Mid-Region Council of Governments

I. **IMAGING SYSTEM PLAN**

A. System Description

1) Purpose of System

The purpose of the imaging system is the systematic digitizing and indexing of The Mid-Region Council of Governments, the Rio Metro Regional Transit District, and Workforce Connections of Central New Mexico (collectively referred to as MRCOG) records and related materials, which will allow for restricted search and view capabilities through the MRCOG's computing and networking infrastructure. The digital record will be the MRCOG's Official Copy of Record. (MRCOG includes the Mid-Region Metropolitan Planning Organization (MRMPO)).

2) Specific Goals of System

MRCOG's plan is to implement the imaging plan in stages. Accounting and finance will be the first department to implement. The largest volume of records MRCOG's maintains relates to its accounting and finance operations. The volumes approximate 3000 records for payroll, 2000 for accounts payable and less than 1000 for invoicing and cash receipts per annum, and less than 1000 per annum for purchase orders.   Other records accounting/finance will process are reconciliations, statements, general ledger reports, journal vouchers, budgets & financial reports. These records approximate 100-200 per annum.

Once accounting and finance have implemented and the policies and procedures are in place and training has occurred, MRCOG will expand the digitizing system to procurement/RFP files, contracts, human resource and

personnel files, and general administrative files, such as board minutes. These records will be less than 1000 annually.

MRCOG anticipates growth related to its Rio Metro operations of approximately 2-5% per year. Management believes the system is more than adequate to handle the growth in the next five years.

The specific goals of the planned imaging system will be as follows:

a. The creation of document or record specific databases that can facilitate the records retention and disposition process. To move the records from file cabinets and boxes stored in the basement to an electronic database.

b. The creation of a systematic records management program that will ensure timely records archiving. Records will be stored in an electronic database upon creation, instead of being stored in file cabinets and boxes in the storage basement. This will help ensure documents are complete and secure.

c. Decreased records retrieval time. Document retrieval time will be improved from a 5 to 15 minute process to a 1 minute or less process.

d. Improved security of sensitive documents. Sensitive documents will only be accessible to those whose duties require access to those documents, instead of being stored in cabinets where other personnel have access.

3) Affected Records

See MRCOG Schedule of Documents and Retention Requirements located at W/Common/Policies/MRCOG Schedule of Documents and Retention Requirements.

4) Technical Description

a. Hardware

    i. Imaging and Database Server –

- Dell PowerEdge R730
- Windows Server 2012R2,STD Ed
- MS SQL Server 2016, STD Ed
- PDS Document management system
- UltracBac V9.5 Backup System for Disk
- PERC H730P RAID Controller, 2GB NV Cache

- RAID 1+RAID 5
- (2) 300GB 15K RPM SAS 12Gbps 2.5in Hot-plug Hard Drive
- (6) 1.2TB 10K RPM SAS 12Gbps 2.5in Hot-plug Hard Drive
- Member of MS Domain for access control

   ii. <u>Work Stations</u>

- Dell Optiplex Desktops/Latitude Laptops
- Intel based chipsets
- Windows 8.0, 8.1 or 10.0 Professional Operating System
- Member of MS Domain for access control

   iii. <u>Scanner</u>

- Canon DR-M160

   iv. <u>Back up</u>

- Dell PowerEdge R720
- Windows Server 2008R2,STD Ed
- UltracBac V9.5 Backup System for Disk

   v. <u>Uninteruptable Power Supply</u>

- Entire building automatic diesel backup generator: APC UPS 2200V

b. Software

   i. <u>Operating System</u>: MS Server 2008/2012

   ii. <u>Data Base:</u> MS SQL Server 2008/2016

   iii. <u>Back Up</u>: UltracBac V9.5 Backup System for Disk

   iv. <u>Document Management</u>:   Document Application Extender (AX) - AX is a unique product that addresses the full range of paper intensive business and office applications. It is an open MS Windows solution using industry standard protocols and an Oracle database to integrate

imaging with a standard PC system. AX encompasses the following functions and characteristics:

- A universal document manager for imaging documents, word processing files, spread sheets and color pictures. With AX you can create, scan, index, delete, search, edit, route and print document images.

