Marina Coast Water District

Technology Plan

Appendix 2017 for FY 2017-2018

Prepared for the
Marina Coast Water District Board of Directors

March 2017

Table of Contents

Executive Summary

The District Technology Plan (DTP) Appendix outlines the tasks and funding requirements associated with meeting the goals described in the DTP for fiscal year 2017-2018. Budgetary requirements are also presented for each Category.

The District currently has a Local Area Network (LAN) and a Wide Area Network (WAN) between the District offices through 20Mbps fiber-optic lines.

Billing/Financial/Operations Needs will improve Engineering project management and expense tracking. This effort will also assess the current computerized maintenance management system (CMMS), and either upgrade or replace this system.

System Backups and Disaster Recovery Improvements is new, and will improve the security and reliability of backups, and significantly reduce possible data loss. Additionally, a redundant server located at the Ord office will reduce disaster recovery time.

Security and Monitoring Improvements is new, and will improve the security and monitoring of systems to ensure consistent operational performance, and provide data for systems utilization assessment and future planning.

Document Storage System (DSS) implementation began in FY 2010-2011. The DSS moves the District towards green sustainability practices. Once fully implemented, the DSS system will save the District substantial time and money. In addition, it creates improved customer service, efficient collaboration between departments, sharing of information internally and externally, easier document storage and retrieval, and reduced storage space. Improvements have been made in FY 2016-2017, and the objectives listed within the category "Document Storage System" will be achieved FY 2017-2018.

Technology Maintenance forms the basis of a long-term program that ensures the maintenance of existing District technology through the continued incorporation of improved hardware and software, and the enhanced ability of staff to use the technology. Planned replacement of outdated and aged hardware and software will keep the District systems effective.

LAN Implementation improved the networking performance between the two buildings, and this was completed in FY 2016-2017.

Communications and System Augmentation focuses on the assessment of the current communications technology and any augmentations needed in hardware, equipment, and staffing needs. These needs were met in FY 2016-2017.

While training is budgeted as part of District operations, training costs are referenced in the DTP for a comprehensive look at costs associated with District technology.

Category: Billing/Financial/Operations Needs
Proposed FY 2017-2018 Budget: $53,000

This category addresses the need to upgrade and enhance the application systems that maintain billing, financial, and operations data. This systems manage billing, financial, and operation and maintenance needs, the meter reading system, the back-flow system, and the automated work order process system to track customer requests. These systems are critical for District operations and the information they produce is relied upon heavily for key analysis. The Customer Internet Account program has enabled District customers to access their account information online, pay bills using credit cards, and input service requests over the Internet.

The current Billing/Finance System contains the following features:

- Process credit cards via the Internet & Phone (w/o Customer Service assistance)
- Merge and automate Work Order Process
- Merge and automate Back Flow Process
- Attach parcel maps to individual customer account (GIS)

Goal and Long- and Short-Term Objectives

- *Improving the billing/financial/operations applications beneficial to the District*
    - Implement Springbrook project management module for better tracking and billing of development projects.
    - Upgrade or replace Operations Work Order, Asset and Maintenance Management System (CMMS)

Proposed Costs for FY 2017-2018

Expense Type	Estimated Cost	Comments
Billing and Financial Software upgrade	$7,000	Included in capitalized equipment budget
Staff training on new modules	$5,000	Staff training included in budgeted operating costs
Operations Work Order and Asset Management System	$41,000	• $20,160 Cityworks Upgrade consulting (Cap) • $5,840 training (Op) • $5,000 Cityworks API for infraMAP (Cap) • $10,000 ESRI GIS & Asset Mgmt Upgrade (Cap)

Category: System Backups and Disaster Recovery Improvements
Proposed FY 2017-2018 Budget: $19,000

The security, availability, and reliability of data and data backups is critical to continuity of the business. Data loss can be difficult and time consuming to replace.

With the implementation of these goals, the District will significantly reduce the potential for data loss, and improve the time to recover, in the event of significant system failures.

Goal and Long- and Short-Term Objectives

Reduce the potential for data loss and improve systems recovery.

