

COUNTY OF BOONE - MISSOURI



REQUEST FOR PROPOSAL FOR OFF-SITE SCANNING AND RECORDS MANAGEMENT SERVICES FOR THE BOONE COUNTY CIRCUIT CLERK'S OFFICE RFP # 30-30MAY19

Release Date: April 30, 2019

**Submittal Deadline:
May 30, 2019
not later than 2:00 P.M. CST**

**Boone County Purchasing
613 E. Ash Street
Columbia, Missouri 65201**

**Liz Palazzolo, Senior Buyer
Phone: (573) 886-4392 Fax: (573) 886-4390
E-mail: lpalazzolo@boonecountymo.org**



NOTICE OF REQUEST FOR PROPOSAL

Boone County is accepting proposals in response to this Request for Proposals (RFP) for the following:

RFP #: 30-30MAY19 – Off-Site Scanning and Records Management Services for the Boone County Circuit Clerk’s Office

Sealed proposals will be accepted until **2:00 P.M. on May 30, 2019** in the Boone County Purchasing Office, Room 109, located at 613 E. Ash Street, Columbia, MO 65201.

Request for Proposals are available in the Purchasing Office and requests for copies may be made by phone (573) 886-4392; fax (573) 886-4390 or e-mail: lpalazzolo@boonecountymo.org.

Vendors may obtain further information on the Boone County Web Page at <https://www.showmeboone.com/>

Liz Palazzolo, CPPO, C.P.M.
Senior Buyer

Insertion: April 30, 2019
COLUMBIA MISSOURIAN



1. INSTRUCTIONS AND GENERAL CONDITIONS

- 1.1 Delivery of Proposals: Sealed proposals, subject to Instructions and General Conditions and any special conditions set forth herein, will be received at the Boone County Purchasing office until the proposal closing date and time indicated herein for furnishing the County with services as detailed in the following request for proposal.
- 1.2 Proposal Closing: All proposals must be **delivered before 2:00 P.M.** Central Time on **May 30, 2019** to:

Boone County Purchasing Department
Liz Palazzolo, Senior Buyer
613 E. Ash Street, Room 109
Columbia, Missouri 65201-4460

- 1.2.1 The County will not accept any proposals received after 2:00 P.M.
Late proposal responses may be returned unopened if the vendor requests within ten (10) business days after RFP opening. All returns will be made at the vendor's expense.
- 1.3 Sealed Proposals Required: Proposals must be submitted in a sealed envelope identified with the proposal number and date of closing. List the proposal number on the outside of the box or envelope and note "Response to Request for Proposal enclosed." No fax or electronic transmitted proposals will be accepted.
- 1.3.1 If the offeror chooses not to submit a proposal, please return the enclosed *No Bid Response Page* and note the reason.
- 1.4 Bid Opening: Proposals will be opened publicly shortly after 2:00 P.M. on **May 30, 2019** but only the names of offerors will be read aloud at the proposal opening. Following contract execution or rejection of all proposal responses, all responses will become a part of the public record and will be released to any person or firm who requests access. **Missouri Sunshine Laws:** Due to applicable sunshine laws and regulations concerning public documents (e.g., Section 610.021 RSMo), the County's proposal file becomes part of the public record at time of contract execution or when all proposals have been rejected.
- 1.5 If the offeror has obtained this proposal document from the Boone County Purchasing Web Page or from a source other than the Boone County Purchasing Department, prior to submitting the proposal the offeror is advised to check with the Boone County Purchasing Department in order to ensure that the RFP solicitation package is

complete, i.e., the offeror has all addenda and attachments as applicable. The Boone County Purchasing Department shall not be responsible for providing RFP addenda if the vendor has not been added to the official Vendor list for this Request for Proposal.

- 1.7 Guideline for Written Questions: *All questions regarding this Request for Proposal should be submitted in writing, prior to the RFP opening and no later than 5:00 P.M., May 17, 2019* (which allows enough time to issue an addendum answering the questions). All questions must be mailed, faxed or e-mailed to the attention of Liz Palazzolo. All such questions will be answered in writing, and such answers will be provided to all parties having obtained a Request for Proposal packet by the County by posting the addendum on the County Web site at www.showmeboone.com (Select Purchasing, then Current Bid Opportunities). Submit questions to:

Liz Palazzolo, Senior Buyer
613 E. Ash Street, Room 109
Columbia, Missouri 65201
Phone: (573) 886-4392
Fax: (573) 886-4390
E-mail: lpalazzolo@boonecountymo.org

- 1.8 RFP Addenda: In the event that it becomes necessary to revise any part of this RFP, written addenda will be issued. Any addendum to this RFP is valid only if in writing and issued by the Boone County Purchasing Department. Verbal conversations or agreements with any officer, agent, or employee of the County which modify any terms or obligations of this RFP are invalid.



2. INTRODUCTION AND GENERAL INFORMATION

2.1 Introduction:

2.1.1 This document constitutes a request for sealed proposals for **Off-Site Scanning and Records Management Services for the Boone County Circuit Clerk's Office** as set forth herein.

2.1.2 Organization: This document, referred to as a Request for Proposal (RFP), is divided into the following parts:

- 1) Instructions and General Conditions
- 2) Introduction and General Information
- 3) Scope of Work
- 4) Proposal Submission Information
- 5) Vendor Response/Pricing Page(s)
- 6) Certification Regarding Debarment
- 7) Certification Regarding Lobbying
- 8) Work Authorization Certification
- 9) "No Bid" Response Form
- 10) Boone County Standard Terms and Conditions
- 11) Attachment One: "Missouri Secretary of State Guidelines for Microfilming Public Records"

2.1.3 Purpose: The purpose of this Request for Proposal (RFP) is to obtain a contractor to provide **Off-Site Scanning and Records Management Services for the Boone County Circuit Clerk's Office.**

2.2 Background Information:

2.2.1 Boone County is situated in Central Missouri and includes nine communities: six cities and three towns. The County has a population of approximately 175,000 and contains 685 square miles.

2.2.2 The Boone County Circuit Clerk's Office is dedicated to providing quality, efficient, courteous and professional service to the public, the judiciary and related agencies.

2.2.3 The Boone County Circuit Clerk's Office has approximately 30,000 files to be scanned in addition to other records. All information presented herein is based on estimates and is not a guarantee of an actual amount of work the County has for a prospective contractor. Files contain either 8.5X11 or 8.5X14 size paper, black ink on white background. The following describes how the files are stored and the quantity:

- 705-type Banker's Boxes (10"H X 12"W X 24"D size): 5 boxes – each box holds approximately 11 reams 8.5X11 size paper, or 5,500 sheets;
- 725-type Banker's Boxes (10"H X 12"W X 15"D size): 332 boxes – each box holds approximately 7 reams 8.5X11 size paper, or 3,500 sheets;
- Standard 4-drawer file cabinets (in vault – County will retrieve): estimated 77 cabinets – files stored here are not a priority to scan; actual volume is not known.

- a. The Circuit Clerk's Office prepares the documents before scanning by removing staples, boxing files, and preparing a "case form" for all files in any given box. Typically, the Circuit Clerk's Office prepares 25-30 boxes prior to requesting pick-up for off-site scanning.

2.3 Tour:

- 2.3.1 The offeror may schedule a site visit if the offeror would like to see the files stored on-site in the Circuit Clerk's Office. To arrange a site visit, please contact the Buyer of Record, Liz Palazzolo at 573-886-4392. The County will attempt to accommodate the offeror's request but the offeror must understand that the County's decision to allow access when requested shall only occur during the County's normal business hours, and only if normal business operations are not disrupted.