- AX includes database query tools designed to aid the user in the efficient retrieval of stored documents. Also allows cross-application queries.

- AX includes an easy to use "Application Generator" which allows for the creation of an unlimited amount of user defined databases or projects.

- View and zoom hundreds of documents in rapid succession. The viewer module includes annotation for "post-it" type notes or graphics and dynamic, pop-up and variable zoom.

- A batch scanning system that accommodates scanners in the low, mid and high ranges

c. System Documentation

  i. All data indexes are stored in MS SQL data tables that are created for the Document Management Software (see below).

  ii. The index data is stored as industry standard "CHAR" files that can be exported upon request.

  iii. Images are stored as industry standard TIFF files and are located in storage locations designated by the MRCOG.

  iv. Location "Pointers" to the images are stored in the MS SQL data base along with other unique data indexing information (i.e. incident number)

d. Storage Media Master

  The media master will be at least "500 GB External hard drives" as described above, created under the strict "Storage Back Up Procedures" outlined below in paragraph f.

e. Storage Media Working Copy

  i. RAID Array on Server

- PERC H730P RAID Controller, 2GB NV Cache
  - RAID 1+RAID 5
    - (2) 300GB 15K RPM SAS 12Gbps 2.5in Hot-plug
      - Hard Drive
    - (6) 1.2TB 10K RPM SAS 12Gbps 2.5in Hot-plug
      - Hard Drive

NOTE: DUE TO THE HIGH FAULT TOLERANCE LEVELS OF A RAID ARRAY THIS "WORKING COPY" CAN ALSO SERVE A DUAL PURPOSE AS A "MEDIA MASTER" THEREBY FURTHER ENHANCING OVERALL DATA AND IMAGE PROTECTION.

f. Storage Back up Process

Daily - Full back up performed on all data and images. External Hard drives rotated every day. External Hard drives stored in fire proof environment.

5) System Security

The document management system controls security on four levels:

a. Restricted access to the application that contains the records. Only authorized personnel will have access the records database.
b. Permissions within the application will control individual user software functions. (i.e. add records, delete pages etc.)
c. Document Level – some documents may be restricted for access within an application
d. Audit trail – a detailed listing of user name, log in / log out time, activities when active (i.e. add record, view page, add index, delete page etc.)

6) Public Access and Finding Aids

Access and finding aids are described in general terms in 5.b above. AX allows MRCOG to set up user defined applications, in which document storage can be indexed utilizing several meaningful indices, such as date, document number, name, etc. MRCOG will create an application or database for each document type. For example, purchase orders are in MR_FIN_PURCHASE_ORDERS application/database, and its indices are PO#, and vendor name. AX allows users to search in and across databases for documents, and users may search using just partial information with the use of wild card symbols. For example, MRCOG numbers its PO's sequentially, but always beginning with the fiscal year, such as 13-001, 13-002, etc. A user could search all fiscal year 13 PO's by using a search character string "13*". Or could search all PO's issued to Xerox by using

"Xerox" under the vendor search. A user could also search fiscal year 13 for vendors starting with letter X by using "13*" & "X*".

Access and related functional privileges (i.e. view and print only) for public access will be controlled in the administrative module of the document management software by MRCOG personnel as assigned by the Executive Director.

7) System Implementation Date

Testing commenced on finance department's components upon installation of AX in July 2013. WCCNM commenced November 2014. Dual systems have been utilized since installation. Testing has been deemed successful. Dual system will be phased out upon approval of Imaging Plan.

Target implementation of other MRCOG departments is October 1, 2017: Those departments are: Human Resources, Legal, Executive Director, Transportation, Transit, and Rail.

8) System Expected Life Span

The expected life span of the system will be ongoing, contingent upon normal and reasonable upgrades to hardware and software as long as the system remains in operation. (i.e. Server to be replaced in 3 - 5 years as new technologies emerge, software to be upgraded with new software releases etc.)

B. Management Control

1) Throughout the conversion process the MRCOG will utilize a number of reporting tools to facilitate and monitor the archiving process. These include but are limited to the following;

   b. Daily scanning performance by Full Access User
   c. Daily indexing performance by Full Access User
   d. Quality Control report for image availability, readability and indexing accuracy. (See below)
   e. Image storage capacity
   f. Back up verification

2) The MRCOG will operate under a strict quality plan that ensures that all quality objective of 100% image availability, 100% image readability and 98% indexing accuracy are met.