- Key data will be backed up into the cloud (off site), on a nightly basis, to improve the security and reliability of backups.
- Database data will be copied approximately each hour into the cloud, allowing for a point-in-time database recovery to approximately within an hour of the time of failure.
- Warm Standby Server
    - Data will be replicated to a *warm stand-by* server between District offices, reducing the likely data loss for Financial and Utility Billing, and CMMS database systems.
    - The warm stand-by server at the Ord building will reduce disaster recovery time in the event of complete loss.

Proposed Costs for FY 2017-2018

Expense Type	Estimated Cost	Comments
Cloud Backups	$8,000	$4,000 approx. one-time $312 monthly recurring 3yr term ~= $4,000
Warm Stand-by Server and Data	$11,000	$6,000 computer $5,000 one-time setup

Category: Security and Monitoring Improvements
Proposed FY 2017-2018 Budget: $6,000

The security and monitoring of systems is key to ensuring consistent operational performance, and reducing the risk of significant performance impacts, downtime, and data loss. Additionally, this data will be used to assess systems utilization, and plan for future system needs.

Goal and Long- and Short-Term Objectives

Implement security improvements and systems monitoring:

- All devices, systems, and 3rd parties connecting into the MCWD network and computer systems will require use of a VPN on their client systems. This will significantly improve security and reduce the risk of cyber intrusion.
- Encryption of confidential business data, and customer personal identifiable information (PII), stored in databases will be encrypted when stored outside of databases (at rest).
- Security of database systems will be improved, particularly with access from external or 3rd party systems.
- Email and virus security will be improved.
- Basic server performance monitoring, tracking, and alerting will be implemented.
- Basic systems and network security monitoring and alerting will be implemented.
- Employee training on cyber intrusion recognition, and PII data handling.

Proposed Costs for FY 2017-2018

Expense Type	Estimated Cost	Comments
VPN Client	$500	One-time costs
DB Data Encryption At Rest	$1,000	One-time cost, may be covered by backup improvements
Database Security	$2,000	One-time software & consulting expense
Email and virus security improvements	$1,000	One-time consulting expense and software upgrades
Employee training	$500	One-time training
Basic systems and network monitoring and alerting	$1,000	One-time expense

Category: Technology Maintenance
Proposed FY 2017-2018 Budget: $57,000

To sustain the efficiency and effectiveness of the District's technological systems, hardware and software upgrades and additions will be required. If ongoing systems maintenance is not a priority, District systems will gradually become less effective.

Goals and Long- and Short-Term Objectives

- *Improve productivity by replacing outdated hardware technology*
    - Upgrade or replace 25% of PCs connected to LAN each year
    - Upgrade and maintain file server performance
    - Upgrade or replace output devices: printers, etc.
    - Perform a needs analysis annually to determine budgetary framework – *Ongoing*

- *Improve productivity by replacing outdated software technology*
    - Maintain compatibility of desktop operating systems – *Ongoing*
    - Perform a needs analysis annually to determine budgetary framework – *Ongoing*
    - Upgrade server operating system (OS) software *Ongoing*

- *Improve and maintain computer training opportunities*
    - Identify District staff training needs – *Ongoing*
    - Develop training plans – *Ongoing*
    - Develop matrix showing benefits of technology training - *Ongoing*

Based on a needs analysis performed by the District's Applications Systems Analyst and the Information Technology consultant, the District will replace/consolidate aging computer hardware, and will implement the latest technology hardware and software for a robust and safer computing environment in FY 2017-2018.

Proposed Costs for FY 2017-2018

Expense Type	Estimated Cost	Comments
Upgrade/Replace PCs and monitors	$15,000	Replacement of 11 PCs with monitors & MS Office Software included in operating budget.
CMMS/Springbrook Custom program development	$5,000	Ongoing custom programming included in operating budget
Network and phone system support	$2,000	Out of contract repairs or improvements
Extended Warranty on 5 year old servers (2)	$2,000	Extended Warranty on two 5-year old servers.
Network Server software upgrades	$5,000	Antivirus and other server software upgrades included in operating budget
File/Email/Cityworks Server Upgrade	$20,000	Replacement of 5 year old File / Email Server / Cityworks Server
Ord Server Room	$8,000	Building modifications and air conditioning to house New File / Email / Cityworks Server at Ord building, and also use it as a warm standby server.