3. SCOPE OF WORK:

3.1 General Requirements:

3.1.1 The contractor shall perform off-site scanning and records management services for the Boone County Circuit Clerk's Office upon request, pursuant to general requirements stated herein.

- a. Specifically the contractor shall pick-up boxes of files from the Boone County Circuit Clerk's Office located at the Boone County Courthouse, 705 E. Walnut, Columbia, Missouri, 65201. The contractor shall perform off-site scanning of file documentation, and produce 16mm microfilm that the contractor will send to the Missouri Secretary of State, and a digital record stored on a thumb-drive(s) that will be sent to the Boone County Circuit Clerk's Office. In addition, the contractor shall provide on-going software maintenance including upgrades that enables the Boone County Circuit Clerk's Office to access stored files for desktop applications.
- b. Original materials shall be shred by the contractor after the final order of destruction has been issued by the Court En Banc. The Circuit Clerk's Office will e-mail the contractor the signed form that authorizes destruction.
- c. With the exception of the costs for the on-going maintenance/upgrades of the software, all other costs for providing off-site scanning and records management services including all materials, supplies, labor, shipping, freight, handling and insurance shall be included in the quoted per-page price shown on the Vendor Response and Pricing Pages of the contract. Annual software maintenance shall be priced separately as quoted on the Vendor Response and Pricing Pages. Software upgrades and support shall be provided at no additional cost to the County.

3.1.2 The contractor shall provide all necessary labor, materials, supplies, equipment, hardware, and support staffing to successfully perform requested off-site scanning and records management services for the County.

- a. The Per Diem Per Person price shall only be paid in the event the County requests on-site consultation from the contractor, and it may be invoiced in addition to the quoted per-hour price for Project Management/Consultation.
- b. The document preparation price shall only be paid in the event the County requests document preparation from the contractor. In the event the contractor finds that documents require additional preparation prior to performing off-site scanning, the contractor must contact the Boone County Circuit Clerk's Office and advise the

Office of the need for additional preparation. The County must approve the charge for document preparation before it is allowed for invoicing.

- c. In the event data processing/programming is necessary for files interface capability, the contractor shall be paid in accordance with the quoted hourly price shown on the Vendor Response and Pricing Pages. The contractor must obtain the County's prior approval before conducting any data processing/programming.
- d. The County shall pay no other pricing.

3.1.3 The contractor shall provide all supplies and materials as indicated but not necessarily limited to the following on an as needed, as much needed basis:

- a. 705-type Banker's Boxes (e.g., 10"H X 12"W X 24"D size) cardboard boxes with lids;
- b. 725-type Banker's Boxes (e.g., 10"H X 12"W X 15"D size) cardboard box with fold-over lid/button/string fastening;
- c. USB memory strips;
- d. 16mm microfilm cassette tapes;
- e. Bar codes for labelling box contents

3.1.4 The contractor shall understand and agree that the County shall own all original, scanned and microfilmed data.

3.2 Specific Tasks for Off-Site Scanning Services:

3.2.1 The contractor shall perform professional off-site scanning of records upon the request of the Boone County Circuit Clerk's Office.

3.2.2 **JPEG/TIFF Conversion:** The contractor shall scan black and white documents into TIFF, and color images into JPEG. Group IV compression must be used in the conversion process. Until image enhancement has been completed, all TIFF images must be sequentially numbered by a zero filled 8-digit number and stored in folders named by the plaintiff's last name, plaintiff's first name, defendant's last name, defendant's first name and the case number. If this information is not available, then the contractor shall be stored by the document number range for approximately 1,000 documents. Although these are not the final images, the County expects these images to be delivered on separate Hard Drive, or on FTP of FTP-encrypted.

3.2.3 **USB Hard Drives, Storage and Back-Up:** All completed formatted scanned records must be copied to two (2) sets of external USB hard drives. One hard drive will be shipped to the County for review and on-site back-up, and one set will be stored at no cost by the contractor for additional processing and off-site back-up.

3.2.4 **Automatic Image Enhancement:** As needed, the contractor must automatically de-skew and remove solid black borders on each TIFF image for optimum file compression. De-speckling shall not be performed on scanned images.

- 3.2.5 **Excess Border Removal:** As needed, the contractor shall provide manual cropping to provide a more accurate original page size, using fewer bytes per image, and allow for better performance of the contractor's scanning system and overall appearance of every image. No data or marginal notations shall be removed from the image during this process.
- 3.2.6 **Double Inspect & Verify:** The contractor must visually inspect 100% of the TIFF images for poor quality. Because image quality is subjective, the contractor shall understand and agree that the County shall require a second-pass inspection by a second inspector that the contractor shall provide (see also paragraph 3.2.9 herein). The poor-quality images identified by the first and second inspector must be consolidated by the contractor into one report of poor-quality images for the County's review and approval.
- 3.2.7 **Manually Group & Index:** In the event computer index data is not available, the contractor must manually group individual pages together for each document and index each document by the document number.
- 3.2.8 **Double Group, Index & Verify:** Manual grouping and indexing is prone to human errors, therefore the County is requiring double-grouping and indexing to help eliminate the errors. The contractor shall group and index 100% of the images a second time by a second indexer. The documents and indexes identified by the first indexer and the second indexer must be compared electronically, and any mismatches must be inspected, verified or corrected by a third indexer to guarantee the highest grouping and indexing accuracy possible.
- 3.2.9 **Second Review, Index & Verify:** Manual grouping and indexing is prone to human errors therefore the County is requiring a second review with indexing to help eliminate the errors, i.e., the contractor shall group and index 100% of the images a second time by a second indexer. The documents and indexes identified by the first indexer and the second indexer must be compared electronically, and any mismatches must be inspected, verified or corrected by a third indexer to guarantee the highest grouping and indexing accuracy possible.
- 3.2.10 **Image Enhancement:** The contractor must have the ability to adjust the poor contrast of an entire page or any specific area on a page without degrading the quality of the rest of the page to provide the most legible images possible. If the County is not satisfied with the legibility of any image, at any time, the contractor shall enhance the TIFF image from the JPEG backup image without having to physically re-scan the original media.
- 3.2.11 **Dual Polarity Correction:** If there are photostat pages, they will be white-background with black text. As needed, the contractor must have the ability to correct dual polarity so the entire page contains white background with black writing in cases where dual polarity pages are found.
- 3.2.12 **Formatting:** The contractor must format the images and indexes to the requirements of PaperVision software.

