



MWD

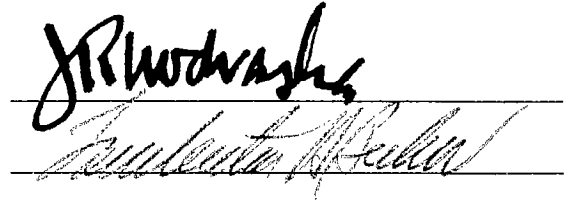
METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

8-7

April 8, 1997

To: Board of Directors (Engineering and Operations Committee--Action)
(Finance and Budget Committee--Action)

From: General Manager



Submitted by: Lambertus H. Becker
Chief Financial Officer

Subject: Request to Appropriate \$6,316,000 to Finance Costs for an Electronic Document Management System and Authority to Award Contracts.

Reference: Appropriation 15299 / Capital Program No. 5-0601-43

RECOMMENDATION(S)

It is recommended that your Board authorize Appropriation No. 15299 in the amount of \$6,316,000 from the Pay-As-You-Go Fund to finance estimated costs for implementation of an Electronic Document Management System.

It is recommended that your Board authorize the General Manager to have all work performed to implement the Electronic Document Management System, and delegate to the General Manager the authority to award competitively procured contracts exceeding \$250,000, in form approved by the General Counsel, for such work.

EXECUTIVE SUMMARY

Approval of these recommendations will appropriate funds and authorize implementation of an Electronic Document Management System (EDMS) in the District. The cost for project implementation is estimated at \$6,316,000. If approved, these funds will be used to build the overall infrastructure (servers, indexes, software site licenses) and four (4) divisional and one (1) departmental project(s). The four divisions participating in this phase of the work include: Engineering, Planning and Resources, Finance & Business Services, and Operations. The one departmental project is in Legal. The work proposed will be completed over a two and one half year period. The estimated payback period for this investment is three years.

The District's 1991 Information Systems Strategic Plan (ISSP) identified an "acute need for improvement" in document management and for sharing information across divisions and departments. The 1995 ISSP Update report identified information access as a strategic driver for the District. It noted that there was a strong need to provide additional automated support for document management.

In December 1995, the Information Systems Division (ISD) initiated a study of the District's document management methods to make recommendations for improving district document management. The study identified the cross-departmental nature of most district documents, and established that divisions/departments were either initiating independent document management improvement studies, or were beginning to develop stand-alone EDMS. The study concluded that it would be more beneficial and cost effective to combine efforts district wide and implement an integrated EDMS.

As a result of the 1995 study, a Document Management Committee was formed to define the functional requirements for a district-wide document management system. These requirements were used to develop a Request for Proposal (RFP) for an EDMS. A notice for the RFP was advertised and direct notice was sent to more than thirty potential vendors. Nineteen entities requested copies of the RFP document. Five vendors responded with proposals. Their responses, products and references were evaluated. As a result of the evaluation, Saros/FileNet's EDMS proposal was selected as the preferred software solution.

This request for funds for an EDMS is supported by a number of divisions and departments, including Engineering, Operations, Planning and Resources, Finance and Business Services, and Offices of the General Manager and the General Counsel. The project proposal was reviewed and approved by the internal Information Technology Committee (ITC) on March 6, 1997 and subsequently by the Operations Oversight Review Committee (OORC) on March 12, 1997.

CAPITAL FUNDING REQUEST

| | | |
|--|---|--|
| Project Name: ELECTRONIC DOCUMENT MANAGEMENT | | |
| Appropriation No.: 15299 | Funding Request No.: Initial | Amount: \$6,316,000 |
| Source of Funds: Pay-As-You-Go Fund | | |
| FY 96-97 Budget: No <input type="checkbox"/> Yes <input checked="" type="checkbox"/> @ \$190,000 | | Capital Program: 5-0601-43 Page No. Reference: 56 |
| Project Justification and Type: (check all applicable) | | |
| <input type="checkbox"/> Meet Water Demands | <input type="checkbox"/> New Facility | <input checked="" type="checkbox"/> Replacement |
| <input type="checkbox"/> Mandated By Law | <input checked="" type="checkbox"/> Improvement | <input type="checkbox"/> Expansion |
| <input checked="" type="checkbox"/> Asset Protection/Risk Mgt. | | |
| <input checked="" type="checkbox"/> Cost Avoidance | | |
| <input type="checkbox"/> Other _____ | | |

PROJECT DESCRIPTIONS

The projects incorporated in this program are:

- Board Letter Review/Surnaming/Distribution
- EDMS Infrastructure
- Engineering Drawing Management
- Operations Service Connection Files Management
- Planning and Resources Document Conversion and Management
- Legal Document Conversion and Management

See Attachment B for further project descriptions

BENEFITS:

Implementation of the EDMS will improve productivity and reduce the overall cost of managing documents by making district staff more productive. At full build-out, the estimated annual savings associated with this project, in both hard and soft dollars, are \$4,197,800.