Category: Document Storage System
Proposed FY 2017-2018 Budget: $5,000

A Document Storage System includes the strategies, methods and tools used to capture, manage, store, preserve, and deliver documents related to organizational processes. DSS tools and strategies allow the management of an organization's unstructured information, wherever that information exists. It reduces or eliminates the need for paper documents and allows for remote access of documents by employees. The DSS will help the District move towards green sustainability practices. The DSS systems will save the District substantial time and money. In addition, it will enhance customer service, efficient collaboration between departments, sharing of information internally and externally, easier document storage and retrieval, reduced storage space, and other benefits.

Improvements and enhancements have been made in FY 2016-2017, and will continue to be made, by the new District Applications Systems Analyst.

Laserfiche Document Management/Storage System provides the following capabilities:

- Improve efficiency of document access
- Allow for remote document access
- Reduce storage space required to store paper files
- Enhance customer service, improved collaboration

Goals and Long- and Short-Term Objectives

- *Laserfiche development*
    - Full implementation and use of the DSS throughout the District in FY 2017-2018.

Proposed Costs for FY 2017-2018

Expense Type	Estimated Cost	Comments
Laserfiche Enhancements	$5,000	Additional user licenses, and consulting expenses.

Category: LAN Implementation
FY 2017-2018 Budget: $0

The implementation of a Local Area Network (LAN) has greatly benefited the District. This LAN has enabled staff to share computer resources and network printers and other functions among staff members. The LAN has enabled the District staff members to communicate with one another via electronic mail, thus reducing the use of paper to move documents from one location to another, as well as increasing staff response time. Both sites are protected with firewalls within a dedicated Virtual Private Network.

The LAN Implementation provides the following capabilities:

- Backup data off site on a nightly basis
- Transfer data between District offices to maintain redundant systems
- Improved server and data access through an upgraded 20Mbps network

Goal and Long- and Short-Term Objectives

- *None*

Proposed Costs for FY 2017-2018

Expense Type	Estimated Cost	Comments
	$0	

Category: Communications and System Augmentations
FY 2017-2018 Budget: $0

The District attempts to keep abreast of innovative communication technologies and strives to implement them to effectively communicate with the public and other agencies. Throughout the life span of any system, additions or upgrades are necessary to sustain productivity. In addition to LAN system maintenance, other improvements will increase efficiency and decrease staff costs. The District also strives to maximize usage of current communication and business software in order to provide the clear and useful information to the Board for decision making regarding policy and to be as transparent to the public as possible.

The District has the following communications enhancements in place:

- Upgraded Voice Over Internet Protocol (VOIP) phone system, replacing original phone system from 2007.
- New hire *Applications Systems Analyst*

Goals and Long- and Short-Term Objectives

- *None*

Proposed Costs for FY 2017-2018

Expense Type	Estimated Cost	Comments
	$0	

Summary

Summary of FY 2017-2018 Budget: $140,000

Category Type	Estimated Cost	Operating Budget	Capitalized Equipment Budget	Capital Projects Budget
Billing/Financial Needs	$53,000	$5,840	$47,160	$-
System Backups and Disaster Recovery Improvements	$19,000	$5,000	$14,000	$-
Security and Monitoring Improvements	$6,000	$6,000	$-	$
Technology Maintenance	$57,000	$29,000	$20,000	$8,000
Document Storage System	$5,000	$5,000	$-	
LAN Implementation	$-	$-	$-	
Communications and System Augmentations	$-	$-	$-	
TOTAL:	$140,000	$50,840	$81,160	$8,000

This Appendix 2017 represents a comprehensive plan with identified funding requirements necessary for the continued implementation of the District Technology Plan for FY 2017-2018. The approval and implementation of this appendix document will support the District's efforts of technology maintenance; technological enhancements to improve staff efficiency while continuing to better respond to the needs of the public.