3.3 **Specific Requirements for Microfilming Records:**

- 3.3.1 Regarding all aspects of preparing and providing completed microfilm records to the County, the contractor must at minimum adhere to current Missouri Secretary of State “Guidelines for Microfilming Public Records” found at this website (see also **Attachment One**): <http://www.sos.mo.gov/archives/pubs/mfing>. **Attachment One** is incorporated into the contract by reference.
- a. Records Retention: The contractor must understand and agree that state law requires human legible/readable copy of digital information, and the contractor’s services must assist Boone County’s compliance with Missouri Secretary of State requirements.
- 3.3.2 In producing microfilm for the County, the contractor must use equipment that is like or comparable to Kodak ImageGuard TM Processing Lab for processing the microfilm to archival standards as defined by the Association for Information and Image Management (AIIM) and the American National Standards Institute (ANSI).
- 3.3.3 The contractor must produce one original roll and one duplicate Silver Negative Halide 35 mm roll microfilm roll for all images sent to the contractor for microfilming.
- 3.3.4 Each roll of first-generation Silver Halide 35mm film (preservation master negative) must be inspected by the contractor frame by frame for visible defects and missing pages.
- 3.3.5 The contractor must review the digital images to ensure that there are no missing images.
- 3.3.6 The original microfilm shall be sent by the contractor to the Missouri Secretary of State’s Office for archiving on the County’s behalf. All microfilm produced by the contractor must be deemed acceptable by the Missouri Secretary of State. The contractor must correct any cited deficiency at no additional cost to the County.
- 3.3.7 The contractor must understand and agree that the images contained on a roll of microfilm will be determined by the Boone County Circuit Clerk’s Office. The contractor must provide advice if requested by the County at no additional cost.
- 3.3.8 Each microfilm roll must contain index marks indicating the beginning of each document and page consistent with Missouri Secretary of State Guidelines for Local Records Microfilming.
- 3.3.9 Labelling: The contractor must label the outside of the microfilm so that a user will have a clear understanding of the information contained on a specific roll. Microfilm labelling must include a designation of the images contained, such as, “Circuit Court cases from January 1970 through December 1970.”
- 3.3.10 The microfilm roll must contain blip marks indicating the beginning of each document and page.
- 3.3.11 The contractor shall insert an index of all documents on the microfilm at the beginning of each microfilm roll. The index image must describe the roll’s entire contents and include the file names of the files that are stored on the microfilm, and include a date range from beginning to end.

3.4 Microfilm Quality and Testing Requirements

- 3.4.1 Microfilm tapes must be processed with a leader and trailer on microfilm rolls sized in accordance with Missouri Secretary of State Guidelines.
- 3.4.2 Under no circumstances must microfilm have splices.
- 3.4.3 Upon request, the contractor must conduct a one-time application of brown-tone/silver-lock prior to storage in the pure vault at no additional charge to the County.
- 3.4.4 The contractor must conduct and document appropriate resolution, density, and methylene blue tests at intervals sufficient to ensure microfilm products meet or exceed the requirements defined in current State of Missouri Guidelines for Local Records Microfilming, and provide results to the Boone County Circuit Clerk's Office in a format identified by the County, e.g., written or e-mail, at no additional charge to the County.
- 3.4.5 The contractor must send certified results to the specific County office requesting service that addresses film resolution. Film resolution results must accompany each roll of first-generation film. Resolution test results must be no less than 110 lines/m for images captured by a planetary camera. The contractor must add a resolution and density target at the beginning of each roll.
- 3.4.6 Upon request, the contractor must send certified results for density that must accompany each roll of first and second-generation film to the specific County office that has requested service. The contractor must add a resolution and density target at the beginning of each roll.
- 3.4.7 Upon request, the contractor must send certified results of residual thiosulfate concentration that must accompany each roll of first and second-generation film. The methylene blue test specified in ANSI PH4.8-1985 must be used to verify film quality.

3.5 Software Requirements:

- 3.5.1 The contractor shall provide on-going annual maintenance on PaperVision software for five (5) concurrent users.
- 3.5.2 All software updates shall be loaded to the County's server.
- 3.5.3 Software shall not be a "Software as a Service" product that requires the County's access and use of the contractor's web-based portal.
- 3.5.4 The software shall allow barcoded index fields to be associated with the imaged record to allow the user to look-up a record from any index or combination of index values.
- 3.5.5 Annotation capabilities shall also be possible allowing the user to redact text (i.e., black-out or white-out) and send redacted text from the user's desktop via e-mail without changing the original imaged record.

- 3.5.6 The software shall create an audit record of user activity such as who accessed an image, printed it, and/or e-mailed it.
- 3.5.7 The software also can allow for user-limitations to be set specific to each user as the County may determine appropriate.
- 3.5.8 Toll-free and/or on-line user/customer supports shall be provided free of charge to the County. All software upgrades and related training shall also be provided at no additional expense to the County.

3.6 Other General Requirements:

- 3.6.1 **Confidentiality:** The contractor must treat all records that the contractor has been allowed access to in order to perform contract services in a confidential manner. The contractor must be responsible for maintaining the confidentiality of the County records and data, which cannot be sold, shared or otherwise disclosed to other companies or individuals without written permission from the County.
- 3.6.2 **Coordination:** The contractor shall fully coordinate all contract activities with those activities of the Boone County Circuit Clerk's Office. As the work of the contractor progresses, advice and information on matters covered by the contract shall be made available by the contractor to the Boone County Circuit Clerk's Office throughout the effective period of the contract.
- 3.6.3 **Correction of Work /Re-Scanning Required:** The contractor must promptly correct and/or re-scan all completed work rejected by the County as faulty, defective, or failing to conform to specifications contained herein. The contractor must bear all costs of correcting and/or re-scanning such rejected work.
- 3.6.4 **Sub-Contractors:** The contractor must not employ subcontractors without the advance written permission of the County.
- 3.6.5 **Right to Inspect:** The contractor must allow inspection of the contractor's process at the request of the County.
- 3.6.6 **Invoices:** The contractor must submit itemized invoices for completion of requested service. Payment will be made within thirty (30) calendar days from receipt of an accurate monthly statement. The contractor's invoice must note any amount and invoices that are past due. The contractor shall send invoices to:

Boone County Circuit Clerk's Office
Attn: Administration
705 E. Walnut
Columbia, MO 65201

- a. The contractor shall invoice in accordance with pricing shown on the Vendor Response and Pricing Pages. Itemization on the invoice shall adhere to applicable unit pricing in effect at the time of the invoice. All hourly pricing shall be prorated to the

quarter hour as applicable to the service performed. Invoices shall identify the following at minimum.

- i Contractor name;
- ii Billing point of contact, address, phone number and e-mail;
- iii Remittance address
- iv Invoice date;
- v Invoice Number or unique identifier;
- vi Boone County Contract Number;
- vii Purchase Order Number;
- viii Account/Customer Name;
- ix Contract line item number with description, quantity, unit of measure, contract unit price, and extended price by line item;
- x Total invoice amount
- xi Payment terms that shall comply with contract terms

3.6.7 **Warranty:** The contractor warrants that the work including materials/supplies provided must conform to professional standards of care and practice in effect at the time the work is performed, be of the highest quality, and be free from all faults, defects, or errors. Whenever required by the specifications of the Request for Proposal, the contractor warrants that all materials/supplies provided must be new. If the contractor is notified in writing of a fault, deficiency or error in the work provided within one (1) year from completion of the work, the contractor must, at the County's option, either re-perform such portions of the work to correct such fault, defect or error, at no additional cost to the County, or refund to the County, the charge paid by the County, which is attributable to such portions of the faulty, defective or erroneous work, including the costs for re-performance of the work provided by other contractors.

3.6.8 **Insurance Requirements:** The contractor must not commence work under the contract until they have obtained all insurance required under this paragraph and such insurance has been approved by the County, nor must the contractor allow any subcontractor to commence work on their subcontract until all similar insurance required of the subcontractor has been so obtained and approved. All policies must be in amount(s), form(s) and company(ies) satisfactory to the County which must carry an A-6 or better rating as listed in the A.M. Best or equivalent rating guide. Insurance limits indicated below may be lowered at the discretion of the County.

- a. The contractor must purchase and maintain in force, at its own expense, property insurance covering any loss or damage of the County owned records.
- b. **Compensation Insurance:** The contractor must take out and maintain during the life of the contract, Employee's Liability and Worker's Compensation Insurance for all of their employees employed at the site of work, and in case any work is sublet, the contractor must require the subcontractor similarly to provide Worker's Compensation Insurance for all of the latter's employees unless such employees are covered by the protection afforded by the contractor. Worker's Compensation coverage

must meet Missouri statutory limits. Employers' Liability limits must be \$500,000.00 each employee, \$500,000.00 each accident, and \$500,000.00 policy limit. In case any class of employees engaged in hazardous work under the contract at the site of the work is not protected under the Worker's Compensation Statute, the contractor must provide and must cause each subcontractor to provide Employers' Liability Insurance for the protection of their employees not otherwise protected.