These savings result from an estimated 20% reduction in annual document reproduction and storage costs, or an annual saving of \$545,480, and a 2% improvement in staff productivity, or a increase worth \$3,652,800 annually. (see Attachment A for further detail).

Other significant benefits to be realized as result of EDM implementation include:

- Improved decision-making and data availability for Directors.
- Improved communications with Board Members, Member Agencies and the public by providing access to Board Letters and other authorized documents, via Internet or other electronic mechanisms.
- Reduced relocation costs associated with moving physical files to the new District Headquarters.
- Reduced number of hardcopy paper documents and associated filing space at new District Headquarters and in other District facilities.
- Increased awareness of the District's position on issues by providing on-line access to documents now not possible with paper files.
- Improved customer service response times by providing on-line access to more document images at time of request than is now possible with paper files.
- Improved support to management decision making by providing, both simple and sophisticated, searching capabilities, which will allow quick access to requested documents where ever they are stored.
- Increased availability of and confidence in District information.
- Reduced dependency on needing to know the specific location or the existence of documents.
- Enhanced ease of archiving documents.

IMPLEMENTATION PLAN

The implementation plan provides for the projects to be completed in phases. The scope of this request covers deployment of EDMS to all users, that require access to the documents managed by the five projects. The first phase is expected to encompass up to 400 users and be completed in 6 -12 months. The second and third phases will include the remaining users and will be completed in 12 - 30 months from project initiation.

| PROJECT PLAN: | ELECTRONIC DOCUMENT MANAGEMENT SYSTEM | | | | |
|--------------------------------|--|-------------------|-------------------|-------------------|-------------------|
| PHASE | ESTIMATED COST | % COMPLETE | FY 1996/97 | FY 1997/98 | FY 1998/99 |
| Program Management | \$500,000 | 0% | | | |
| EDM Infrastructure & Support | \$4,016,000 | 0% | | | |
| Board Letter Review/Surnaming | \$350,000 | 0% | | | |
| Engineering Drawings | \$500,000 | 0% | | | |
| Operations Service Connections | \$300,000 | 0% | | | |
| Planning and Resources | \$375,000 | 0% | | | |
| Legal | \$275,000 | 0% | | | |
| TOTAL | \$6,316,000 | | | | |

Notes

1. EDM Infrastructure includes all hardware, software and training.
2. Other projects are allocated professional services.

ALTERNATIVES TO PROPOSED ACTION

Continue to use paper documents and manual systems to manage and store documents. This alternative is undesirable because current manual document management methods will not improve productivity and are ineffective in meeting key business requirements. Moreover, business needs may necessitate the implementation of separate, single purpose systems with incompatible formats and lead to higher overall costs than the District-wide implementation of a common EDMS.

CEQA COMPLIANCE/ENVIRONMENTAL DOCUMENTATION

This proposed program is exempt from the provisions of the California Environmental Quality Act (CEQA) because it will have no significant effect on the environment.

| FINANCIAL ANALYSIS: | | | | | | |
|---|-----------------|-----------------|----------------------------------|-----------------|----------------------|--------------|
| Evaluation Period: 5 years | | | | | | |
| A. Projected Costs | | | | | | |
| | FY 96-97 | FY 97-98 | FY 98-99 | FY 99-00 | OUT YEARS | TOTAL |
| Labor/Additives | \$70,000 | \$630,000 | \$200,000 | \$40,000 | \$80,000 | \$ 1,020,000 |
| Professional Services | 100,000 | 1,472,000 | 798,000 | 0 | 0 | 2,370,000 |
| Hardware Purchase | 0 | 1,013,000 | 507,000 | 100,000 | 200,000 | 1,820,000 |
| Software Purchase/License (including training costs) | 20,000 | 987,000 | 493,000 | 200,000 | 400,000 | 2,100,000 |
| Other | 0 | 13,000 | 13,000 | 5,000 | 10,000 | 41,000 |
| TOTAL | \$190,000 | \$4,115,000 | \$2,011,000 | \$345,000 | \$690,000 | \$7,351,000 |
| B. Projected Savings: | | | | | | |
| | FY 96-97 | FY 97-98 | FY 98-99 | FY 99-00 | OUT YEARS | TOTAL |
| Hard Savings (Reproduction) | \$0 | \$ 100,000 | \$ 300,000 | \$545,000 | \$1,090,000 | \$2,035,000 |
| Soft Savings (Productivity) | 0 | 1,000,000 | 2,500,000 | 3,652,800 | 7,305,600 | 14,458,400 |
| TOTAL | 0 | \$1,100,000 | \$2,800,000 | \$4,197,800 | \$8,395,600 | \$16,493,400 |
| C. Difference (B-A) | (\$190,000) | (\$3,015,000) | \$789,000 | \$3,852,800 | \$7,705,600 | \$9,142,400 |
| D. Cum Difference | (\$190,000) | (\$3,205,000) | (\$2,416,000) | \$1,436,800 | \$9,142,400 | \$9,142,400 |
| Payback Period: 3 Years | | | Estimated Life of Asset: 5 Years | | | |