Appendix A: Server Listing

SERVERS	Date of Purchase	Model	Mem	C Drive	D Drive	Operating System	Warranty
SBS 2011- FileServer / Exchange Email	Feb-12-2012	Dell R710/64bit	32Gb	146Gb	900Gb	Win SBS2011	May-1-2017
APPS - CityWorks, SQL 2008, ArcGIS	May-12-2012	Dell R720/64bit	64Gb	146Gb	900Gb	Win 2008	Jun-1-2017
Finance - Springbrook 7.17						Win 2008	
Terminal Server						Win 2008	
HVS - LaserFiche DocMgmt Server	Dec-15-2015	Dell R730/64 bit	128Gb	300Gb	1.4Tb	Win 2012R2	Dec-1-2020
Mcwdsrv2 - SpringBrook 6.05		64bit	4Gb			Win 2003	
Mcwdsrv5 - XC2, Old Terminal		32bit	4Gb			Win 2003	
SQL		64bit	32Gb			Win 2012R2	
Laserfiche		64bit	16Gb			Win 2012R2	

Appendix B: Workstation Listing

User Name	Dept	Location	Description	Purchase Date
Chem Lab	Lab	Beach	Optiplex 760	7/3/2008
St Intern	Lab	Beach	Dimension 3100	7/3/2006
R Magdaleno	OM	Ord	Optiplex 755	6/14/2008
T Nguyen	OM	Ord	Optiplex 755	6/16/2008
S Kiefert	OM	Beach	Optiplex 780	10/16/2009
J Russell	CS	Ord	Optiplex 780	10/26/2009
Beach Guest	Adm	Beach	Optiplex 780	10/26/2009
J Rodriguez	OM	Ord	Optiplex 780	10/26/2009
W Foster	OM	Ord	Optiplex 780	10/26/2009
Spare	OM	Ord	Optiplex 780	10/26/2009
FrontDesk1	CS	Beach	Optiplex 790	6/10/2011
M Rosales	OM	Ord	Optiplex 790	6/10/2011
M Duplissie	Eng	Ord	Optiplex 790	6/14/2011
FrontDesk2	CS	Beach	Optiplex 790	6/16/2011
B West	Eng	Ord	Optiplex 790	6/20/2011
J Derbin	OM	Ord	Optiplex 7010	3/13/2012
T Hatfield	Fin	Ord	Optiplex 790	3/30/2012
Spare	CS	Beach	Optiplex 7010	8/13/2012
L Ybarra	Fin	Ord	Optiplex 7010	8/13/2012
J Pineda	OM	Ord	Optiplex 7010	8/13/2012
J Hollida	Eng	Ord	Optiplex 9010	8/15/2013
P Lord	Cons	Ord	Optiplex 9010	8/15/2013
St Intern	Cons	Ord	Optiplex 9010	8/15/2013
B True	Eng	Ord	Optiplex 9010	8/15/2013
Spare	Adm	Ord	MacBook Air 13in	3/1/2014
Acct Temp	Fin	Ord	Optiplex 9020	7/23/2014
J Correa	OM	Ord	Optiplex 9020	7/23/2014
T Barkhurst	Lab	Ord	Optiplex 9020	7/23/2014
K Van Der Maaten	GM	Beach	Optiplex 9020	7/23/2014
P Riso	Adm	Beach	Optiplex 9020	3/30/3015
St Intern - Lyssa	CS	Beach	Optiplex 9020	3/30/3015
Presentation Laptop	Adm	Beach	Latitude E6540	5/15/2015
K Cadiente	Fin	Ord	Optiplex 9020	6/15/2015
D Walker	Cons	Ord	Optiplex 9020	6/15/2015
St Intern	Eng	Ord	Optiplex 9020	4/15/2016
B Montanti	CS	Beach	Optiplex 9020	5/15/2016
R Green	OM	Ord	Optiplex 3020	6/15/2016

T Kelsey	OM	Ord	Optiplex 3020	6/15/2016
J Premutati	CS	Beach	Optiplex 7040	10/15/2016
C Cuisinier	CS	Beach	Optiplex 7040	10/15/2016
S Verduzco	Eng	Ord	Optiplex 7040	10/15/2016
M Wegley	Eng	Ord	Optiplex 7040	10/15/2016
J Bardos	Fin	Ord	Inspiron 7000	12/1/2016