- c. **Compensation General Liability Insurance:** The contractor must take out and maintain during the life of the contract, such comprehensive general liability insurance as must protect them and any subcontractor performing work covered by the contract, from claims for damages for personal injury including accidental death, as well as from claims for property damages, which may arise from operations under this contract, whether such operations be by themselves or for any subcontractor or by anyone directly or indirectly employed by them. The amounts of insurance must be not less than \$2,000,000.00 combined single limit for any one occurrence covering both bodily injury and property damage, including accidental death. If the contract involves any underground/digging operations, the general liability certificate must include X, C, and U (Explosion, Collapse, and Underground) coverage. If providing Comprehensive General Liability Insurance, then the Proof of Coverage of Insurance must also be included.
- d. The contractor may satisfy the minimum liability limits required for Commercial General Liability or Business Auto Liability under an Umbrella or Excess Liability policy. There is no minimum per occurrence limit of liability under the umbrella or Excess Liability; however, the Annual Aggregate limit shall not be less than the highest "Each Occurrence" limit for either Commercial General Liability or Business Auto Liability. **Contractor agrees to include the County as an Additional Insured on the umbrella or Excess Liability, unless the Certificate of Insurance states that the Umbrella or Excess Liability provides coverage on a "Follow-Form" basis.**
- e. **Business Automobile Liability** – The contractor shall maintain during the life of the contract, automobile liability insurance in the amount of not less than \$2,000,000.00 combined single limit for any one occurrence, covering both bodily injury, including accidental death, and property damage, to protect themselves from any and all claims arising from the use of the Contractor's own automobiles, teams and trucks; hired automobiles, teams and trucks; non-owned and both on and off the site of work.
- f. **Subcontractors:** The contractor shall cause each subcontractor to purchase and maintain insurance of the types and amounts specified herein. Limits of such coverage may be reduced only upon written agreement of the County. The contractor shall provide to the County copies of certificates of insurance evidencing coverage for each

subcontractor. Subcontractors' commercial general liability and business automobile liability insurance shall name the County as an Additional Insured and have the Waiver of Subrogation endorsements added.

- g. **Proof of Carriage of Insurance:** The contractor shall furnish the County with Certificate(s) of Insurance which name the County as an Additional Insured in an amount as required in the contract. The Certificate of Insurance shall provide that there will be no cancellation, non-renewal or reduction of coverage without 30 days prior written notice to the County. In addition, such insurance shall be on an occurrence basis and shall remain in effect until such time as the County has made final acceptance of the services provided.
- h. **Indemnity Agreement:** To the fullest extent permitted by law, the contractor must indemnify, hold harmless and defend the County, its directors, officers, agents, and employees from and against all claims, damages, losses and expenses (including but not limited to attorney's fees) arising by reason of any act or failure to act, negligent or otherwise, of the contractor, of any subcontractor (meaning anyone, including but not limited to consultants having a contract with contractor or a subcontract for part of the services), of anyone directly or indirectly employed by contractor or by any subcontractor, or of anyone for whose acts the contractor or its subcontractor may be liable, in connection with providing these services. This provision does not, however, require the contractor to indemnify, hold harmless, or defend the County of Boone from its own negligence.
- i. Nothing in these requirements shall be construed as a waiver of any governmental immunity of the County, its officials nor any of its employees in the course of their official duties.
 - ii. Failure to maintain the required insurance in force may be cause for contract termination. In the event the Agency/Service fails to maintain and keep in force the required insurance or to obtain coverage from its subcontractors, the County shall have the right to cancel and terminate the contract without notice.

Certificate Holder address:

County of Boone, Missouri
C/O Purchasing Department
613 E. Ash Street
Columbia, MO 65201

- 3.6.9 **Contract Terms and Conditions:** The contractor must be prohibited from assigning, transferring, conveying, subletting, or otherwise disposing of this agreement or its rights, title or interest therein, or its power to execute such

agreement to any other person, company or corporation without the prior consent and approval in writing by the County.

- 3.6.10 **Contract Period:** The initial contract period shall run **Date of Award through One Year**. The contract shall have four (4), one (1)-year renewal periods, or any portion thereof, following the completion of the initial/original contract term. After the completion of the final renewal term, the contract will continue on a month-to-month basis until either party terminates the contract by providing the other party with thirty (30) calendar days prior written notice.
- 3.6.11 **Cancellation Agreement:** The County reserves the right to cancel the contract without cause by giving not less than thirty (30) calendar days prior notice to the contractor in writing of the intention to cancel, or with cause, if at any time the contractor fails to fulfill or abide by any of the terms or conditions specified. Failure of the contractor to comply with any of the provisions of the contract may be considered a material breach of contract and must be cause for immediate termination of the contract at the discretion of Boone County. Boone County may allow the contractor reasonable opportunity to cure material breach, but is not required to do so.
- 3.6.12 **Fiscal Non-Funding Clause:** In the event sufficient budgeted funds are not available for a new fiscal period, the County must notify the provider of such occurrence and the contract must terminate on the last day of the current fiscal period without penalty or expense to the County.
- 3.6.13 **Estimated Usage:** The services specified herein are estimates and do not constitute a guarantee on the part of the County.
- 3.6.14 **Pricing:** The contract will be awarded on a firm, fixed price basis for the entirety of the initial/original contract period. Prices are subject to adjustment only upon renewal of the contract period, subject to quotations on the Vendor Response Page for the specific renewal period; adjusted pricing must be effective on the renewal date and must remain firm through the entirety of the specific renewal period.
- a. **Price Increase:** It shall be the responsibility of the contractor to notify the County sixty (60) calendar days prior to the end of the current contract period of any pending price increase which will take effect at the beginning of the ensuing renewal period.
 - b. If the option for renewal is exercised by the County, the contractor must agree that the prices for the renewal period must not exceed the maximum percent of increase for the applicable renewal period stated on the Vendor Response Pages of the contract.

- c. If renewal percentages are not provided (i.e., left blank), or are quoted as “zero,” then prices for the renewal period(s) shall be the same as during the initial/original contract period. All pricing adjustments shall be calculated using the initial/original pricing.

- d. **Freight, Shipping and Handling Costs:** The contractor shall be responsible for all costs of shipping, handling and freight.



4. PROPOSAL SUBMISSION INFORMATION

4.1. SUBMISSION OF PROPOSALS:

4.1.1 When submitting a proposal, the offeror should include the **original and two (2) copies for a total of three (3) copies**. **The offeror should also include an electronic copy of the proposal on a removable storage drive.**

a. The offeror must submit the proposal to:

Boone County Purchasing Department
Attn: Liz Palazzolo, Senior Buyer
613 E. Ash Street, Room 109
Columbia, MO 65201

b. The proposals must be delivered no later than **2:00 P.M. on May 30, 2019**. Proposals will not be accepted after this date and time.

4.1.2. **Terms and Conditions:** The offeror agrees that by submitting an offer, Boone County's Terms and Conditions as incorporated herein must become part of the contract, and in the event of conflict between any terms the offeror submits, the terms and conditions of the County govern.