3) Our process starts with identifying the document population size on a recently scanned and indexed batch. A statistically relevant sample set is extracted from the population. Page counts (Image Availability) are taken from the imaging system (those that were scanned) and compared to the actual page counts of the hard copy document files. If scanned images are less than 100%, then the missed pages are inserted and the process is repeated until 100% image availability are met.

4) The same process is employed for both image readability and indexing accuracy. For indexing accuracy PDS checks the total available index population. This is calculated by taking the number of index fields in an application and multiplying this number by the document quantity of the sample set. If the total error count in the sample set is greater than 2%, then the errors are corrected, the population is reshuffled and the process begins again until the 98% accuracy is achieved.

See Section II. **IMAGING SYSTEM MANAGEMENT** beginning page 9.

C. Disposition of Records

1) Disposition Plan for Original Records

Upon successful quality control (QC) inspection of the scanned images and upon receipt of NM State Records and Archives' approval of MRCOG's Imaging Plan, original records will be removed and sent for destruction per New Mexico State Records and Archive Standards.

2) Plan for Imaged Records when Legal Retention Has Been Met

Following fulfillment of retention requirements all associated records including the database record and the images will be expunged /deleted from:

a. Hard drives
b. The storage configuration
c. Any paper that has been retained will be destroyed by accepted New Mexico State Records and Archive Standards

D. Five Year Review

A thorough review and update to the imaging system, including modifications to this plan will be conducted as changes occur or no later than five years from date of implementation.

II. IMAGING SYSTEM MANAGEMENT (1.14.2.15 NMAC)

A. To ensure the reliability and accuracy of image systems and processes, MRCOG shall specifically address each of these management structure components.

1) Policies and procedures shall be implemented that define proper management, maintenance and use of the system. Policies and procedures shall provide detailed information on the imaged records throughout their entire life cycle. Such procedures shall include but are not limited to:

   a. Steps leading up to the conversion of records;

   Users shall either scan a hard copy of the record converting into digital file, or import an electronic file of the record. The user shall index and file the digital record in accordance with the file structure of AX. The user shall verify the completeness and legibility of the record before saving. And the user shall verify the record is readily retrievable.

   b. Methods for storage of the records;

   MRCOG's policy is to convert documents included in the plan to digital records. Exceptions must be approved by the Records Administrator and the plans for the filing and destruction of hard copies approved by the Records Administrator and documented on MRCOG Schedule of Documents and Retention Requirements at W/Common/Policies/MRCOG Schedule of Documents and Retention Requirements. All electronic records stored in AX shall be filed in the appropriate applications utilizing the established filing/indexing system.

   Documents shall not be stored in AX until the Application has been added by the Records Administrator and the indexing system of the new application has been approved by the Records Administrator.

   c. Plans for disaster recovery, including plans for redressing tampering and deterioration of records;

All data and images will be backed up to disk daily and stored in a fire resistant safe and off site in secure location. Recovery operation would consist of reloading backup copies to an existing or newly purchased server loaded with the appropriate OS, SQL and document management software. Copies of the software will be maintained off site.

d. Steps involved in the retrieval and disposition of records;

All documents included in this plan must remain available for retrieval until they are destroyed.

AX provides for readily retrieval of electronic documents. For documents not stored in AX, hard copies must be readily available for audits and pubic requests.

It shall be the duty of the Records Administrator to monitor document destruction schedule. The Records Administrator shall document and destroy the eligible documents in accordance with 1.21.2 NMAC.

e. Staff roles and responsibilities;

   i. Executive Director: The Executive Director is ultimately responsible for the management of information and records within the agency. The Executive Director shall designate a Records Administrator.
   ii. Records Administrator: The Records Administrator duties will include maintenance of AX; destruction of records in accordance with 1.21.2 NMAC, Retention and Disposition of Public Records; determine and set up appropriate access/roles of users; creation of new applications upon requests by managers; approval of new users; training users, including establishing and maintaining formal training procedures and materials; monitoring quality control (QC) reviews; and maintaining and updating policies and procedures on use of AX and documents.
   iii. Full Access Users: Full Access are those personnel whose normal duties include the creation of documents that are included in this plan, and include but are not limited to accounting personnel, purchasing personnel, contracting personnel, human resources personnel, Board secretaries, administrative personnel, program managers. Full Access Users are responsible for ensuring that documents are properly

converted, filed, indexed; and that documents are readable, complete, and retrievable.

