48.60%	1.49
Subtotal for Division	\$1,480,960.00				\$887,408.64	\$593,551.36	66.89%	1.67
Application Development								
Lead Applications and Devel. Analyst -	\$193,440.00	20	\$75,025.60	26,581.48	\$101,607.08	\$91,832.92	90.38%	1.90
Sr. Application Development Support	\$178,880.00	18	\$68,036.80	25,358.44	\$93,395.24	\$85,484.76	91.53%	1.92
Sr. Application Architect.	\$187,200.00	20	\$75,025.60	26,581.48	\$101,607.08	\$85,592.92	84.24%	1.84
Sr. Database Administrator	\$172,640.00	18	\$68,036.80	25,358.44	\$93,395.24	\$79,244.76	84.85%	1.85
Lead Applications and Devel. Analyst	\$197,600.00	20	\$75,025.60	26,581.48	\$101,607.08	\$95,992.92	94.47%	1.94
Sr. Applications Developer	\$176,800.00	18	\$68,036.80	25,358.44	\$93,395.24	\$83,404.76	89.30%	1.89
Sr. Applications Developer	\$176,800.00	18	\$68,036.80	25,358.44	\$93,395.24	\$83,404.76	89.30%	1.89
Requirements Manager	\$193,440.00	20	\$75,025.60	26,581.48	\$101,607.08	\$91,832.92	90.38%	1.90
Subtotal for Division	\$1,476,800.00				\$780,009.28	\$696,790.72	89.33%	1.89
Infrastructure Systems								
Senior Project Manager (Telemetry)	\$212,160.00	22	\$82,700.80	27,924.64	\$110,625.44	\$101,534.56	91.78%	1.92
Sr. Electronics Tech	\$133,120.00	17	\$64,792.00	24,790.60	\$89,582.60	\$43,537.40	48.60%	1.49
Lead Database Administrator	\$218,400.00	22	\$82,700.80	27,924.64	\$110,625.44	\$107,774.56	97.42%	1.97
Sr. Storage Administrator	\$172,640.00	18	\$68,036.80	25,358.44	\$93,395.24	\$79,244.76	84.85%	1.85
Sr. Systems Admn - Multimedia	\$172,640.00	18	\$68,036.80	25,358.44	\$93,395.24	\$79,244.76	84.85%	1.85
Team Leader Network Support	\$166,400.00	18	\$68,036.80	25,358.44	\$93,395.24	\$73,004.76	78.17%	1.78
Sr. Systems Admn - IMC	\$172,640.00	18	\$68,036.80	25,358.44	\$93,395.24	\$79,244.76	84.85%	1.85
Sr. Systems Analyst - IMC	\$172,640.00	18	\$68,036.80	25,358.44	\$93,395.24	\$79,244.76	84.85%	1.85
Sr. Database Manager - Oracle	\$183,040.00	20	\$75,025.60	26,581.48	\$101,607.08	\$81,432.92	80.14%	1.80
Lead Network Engineer	\$183,040.00	20	\$75,025.60	26,581.48	\$101,607.08	\$81,432.92	80.14%	1.80
Subtotal for Division	\$1,786,720.00				\$981,023.84	\$805,696.16	82.13%	1.82
Security								
Consulting Enterprise Vault (Sr)	\$299,884.80	23	\$86,540.00	28,596.50	\$115,136.50	\$184,748.30	160.46%	2.60
On Site Consultant (Jr)	\$200,006.40	20	\$75,025.60	26,581.48	\$101,607.08	\$98,399.32	96.84%	1.97
Subtotal for Division	\$499,891.20				\$216,743.58	\$283,147.62	130.64%	2.31
Total	\$6,086,771.20				\$3,520,228.46	\$2,566,542.74	72.91%	1.73
Excluding Help Desk	\$5,244,371.20				\$2,865,185.34	\$2,379,185.86	83.04%	1.83