4.2 ORGANIZATION OF PROPOSAL:

4.2.1 To facilitate the evaluation process, the offeror is encouraged to organize their proposal into distinctive sections that correspond with the individual evaluation categories described herein.

a. Each distinctive section should be titled with each individual evaluation category and all material related to that category should be included therein.

b. The signed response page from the original RFP and all signed amendments should be placed at the beginning of the proposal.

c. The offeror is advised that the proposal should, at a minimum, address all mandatory and desired services, equipment, materials, etc. Responses will fully describe how the service will be performed and what hardware/software (if any) is required at the County to access the service.

- 4.2.2 The offeror is cautioned that it is the offeror's sole responsibility to submit information related to the evaluation categories, and that the County is under no obligation to solicit such information if it is not included with the proposal. The offeror's failure to submit such information may cause an adverse impact on the evaluation of the proposal. Any offeror whose responses deviate from the outlined specifications may automatically be disqualified.

4.3 OFFEROR'S CONTACTS WITH PURCHASING:

- 4.3.1 Offeror's Contacts: Offerors and their agents (including subcontractors, employees, consultants, or anyone else acting on their behalf) must direct all of their questions or comments regarding the RFP, the evaluation, etc. to the buyer of record indicated on the first page of this RFP. Offerors and their agents may not contact any County employee other than the buyer of record regarding any of these matters during the solicitation and evaluation process. Inappropriate contacts are grounds for suspension and/or exclusion from specific procurements. Offerors and their agents who have questions regarding this matter should contact the buyer of record.

4.4 VALIDITY OF PROPOSAL RESPONSE:

- 4.4.1 Offerors must agree that proposals must remain firm for a period of ninety (90) calendar days after the date specified for the return of proposals.

4.5 EVALUATION OF PROPOSALS

- 4.5.1 Evaluation and Award Process: After determining a responsible offeror and a responsive proposal through the determination that the proposal satisfies the mandatory requirements stated in the Request for Proposal, the evaluator(s) will use both objective analysis and subjective judgment in conducting a comparative assessment of the proposal. The evaluation will include an assessment of cost, the offeror's experience, expertise and reliability, proposed methodology, contractor support, and if requested by the County, an assessment of sample(s).
- 4.5.2 In order to conduct an evaluation of proposals, the vendor is advised to complete the Vendor Response Page, all parts, and to return the completed pages with the vendor's proposal. Failure to provide information necessary to evaluate the vendor's response may render the proposal incapable of award consideration. The County is not obligated to obtain information necessary for evaluation from the vendor. When evaluating responses, the County reserves the right to consider relevant information and fact, whether gained from the response, from a vendor, from the vendor's references, or from any other source.
- 4.5.3 After an initial evaluation process, a question and answer interview may be conducted with the offeror, if deemed necessary by the County. In addition, the offeror may be asked to make an oral presentation of their proposal to the evaluation team at a designated Boone County location. Attendance cost must be at the offeror's expense. All arrangements and scheduling will be coordinated by the County.

4.5.4 Competitive Negotiation of Proposals: The offeror is advised that under the provisions of this Request for Proposal, the County reserves the right to conduct negotiations of the proposals received or to award a contract without negotiations. If such negotiations are conducted, the following conditions must apply:

- a. Negotiations may be conducted in person, in writing, or by telephone.
- b. Negotiations will only be conducted with potentially acceptable proposals. The County reserves the right to limit negotiations to those proposals, which received the highest rankings during the initial evaluation phase.
- c. Terms, conditions, prices, methodology, or other features of the offeror's proposal may be subject to negotiation and subsequent revision. As part of the negotiations, the offeror may be required to submit supporting financial, pricing and other data in order to allow a detailed evaluation of the feasibility, reasonableness, and acceptability of the proposal.
- d. The mandatory requirements of the Request for Proposal must not be negotiable and must remain unchanged unless the County determines that a change in such requirements is in the best interest of the entities.

4.5.5 Evaluation of the Vendor's Experience, Expertise and Reliability: Experience, expertise, and reliability of the offeror's organization are considered subjectively in the evaluation process. Therefore, the offeror is advised to submit any information, which documents successful and reliable experience in past performances, especially those performances related to the requirements of this RFP, and outlines the expertise of key personnel who will be assigned tasks to perform for Boone County.

- a. Qualifications Statement/References/Certifications/Licenses: The offeror should provide the following information related to previous and current services/contracts performed by the offeror's organization and any proposed subcontractors which are similar to the requirements of this RFP.
- b. State the names and capacity of the professional staff assigned to work on the County account and a brief resume of their background, experience and include any certifications. Indicate professional staff training history. Indicate professional staff experience. The proposal should also include how the professional personnel will operate organizationally and the name and the title of the person who will direct the work.
- c. Name other businesses or preferably any government agencies/municipalities for which the vendor has provided similar services in the last three (3) years and provide a current contact name, email address and phone number for each account.
- d. The offeror should submit a copy of all licenses, certifications, accreditation, and/or permits, which may be required by state, federal,

and/or local law, statute, or regulation in the course of conduct of the offeror's business. If not submitted with the proposal, the County reserves the right to request and obtain a copy of any license or certification required to perform the defined services prior to contract award.

4.5.6 Evaluation of the Vendor's Proposed Method of Performance and Sample Inspection: Proposals will be subjectively evaluated based on the offeror's distinctive plan for performing the requirements of the RFP. Therefore, the offeror should present a written narrative, which demonstrates the method or manner in which the offeror proposes to satisfy these requirements. The language of the narrative should be straightforward and limited to facts, solutions to problems, and plans of action. The County will be evaluating the offeror's adherence to mandatory performance requirements as well as other features of the offeror's proposed approach to performing the work described herein.

- a. Offerors are cautioned about the use of specific words in the RFP. Where the words "must" or "shall" are used, they signify a required minimum function of system capacity that will heavily impact the offeror's final response rating. Where the words "should," "may" or "desired" are used, they signify that the feature or capacity is desirable but not mandatory; therefore, the specifications in question will possess minimal impact on the offeror's final response rating.
- b. The method by which the proposed method of performance is written will be left to the discretion of the offeror. However, the offeror should address each specific paragraph and subparagraph of the specifications by paragraph and page number as an item for discussion. Immediately below these numbers, write descriptions of how, when, by whom, with what, to what degree, why, where, etc., the requirements will be satisfied.

4.5.7 Samples: The vendor is strongly encouraged to submit samples of completed scanning work as part of their proposal with a "before" and "after" view similar to the work the County requests in this RFP. If not submitted, Boone County reserves the right to request samples as part of the evaluation process, i.e., before any contract award(s) is made. Boone County also reserves the right not to request a sample for evaluation if the County is otherwise familiar with the offeror's work or deems a sample unnecessary for further evaluation. The County reserves the right to request that the vendor create a sample in which case the County will provide data electronically to the offeror, and the offeror must be able to convert the image to microfilm and return it to the County for inspection within the time-frame specified by the County. Failure to provide a sample may negatively impact the evaluation of the offeror's proposal. The offeror must understand and agree that all samples must be furnished free of expense to the County, and that the sample will not be returned by the County.

4.5.8 Rejection / Withdrawal of Proposals Response:

- a. Rejection of Proposals: The right is reserved by the County at its discretion to reject any or all proposals or parts thereof. The County

reserves the right to waive defects or informalities, to negotiate with offerors and to accept the proposal deemed to be in the best interest of the County.

- b. Withdrawal of Proposals: Proposals may be withdrawn on written request from the offeror at the address shown in the solicitation prior to the time of acceptance.
- c. Negligence on the part of the offeror in preparing the proposal confers no right of withdrawal after the time fixed for the acceptance of the proposals.