    iv. <u>IT Officer</u>: The IT Officer is responsible for maintaining the accessibility, security and back up of AX.

    v. <u>Read Only Users</u>: Read Only users are those personnel whose duties only require access to look up documents. They have no ability to create and edit files within AX.

    vi. <u>Managers</u>: Managers must approve access and which level of access an employee requires for their job duties. It is the managers' duty to work with the Records Administrator in setting up their employees' access and rights.

    vii. <u>Quality Control (QC) Reviewers</u> – Each department shall designate a staff member the duty of QC Review. The QC Reviewer will periodically review converted files in AX to help ensure documents are readable, retrievable, and complete.

f. Staff maintenance of operation logs and run schedules to document reliability of the system;

    i. The digital system is maintained on MRCOG servers.

    ii. The Records Administrator and IT department will periodically check system for search and view functionality.

    iii. The IT department will manage log system access and control.

g. Monitoring, controlling, and verifying the accuracy and integrity of imaged records;

Users shall be trained on the proper use of AX by the Records Administrator before giving the employee access to AX. The Records Administrator shall monitor users and provide additional training as needed.

h. Designing, implementing, and documenting quality control;

Each department shall designate a QC Reviewer. Each department will determine the timing of QC reviews, in coordination with the Records Administrator. The Records Administrator shall monitor the QC process of each department to ensure QC Reviews are occurring on the Departments' schedule.

i. Attesting to the accuracy and validity of records at the time they are created or updated;

Users shall be trained to ensure the records created or updated are accurate and valid. The oversight of the Records Administrator and the QC Review will also help ensure that records are accurate and valid.

j. Developing and following systematic steps for data entry;
   i. After a record is created, the records shall be filed in AX in a timely manner, as determined by the department manager.
   ii. The user shall convert the document into its digital format.
   iii. The user shall review the digital copy to verify the image is complete and the quality is sufficient to read.
   iv. The user shall file in the appropriate AX application utilizing the established indexing. (The document cannot be filed in AX until the appropriate application is created and the indexing system approved by the Records Administrator).
   v. The user shall verify the indexing before saving.
   vi. The user shall verify that document can be readily retrieved.

k. Retaining any specially written program used to extract data from a system and producing labels for media containing electronic records that identify the exact title, creating program unit, date, purpose, source, and destination of records;

   Not applicable (N/A)

l. Documenting any problems and resolution of problems including documenting any delays in data entry by keeping records of the date the original source documents were created and the date the data were entered, and keep records of any unusual delay in producing output;

   Each department determines the timing of documents being converted into AX from the date of creation. The QC Review process will help identify problems and delays; the Administrator will ensure the QC Reviews occur on schedule and the review includes comparing dates of document creation to date of AX conversion.

m. Documenting that procedures are being followed;

   The Records Administrator, in cooperation with managers, shall monitor.

n. Maintaining records for inspection and audit for the full retention period required by law;

MRCOG's Information and Records Management Policy provides the retention schedule in accordance with 1.21.2 NMAC Retention and Disposition of Public Records. AX provides for timely retrieval of documents; MRCOG's Records Administrator shall ensure indexing of applications within AX are uniform, logical and will facilitate easy search and retrieval of records.

o. Documenting the methods for ensuring that the imaged and converted records shall be accessible, useable, and understandable.

MRCOG's Information and Records Management Policy provides the retention schedule in accordance with 1.21.2 NMAC Retention and Disposition of Public Records. AX provides for timely retrieval of documents; MRCOG's Records Administrator shall ensure indexing of applications within AX are uniform, logical and will facilitate easy search and retrieval of records.

2) Management shall plan for the provision and maintenance of adequate facilities that ensure the converted and stored records shall be accessible, useable and understandable.