ATTACHMENT A - PROJECTED SAVINGS**A. Hard Savings (Based on avoided document reproduction and storage costs):**

Industry estimates of the savings in document reproduction and storage costs that can be realized in the use of an EDMS run in excess of 40% in some industries. For this analysis a savings rate of 20% has been used. This rate results in an expected annual saving of approximately \$545,000, based on current annual copying and storage costs of \$2,722,400.

| ANNUAL REPRODUCTION COSTS | |
|--|-------------|
| Reprographics Copying | \$980,000 |
| Local Copying | \$1,320,000 |
| Document Storage | \$422,400 |
| Total | \$2,722,400 |
| Estimated reduction in copying costs (20%) | * 0.20 |
| Value of 20% Reduction in Copying Costs | \$544,480 |

B. Soft Savings (Based on expected increases in staff productivity)

Productivity Improvement - There will be significant productivity improvements in document management as a result of the implementation of EDMS. The Gartner Group (a leading independent Information Technology research group) developed an EDMS cost/benefit model, which it validated based on actual client and vendor experience. Reference is *Integrated Document Strategies: Automating a Document's Life Cycle* by J. Block, Inside Gartner Group This Week, July 5, 1995.

This cost/benefit model, based on a 100-person workgroup of office employees, predicts that the reduction in total work time spent on document management activities should decrease from 20%, in a manual system, to 15%, in an automated system. The net result is a 5% increase in overall personnel productivity. For purposes of this cost/benefit analysis, a more conservative productivity increase factor of 2% has been used to estimate the value of the increase in overall productivity since not all District employees are routinely involved in document management.

| EXPECTED ANNUAL PRODUCTIVITY INCREASE | |
|--|---------------|
| Full-time Employees (with additives, not overhead) | \$120,000,000 |
| Consultants/Temporary Employees | \$62,640,000 |
| Total | \$182,640,000 |
| Estimated increase in total productivity (2%) | * 0.02 |
| Value of 2 % Increase in Productivity | \$3,652,800 |

NOTE - In this system, the full cost benefits will not realized until the EDMS is substantially deployed. This fact is supported by the Gartner Group and reflected in the project Financial Analysis.

ATTACHMENT B - PROJECT DESCRIPTIONS

Overview

This program will establish the District's Electronic Document Management Infrastructure. The designated projects will build upon this infrastructure to address the needs identified by their Divisions and Departments. Several of these projects were in the initiation stage prior to this coordinated effort. The responsible Divisions halted work on the individual projects in order to participate in a coordinated effort. The initial units targeted to participate in this program include Engineering, Operations, Planning and Resources, Legal, Finance and Business Services, as well as active participants in Board Letter Review preparation.

- **EDM Infrastructure**

The primary objective of this project is the selection, installation and implementation of the Electronic Document Management Infrastructure. This effort will allow the sharing of information across the District without the need for routing, printing or storing hard copy, or printing multiple copies of documents. By having a common platform architecture, the support for these projects can be centralized while still providing the level of service required by the Divisions and Departments. The infrastructure implementation includes the hardware, software and support services to facilitate information sharing and to avoid the need for multiple, redundant systems.

- **Board Letter Review/Surnaming/Distribution**

The District currently distributes board letters to Directors in both electronic and paper formats. This is necessary because the current interim electronic distribution process does not always include attachments of key non-electronic information. This interim process impedes efficient Director review of documents and hampers decision-making.