5. VENDOR RESPONSE AND PRICING PAGES

- 5.1 The offeror should submit three (3) complete copies of the offeror's response in a single-sealed envelope, clearly marked on the outside, left corner with the offeror's company name and return address, the Request for Proposal (RFP) number and the proposal opening due date and time. In addition, the bidder shall complete the following as indicated below and submit said completed form with each copy of the proposal response.

In compliance with this Request for Proposal and subject to all the conditions thereof, the offeror agrees to furnish the services/equipment/supplies requested and proposed and certifies he/she has read, understands, and agrees to all terms, conditions, and requirements of this RFP and is authorized to contract on behalf of the firm named below. (Note: This form must be signed. All signatures must be original and not photocopies. In addition, the County uses *DocuSign* when making a contract award. When providing a Contact Name and E-Mail Address below, the Contact and E-Mail address provided must be a person who has the legal authority to contractually bind the offeror's/bidder's company in a contract with the County.

Company Name: _____

Address: _____

Telephone: _____ Fax: _____

Federal Tax ID (or Social Security #): _____

Print Name: _____ Title: _____

Signature: _____ Date: _____

Contact Name and E-Mail Address to receive documents for electronic signature:

NOTE: The offeror must clearly state in writing any restrictions or deviations from specifications and requirements stated herein. In the absence of such statement, the County will assume that all items/services offered are in strict compliance with specifications stated in the RFP, including all technical and cost requirements, terms and conditions. The vendor must agree that the proposal if selected for award by the County will be included as part of the final contract with the County.

5.2 Cooperative Procurement: The vendor should indicate by checking “Yes” or “No” in the indicated space if the vendor will honor the submitted prices and terms for purchase by other entities in Missouri Circuit Courts that participate in cooperative purchasing with Boone County, Missouri?

_____ Yes _____ No

5.3 PRICING:

Off-Site Scanning and Records Management Services: The offeror must price all line items. The offeror must submit firm, fixed pricing for each line item that includes all necessary materials, supplies, labor, support, transportation, freight, handling, insurance and any other costs for provision of services as defined herein. The County shall pay no additional prices.

Line Item	Description of Service	Firm, Fixed Unit Price
5.3.1	Total price per page to perform all off-site scanning services including producing the image and storing to microfilm and thumb drive, and providing all necessary materials, supplies, labor, support, transportation, freight, handling, insurance and any other costs to perform services as described herein.	\$ _____ per page
5.3.2	Per Diem Per Person – must include all travel, food, and lodging costs	\$ _____ per day per person for travel, food and lodging for on-site work
5.3.3	Document Preparation	\$ _____ per hour
5.3.4	Project Management/Consultation	\$ _____ per hour
5.3.5	Data processing programming necessary for files interface	\$ _____ per hour
5.3.6	Annual Maintenance for Enterprise License, 5-Users, Concurrent	\$ _____ total per year annual maintenance for 5-concurrent users

5.4 Renewal Options:

The County must have the sole option to renew the contract in one-year increments, or any portion thereof, for a total accumulated period of four (4) additional years following the initial term. If the options are exercised, pricing must be the same as quoted for the initial contract period subject to the specific percentage of price adjustment quoted below for the applicable renewal contract period. Prices for the renewal period must not exceed the maximum percent of increase for the applicable renewal period stated on the Pricing Page of the contract.

The vendor must respond with a firm, fixed percentage of increase or decrease. Do not quote BOTH a Maximum Increase and a Minimum Decrease – quote one or the other. Statements such as "a percentage of the then-current price" or "consumer price index" are NOT ACCEPTABLE i.e., reference to a CPI adjustment shall be deemed unacceptable.

If a percentage is not proposed (i.e., left blank), or if it is quoted as zero (0%), the County must have the right to execute the option **at the same price(s) proposed for the initial contract period.**

In conducting the cost evaluation, Boone County will evaluate pricing that determines the potential maximum financial liability to the County.

All percentages must be applied to the firm pricing quoted for the initial (i.e., the first) contract period. The offeror is cautioned that percentages that are the same value for successive renewal options must be calculated against original, not compounded, pricing.

5.4.1 Renewal Option Percentage Price Adjustment

1st Renewal Period
_____ %

Above quoted percentage shall be applied to original bid pricing – that is, the first/initial contract period

Vendor must identify below by checking appropriately as an INCREASE OR DECREASE: Maximum Increase: _____
OR Minimum Decrease: _____

5.4.2 Renewal Option Percentage Price Adjustment

2nd Renewal Period
_____ %

Above quoted percentage shall be applied to original bid pricing – that is, the first/initial contract period

Vendor must identify below by checking appropriately as an INCREASE OR DECREASE: Maximum Increase: _____
OR Minimum Decrease: _____

5.4.3 **Renewal Option Percentage Price Adjustment**
3rd Renewal Period

_____ %

Above quoted percentage shall be applied to original bid pricing – that is, the first/initial contract period

Vendor must identify below by checking appropriately as an INCREASE OR DECREASE: Maximum Increase: _____
OR Minimum Decrease: _____

5.4.4 **Renewal Option Percentage Price Adjustment**
4th Renewal Period

_____ %

Above quoted percentage shall be applied to original bid pricing – that is, the first/initial contract period

Vendor must identify below by checking appropriately as an INCREASE OR DECREASE: Maximum Increase: _____
OR Minimum Decrease: _____

5.5 Vendor's Experience and Reliability:

Company History: The vendor should describe in the available space the company's background in performing professional off-site scanning and records management services, e.g., when the company was founded, how long the company has been serving the Missouri market, etc:

The offeror should provide reference contact information below regarding provision of off-site scanning and records management services similar to what is being offered to Boone County:

Vendor's References:

Company/Entity Name: _____

Contact Name: _____

Contact's Title: _____

City: _____ State: _____

Telephone Number and Area Code: _____

E-mail Address: _____

Description of Equipment/Services Furnished: _____

Availability of Reference: _____

=====

Company/Entity Name: _____

Contact Name: _____

Contact's Title: _____

City: _____ State: _____

Telephone Number and Area Code: _____

E-mail Address: _____

Description of Equipment/Services Furnished: _____

Availability of Reference: _____

5.6 Proposed Method of Performance and Contractor Support

Off-Site Scanning:

5.6.1 Describe where off-site scanning work will be performed and what resources, procedures are in place to ensure successful and timely completion of scanning work:

5.6.2 Describe scanning protocols that will be followed to ensure document confidentiality/security:

5.6.3 Describe the offeror's time-line for conducting scanning work, describe the typical time-line for from receipt of documents to completion of scanning and submission of completed, approved records to the Circuit Clerk's Office:

5.6.4 Describe how the offeror will perform required records management for the Circuit Clerk's Office:

Single Point of Contact:

5.6.5 Describe below how the vendor will perform as a single point of contact for the County regarding the scanning work to be done:

Provide Contact Information for the Single Point of Contact:

Name/Title: _____

Phone: _____

E-mail: _____

Address: _____

Direct or Subcontracted Work:

5.6.7 Address in the space provided if the off-site scanning services will be done by the vendor's staff or if the vendor intends to use a subcontractor(s) to perform any of the off-site scanning services. If any subcontractors are to be used, then identify the subcontractor by name and location.

Warranty:

5.6.8 Address in the space provided warranty terms and length on labor and finished product the vendor offers on the off-site scanning and records management services performed for the County:

Software:

5.6.9 Address in the space provided what software applications the County will need in order to use the vendor's product, e.g. Microsoft SQL, etc.