Employees will have access to the system, and access to the files for which they are authorized to access. The Records Administrator, with the assistance of IT, shall ensure that access is appropriately monitored.

See also Section I. A. 5.System Security

3) Management shall plan for document and test procedures for scanning and indexing records prior to implementation.

See Section I. B. Management Control and Section I. A. 7. System Implementation Date

4) Management shall provide for formal instruction and training in system operation and maintenance, including image input, process and retrieval. Training and support programs shall be put in place to ensure that staff understands the policies and procedures.

Managers will request the Records Administrator to provide access to an employee. The Manager and Records Administrator will work together to determine the level of access and the particular files the employee will have access to. Before employees are given access to AX, the Records

Administrator will train the employee in AX. It is the Records Administrator's responsibility to establish formal training procedures and materials.

5) Management shall establish controls that monitor the accuracy and authenticity of data, the continued reliability of hardware and software, and the integrity and security of the system.

> See Section I. B. Management Control

6) Management shall establish controls that provide for the testing of procedures to ensure that the procedures accomplish their purpose.

> See Section I. B. Management Control

7) Management shall ensure that the proposed imaging system provides adequate information to fulfill the requirements of state and federal law.

> See Section I. B. Management Control and MRCOG Information and Records Management Policies

8) Management shall ensure that the imaging process or system can be shown to be trustworthy in producing accurate results.

> See Section I. B. Management Control and Section I. A. 7. System Implementation Date

9) Management shall ensure that the system creates or compiles records in the normal course of business to support the described function or activity.

> See Section I. B. Management Control and Section I. A. 7. System Implementation Date

10) Management shall ensure that the system preserves information over time in identical or functionally equivalent form to the original information.

> See Section I. B. Management Control and Section I. A. 7. System Implementation Date

11) Management shall ensure that records are kept in an understandable form and insure that they can be made accessible within a reasonable amount of time, and within the time established by law through the creation and implementation of a re-inspection process or program.

> See Section I. B. Management Control

pg. 13

12) Management shall ensure that the records are organized in a manner that facilitates retrieval.

Applications must be set up by the Records Administrator and indexing system approved by the Records Administrator, in coordination with the department manager.

13) Management shall determine if special equipment has to be provided to display the records or to print copies of them.

AX can be utilized on any workstation and documents can be scanned in from any printer/scanner device. The IT Officer and the Records Administrator will determine if additional equipment is necessary on a user by user basis.

III.   STANDARDS FOR IMAGING (1.14.2.14 NMAC)

A.   This section is limited in scope to the conversion of documents to digitized images suitable for storage on optical, magnetic media, or converted to COM (Computer Output Microfilm). The standards listed in this section are intended to maintain the integrity of the original record and to ensure that the image produced is an adequate substitute for the original record and serves the purpose for which such record was created or maintained.

1) All state agencies are required to submit an imaging system plan to the State Records Administrator for approval prior to implementing a digital imaging system for the conversion of paper documents to a digital format. The imaging plan shall address all of the requirements as specified in 1.14.2.14 NMAC. MRCOG has adopted this same requirement for its imaging system.

2) The imaging system shall be an open system. Variants from an open system, such as proprietary hardware, software or formats, shall require justification.

3) Media life expectancy issues.

a. Life expectancy rating of any media to be employed by an imaging system used for keeping of public records shall correspond to, and not be less than, the retention period of the records, unless otherwise approved.

pg. 14

b. Where the life expectancy of media is shorter than retention periods of records imaged, migration shall be addressed as a part of the submitted plan for approval. The migration plan shall provide for review of the hardware and software at least every five years. Where it has been determined that the media are not readable by current off-the-shelf equipment, MRCOG shall provide for migration to current, generally accessible media. This includes the accessibility of the index as well as accessibility of documents.

c. Digital images converted to COM shall meet all of the requirements specified in 1.14.2.12 NMAC.

4) MRCOG shall verify completeness of image capture. Verification shall be completed at point of capture and before the mastering of an optical or magnetic disk and conversion to COM. Inspection of the images shall verify the following:

a. Image filename;

b. Approved file format as defined in subsection h of 1.14.2.14 NMAC;

c. 300 dpi for each image type;

d. Image quality; and

e. Indexing terms correspond to appropriate image.