It is imperative that the Electronic Document Management System proposed here provide Directors with the proper tools and information to allow them to efficiently and effectively make decisions. This includes not only attachments to Board Letters, but giving Directors the ability to search historical records in a variety of ways. To assure that this objective is met, the proposed project includes a sub-project designed to specifically address the Director's needs relative to the Board Letter process.

In addition to the process by which information is distributed to Directors, the existing paper based board letter routing and surnaming process is cumbersome, time-consuming, and labor intensive. Considerable manual effort is required to expedite the review and approval of these documents in a timely manner. As an additional part of this proposed project, staff is committed to evaluate the current Board Letter process, re-engineer it to utilize all facets of the EDMS and use the revised process to effectively distribute current and historical information to Directors.

- **Engineering Drawing Management**

Engineering maintains drawings for the design, construction and maintenance of Metropolitan's water distribution and treatment facilities. This includes over 100,000 electronic CAD drawings, plans and models, and 400,000 hardcopy drawings. These drawings are commonly used by other divisions including Operations, Planning and Resources, Water Quality and Environmental Compliance. The drawing restoration effort also requires a system to manage and maintain older and current versions of drawings, and to make them easily accessible for maintenance activities. When delays occur in retrieving drawings, or an incorrect version of a drawing is referenced, additional costs and project delays may be incurred.

Currently a mainframe application is used to index the hardcopy drawings. A listing is available for the electronic files which are stored on file servers. These lists use a standard naming approach, but no application exists to catalog and retrieve electronic drawings. The lack of such a feature requires users to have prior knowledge of file names to locate where the drawings are stored. This results in additional labor and time delays for locating and maintaining these files.

This project will create a catalog of engineering drawings to make them accessible to all authorized district personnel in a timely manner. The introduction of EDM to the engineering environment will be a two step process. The first step will be to register and index existing electronic CAD files. The second step is to scan, index and register electronic images of older hardcopy drawings.

The end result of this project will be a system to allow District personnel from all divisions to retrieve drawings in a timely manner when necessary. This system will be used to maintain and update drawings on a routine basis to ensure that drawings are representative of actual site conditions. In addition, this effort will support the Business Resumption Plan by allowing access to drawings quickly in the event of a major disaster.

- **Operations Service Connection Files Management**

Service Connection files are maintained in the Operations area and date back to 1928. Member Agencies may have multiple service connections. These files include agreements, design documents, applications, construction, cost reporting and billing information. The district has approximately 400 service connections, including master meters.

The information in a service connection files is used to verify conditions of service, contractual arrangements, maintain system operations and support system expansion.

Typical use of these files would be in support of audits or to answer queries from Member Agencies. Member Agencies commonly request copies of documents in the Service Connection Files.

- **Planning and Resources Document Conversion and Management**

In 1995, the Planning and Resources Division initiated a study of the document workflow within the Division. The Division maintains a paper-based filing system, containing over four million pages with an annual growth rate of approximately twenty percent (20%). This growth factor means that 800,000 new pages are anticipated next year. Current staffing levels have not allowed the Division to achieve its goal of maintaining its subject-based central filing system. Because of this, individuals maintain their own document files for ease of access to reports for ongoing projects. As a number of projects involve more than one person, considerable time is spent duplicating, distributing and filing multiple copies of the same document. All of this effort still does not assure that there is one complete set of all relevant information on a particular subject in one location.

The study identified a strong need to improve the filing, searching, retrieving and archiving elements of the document management processes. The study concluded that the most cost effective approach to improve these processes, and to ensure that document management and retention procedures are followed, is to implement an electronic document management (EDM) system. Installing an EDM system and the associated procedures would improve the efficiency and reliability of document handling in the Division. It does this by eliminating steps that do not add value, such as walking between offices to hand-carry a document, extended searches for mislaid documents, and working with the wrong version of a document. Other benefits include reducing the number of multiple file locations, enhancing filing procedures, including backup and security for documents of historical importance, eliminating the risk of misplacing documents, and reducing the time required for project and issue research, as well as, the use of office supplies.

- **Legal Document Conversion and Management**

The legal department previously identified the need for an EDM system and installed a departmental system using PC DOCs (May 1996). While this is effective as a departmental system, it will not be able to operate on an enterprise level. PC DOCs was evaluated for use as a district system, but it was not selected due to the lack of necessary functionality and LAN security, when used at an enterprise level.

The PC DOCs system, currently has approximately 3,300 document indexed (about 7% of total Legal documents). The initial approach will be to transition Legal staff to the Saros system, then convert the PC DOCs files to Saros. This can most likely be done on a semi-automated basis.