5.6.10 Address how the vendor will provide on-going annual maintenance for PaperVision software for five (5) concurrent users, including updates/upgrades:

5.6.11 Provide Details about the Vendor's Toll-Free Phone/E-mail Support:

Toll-Free Phone #: _____

E-Mail Support/Web Address: _____

Describe Support Hours: _____

Describe Other Details about Offered Support: _____

(The vendor should complete and return with the proposal)

**Certification Regarding
Debarment, Suspension, Ineligibility and Voluntary Exclusion
Lower Tier Covered Transactions**

This certification is required by the regulations implementing Executive Order 12549, Debarment and Suspension, 29 CFR Part 98 Section 98.510, Participants' responsibilities. The regulations were published as Part VII of the May 26, 1988, Federal Register (pages 19160-19211).

(BEFORE COMPLETING CERTIFICATION, READ INSTRUCTIONS FOR
CERTIFICATION)

- (1) The prospective recipient of Federal assistance funds certifies, by submission of this proposal, that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.
- (2) Where the prospective recipient of Federal assistance funds is unable to certify to any of the statements in this certification, such prospective participant must attach an explanation to this proposal.

Name and Title of Authorized Representative

Signature

Date

(The vendor should complete and return with the proposal)

CERTIFICATION REGARDING LOBBYING

Certification for Contracts, Grants, Loans, and Cooperative Agreements

The undersigned certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loan, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

Vendor Signature

Date

Liz Palazzolo
Senior Buyer



Boone County Purchasing
613 E. Ash Street, Room 109
Columbia, MO 65201
Phone: (573) 886-4392
Fax: (573) 886-4390

INSTRUCTIONS FOR COMPLIANCE WITH HOUSE BILL 1549

House Bill 1549 addresses the Department of Homeland Security's and the Social Security Administration's E-Verify Program (Employment Eligibility Verification Program) that requires the County to verify "lawful presence" of individuals when we contract for work/service; verify that contractor has programs to verify lawful presence of their employees when contracts exceed \$5,000; and a requirement for OSHA safety training for public works projects.

The County is required to obtain certification that the bidder awarded the attached contract participates in a federal work authorization program. To obtain additional information on the Department of Homeland Security's E-Verify program, go to:

http://www.dhs.gov/xprevprot/programs/gc_1185221678150.shtm

Please complete and return form *Work Authorization Certification Pursuant to 285.530 RSMo* if the contract amount is in excess of \$5,000. Attach to this form the *E-Verify Memorandum of Understanding* that the vendor completed when enrolling. The link for that form is:
<http://www.uscis.gov/files/nativedocuments/save-mou.pdf>

Additional information may be obtained from:
<http://www.uscis.gov/files/nativedocuments/MOU.pdf>

If the vendor is an Individual/Proprietorship, then the vendor must return the attached *Certification of Individual Bidder*. On that form, the vendor may do **one of the three options** listed. Be sure to attach any required information for those options as detailed on the *Certification of Individual Bidder*. If the vendor chooses option number two, then the vendor will also need to complete and return the attached form *Affidavit*.

CERTIFICATION OF INDIVIDUAL BIDDER

Pursuant to Section 208.009 RSMo, any person applying for or receiving any grant, contract, loan, retirement, welfare, health benefit, post-secondary education, scholarship, disability benefit, housing benefit or food assistance who is over 18 must verify their lawful presence in the United States. Please indicate compliance below. Note: A parent or guardian applying for a public benefit on behalf of a child who is citizen or permanent resident need not comply.

Options

- ____ 1. I have provided a copy of documents showing citizenship or lawful presence in the United States. (Such proof may be a Missouri driver's license, U.S. passport, birth certificate, or immigration documents). Note: If the applicant is an alien, verification of lawful presence must occur prior to receiving a public benefit.

- ____ 2. I do not have the above documents, but provide an affidavit (*copy attached – see following page*) which may allow for temporary 90-day qualification.

- ____ 3. I have provided a completed application for a birth certificate pending in the State of _____. Qualification must terminate upon receipt of the birth certificate or determination that a birth certificate does not exist because I am not a United States citizen.

Applicant

Date

Printed Name

AFFIDAVIT
(Only Required for Certification of Individual Bidder (Option #2))
- see previous page -

State of Missouri)
)ss
County of _____)

I, the undersigned, being at least eighteen years of age, swear upon my oath that I am either a United States citizen or am classified by the United States government as being lawfully admitted for permanent residence.

Date

Signature

Social Security Number
or Other Federal I.D. Number

Printed Name

On the date above written _____ appeared before me and swore that the facts contained in the foregoing affidavit are true according to his/her best knowledge, information and belief.

Notary Public

My Commission Expires:



“No Bid” Response Form

Boone County Purchasing
613 E. Ash Street, Room 109
Columbia, MO 65201

Liz Palazzolo, Senior Buyer
(573) 886-4392 Fax: (573) 886-4390
E-Mail: lpalazzolo@boonecountymo.org

“NO BID RESPONSE FORM”

NOTE: THE VENDOR SHOULD COMPLETE AND RETURN THIS FORM ONLY IF THE VENDOR DOES NOT WANT TO SUBMIT A BID

If the vendor does not wish to respond to this bid request, but would like to remain on the Boone County vendor list **for this service/commodity**, please remove form and return to the Purchasing Department by mail, e-mail or fax.

Bid: RFP #30-30MAY19 – Off-Site Scanning and Records Management Services for the Boone County Circuit Clerk’s Office

Business Name: _____

Address: _____

Telephone: _____

Contact: _____

Date: _____

Reason(s) for Not Submitting Proposal Response :

STANDARD TERMS AND CONDITIONS - BOONE COUNTY, MISSOURI

1. Contractor shall comply with all applicable federal, state, and local laws and failure to do so, in County's sole discretion, shall give County the right to terminate this Contract.
2. Responses shall include all charges for packing, delivery, installation, etc., (unless otherwise specified) to the Boone County Department identified in the Request for Bid and/or Proposal.
3. The Boone County Commission has the right to accept or reject any part or parts of all bids, to waive technicalities, and to accept the offer the County Commission considers the most advantageous to the County. Boone County reserves the right to award this bid on an item-by-item basis, or an "all or none" basis, whichever is in the best interest of the County.
4. Bidders must use the bid forms provided for the purpose of submitting bids, must return the bid and bid sheets comprised in this bid, give the unit price, extended totals, and sign the bid. The Purchasing Director reserves the right, when only one bid has been received by the bid closing date, to delay the opening of bids to another date and time in order to revise specifications and/or establish further competition for the commodity or service required. The one (1) bid received will be retained unopened until the new Closing date, or at request of bidder, returned unopened for re-submittal at the new date and time of bid closing.
5. When products or materials of any particular producer or manufacturer are mentioned in our specifications, such products or materials are intended to be descriptive of type or quality and not restricted to those mentioned.
6. Do not include Federal Excise Tax or Sales and Use Taxes in bid process, as law exempts the County from them.
7. The delivery date shall be stated in definite terms, as it will be taken into consideration in awarding the bid.
8. The County Commission reserves the right to cancel all or any part of orders if delivery is not made or work is not started as guaranteed. In case of delay, the Contractor must notify the Purchasing Department.
9. In case of default by the Contractor, the County of Boone will procure the articles or services from other sources and hold the Bidder responsible for any excess cost occasioned thereby.
10. Failure to deliver as guaranteed may disqualify Bidder from future bidding.
11. Prices must be as stated in units of quantity specified, and must be firm. Bids qualified by escalator clauses may not be considered unless specified in the bid specifications.
12. No bid transmitted by fax machine or e-mail will be accepted.
13. The County of Boone, Missouri expressly denies responsibility for, or ownership of any item purchased until same is delivered to the County and is accepted by the County.
14. The County reserves the right to award to one or multiple respondents. The County also reserves the right to not award any item or group of items if the services can be obtained from a state or other governmental entities contract under more favorable terms. The resulting contract will be considered "Non-Exclusive". The County reserves the right to purchase from other vendors.
15. The County, from time to time, uses federal grant funds for the procurement of goods and services.