5) MRCOG shall test disks for readability. During production each disk shall be tested for readability. In addition, every year a representative sample of stored disks shall be tested in order to early detect any deterioration.

6) Based upon the value of the records being imaged, MRCOG shall provide adequate system security and audit functions.

7) Scanned images shall meet the following standards.

a. Scanning resolution shall be 300 DPI optical minimum, for text.

b. Photographic records and other halftone records shall have a scanning resolution at least equal to the original.

c. Resolution shall be adequate to duplicate all details of each document in order for that document to qualify as a true copy. Engineering, surveying and other records, the usage of which requires precise measurement, shall be imaged at a sufficiently high resolution to provide for that measurement.

d. Digitized images shall be legible for all purposes for which the original records might be used. All characters in digitized images shall be clearly formed and fully recognizable without regard to their surrounding contexts.

8) Image and media formats.

a. Images shall be in a standard image format such as Group IV TIFF, PDF or BMP. Compression of images for storage is acceptable if the output resolution requirements for use are met. GIF and JPEG are acceptable compressed formats. Plain black and white "two level" images shall not be converted to JPEG; at least 16 gray levels are necessary before JPEG is a useful gray scale image.

b. Where optical media is used, file and directory structures shall be compliant with ISO 9660 - High Sierra Level 1 - eight dot three file naming, limited nested subdirectories. Any variance shall be justified.

c. Where optical media are used for permanent records storage, they shall be of the highest quality available. Any variance shall be justified.

9) Labeling requirements for all master security optical media

a. For optical media stored shall consist of:

   i. The custodial MRCOG department or office;

   ii. Date mastered;

   iii. Record series name and number;

   iv. Inclusive dates of the records series; and

v. The overall content of the optical disk, independent of any index that may be contained on the disk itself.

10) MRCOG shall maintain an index for the purpose of tracking all microphotography records. The index shall include the following:

   a. MRCOG code (application/indexing per AX);

   b. Record series title and corresponding records retention and disposition schedule item number;

   c. Retention period;

   d. Inclusive dates;

   e. Trigger date;

   f. Date filmed; and

   g. Access restrictions.

11) Documents from different record series may be imaged on a single medium (magnetic disk, optical disk, etc.) provided destruction dates coincide, or the disposition plan provides for the maintenance of the media for the longest retention period of any record on the media.

12) Page counts in physical files shall be verified in the scanned versions and certified as complete prior to mastering or writing the optical disk. The certification of completeness shall be kept on file by MRCOG.

13) MRCOG shall perform expungement of images in accordance with statutory requirements or court order.

   a. MRCOG shall create and maintain an expungement certificate that details the reason for the expungement, the authority to expunge, the date of the original scanning and the date of the expungement. The expungement certification shall indicate that the original and all known copies have been expunged. The potential for expungement orders shall be addressed in the imaging plan.

b. When expungement of records is necessary, the plan shall provide for the remastering of all media that have been modified.

c. When expungement of records is necessary, the plan shall provide for all index records and related image files to be obliterated from the database and the image file storage, and from all backup media.

14) Preservation requirements are based on the retention period of the digital image.

a. Digital records that have an established life cycle of fifteen years or less and are declared the official copy of record may be stored electronically.

b. Digital records that have a long-term retention requirement of sixteen to fifty years shall meet the requirements specified in Subsection C of 1.14.2.14 NMAC. If converted to COM the requirements of Subsection C do not apply.

c. Digital records that have a retention period greater than fifty years or have a permanent retention shall be converted to COM. For COM requirements see 1.14.2.11 NMAC and 1.14.2.12 NMAC.

15) Imaging systems shall meet the imaging standards developed by ANSI and enumerated in section 1.14.2.17 NMAC. If not, adequate justification must be provided. The requirements of the most current revision of the standard shall prevail, unless otherwise specified in this rule.

16) New imaging system applications shall be backward compatible with pre-existing applications, or, where they are not, a migration plan for pre-existing images and indexes shall be provided, or dual systems shall be run until the records retention periods for all pre-existing imaged records have expired.

Approved

Dewey V. Cave   4-3-17
Dewey V. Cave   Date
Executive Director