Accordingly, the provider of goods and/or services shall comply with federal laws, rules and regulations applicable to the funds used by the County for said procurement, and contract clauses required by the federal government in such circumstances are incorporated herein by reference. These clauses can generally be found in the *Federal Transit Administration's Best Practices Procurement Manual – Appendix A*. Any questions regarding the applicability of federal clauses to a particular bid should be directed to the Purchasing Department prior to bid opening.

16. In the event of a discrepancy between a unit price and an extended line item price, the unit price shall govern.
17. Should an audit of Contractor's invoices during the term of the Agreement, and any renewals thereof, indicate that the County has remitted payment on invoices that constitute an over-charging to the County above the pricing terms agreed to herein, the Contractor shall issue a refund check to the County for any over-charges within 30-days of being notified of the same.
18. For all bid responses over \$25,000, if any manufactured goods or commodities proposed with bid/proposal response are manufactured or produced outside the United States, this MUST be noted on the Bid/Proposal Response Form or a Memo attached.
19. **For all titled vehicles and equipment the dealer must use the actual delivery date to the County on all transfer documents** including the Certificate of Origin (COO,) Manufacturer's Statement of Origin (MSO,) Bill of Sale (BOS,) and Application for Title.
20. **Equipment and serial and model numbers** - The contractor is strongly encouraged to include equipment serial and model numbers for all amounts invoiced to the County. If equipment serial and model numbers are not provided on the face of the invoice, such information may be required by the County before issuing payment.

Revised 1/17/2018

End of Document



Guidelines for Microfilming Public Records

**Developed by the
Local Records Preservation Program,
Missouri State Archives**

Last Update: 09/30/2011



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Other records management publications available through the *website of the Secretary of State* include:

- Conservation Notes* (brief technical leaflets on care of records)
- Digital Imaging Guidelines*
- E-Mail Records Guidelines*
- Preservation Concerns in Planning a Records Center*
- Retention Schedules for County & Municipal Offices & Governmental Districts*
- Statement on Acceptance of Microfilm Created from Digital Sources*
- Supplies & Services for Preservation* (a list of vendors)

Address inquiries to:

Missouri State Archives
 Local Records Preservation Program
 Office of the Secretary of State
 P. O. Box 1747
 Jefferson City, MO 65102
 (573) 751-9047
 E-mail: local.records@sos.mo.gov
<http://www.sos.mo.gov/archives/localrecls/program.asp>

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1. Introduction

One of the many services provided by the Local Records Preservation Program (a division of the Missouri State Archives) is promoting records management through the appropriate use of microfilm. The staff of the Local Records Program has prepared these guidelines to help local officials ensure that their microfilm meets the necessary criteria to ensure it will be a permanent and useful replacement for paper records.

In an age when computers increasingly pervade every aspect of daily life, microfilm has remained a reliable way to preserve permanent and historical documents. The Secretary of State's Office follows the standards set forth by the American National Standards Institute and the National Archives in accepting microfilm as the only reliable way to substitute for paper records.

Microfilm is accepted as evidence in legal proceedings. Missouri law on public and business records specifies that microfilm copies are legally admissible as evidence in lieu of the original (RSMo 109.130). The conditions governing the admissibility of microfilm require that the micrographic, photostatic, or photographic reproductions of the original writings or records meet the guidelines of RSMo 109.120.

Optical disc systems, such as CD or DVD, have many advantages, but that technology *cannot* create archivally secure information. Among the advantages are improved access and easy dissemination of information. However, digital media have short life expectancy due to evolving technology, and these digital media cannot be considered an archival format. Additional information about electronic records is available *through the Secretary of State's website* at <http://www.sos.mo.gov/records/recmgmt/resources.asp>.

In many organizations, microfilm is being viewed as a "platform for digital access." That is, archives and records offices are recognizing that only microfilm can provide the longevity that is required, but they are also embracing the use of digital technologies for enhanced access (including Web access) to the records. In this "hybrid-system" approach, offices create microfilm that meets the requirements outlined in these *Guidelines* with the intent to migrate the film images to a digital format – either immediately, or sometime in the future. By following the specifications offered in these *Guidelines*, you can have the best of both worlds: a permanent microfilm product that will meet the long-term needs of users, and a product that can be migrated efficiently to a digital format.

Even when an official commits to microfilm the permanent records – either to ensure the safety of the records or to reduce storage space requirements – room still exists for error. It is not enough merely to ensure the microfilm is legible. The longevity and usefulness of microfilm requires that standards be followed in all these areas:

- ❖ The film must be on polyester base, and it must have an LE (for "life expectancy") rating of 500 years.
- ❖ Photographic work at the camera must follow standards to ensure a user-friendly product.
- ❖ Processing and duplication of the film must conform to national standards.
- ❖ Quality-control inspections must be done to ensure conformity with standards and instructions.
- ❖ The film must be stored in a facility that meets national standards for temperature, humidity, air quality, and other factors.

Education is necessary for vendors and local government officials who are just beginning to explore the world of high-quality preservation microfilming. These *Guidelines for Microfilming Public Records* outline the standards that will ensure your information will be secure and available in the future. They also offer recommendations about specifications that will facilitate the migration of microfilm to

a digital format. These guidelines must be followed to ensure that long-lasting, readily usable microfilm is created.

If you receive a grant from this office, you must follow these *Guidelines*. Therefore, it is recommended that you share this publication with your vendor, so that the vendor can assure you that all standards can be met and that the microfilm will not be rejected after Local Records inspection. Having these *Guidelines* in hand may also affect the vendor's cost estimate; since these specifications are more strict than conventional office microfilming, the prices for *preservation* microfilming will generally be higher.

If you are microfilming with your own funds and are interested in storing the master copy of your permanent records on microfilm in the vault at the State Archives, your film must meet these standards. Therefore, your staff must assure that the film conforms to the specifications described in these *Guidelines*.

If you are filming independently and have no wish to store your film with the Archives, this information will still provide you with specifications to ensure that you get the high-quality product you want.

We applaud your efforts to mainstream your office through more efficient records management and your foresight to preserve Missouri's heritage through its historical documents.

2. When to Microfilm

In deciding whether a local government needs a microfilming program, the following should be considered:

- ❖ Microfilm can reduce the space devoted to records storage by 98 percent by replacing paper records.
- ❖ Microfilm can simply provide a backup security copy for paper records.
- ❖ Microfilm can eliminate excessive wear on the original records by providing a surrogate for viewing.
- ❖ Microfilm can allow greater efficiency in serving the record needs of the public since a user/reference copy can be stored locally rather than in a records storage facility.
- ❖ Microfilm can solve your need for sharing the same information with other departments, divisions, etc.
- ❖ Microfilm can insure the safety of records that are to be retained for longer than 20 years. Records with less than 20 years retention generally should not be filmed.
- ❖ Microfilm can help to assure file integrity, accuracy, and completeness.
- ❖ Microfilm can serve as a platform for digital access, allowing for effective migration to Internet access.

Many officials microfilm records to protect vital information. Records filmed for this purpose generally fall into three categories:

1. Records required to be retained for long periods.
2. Records that protect the rights of citizens.
3. Records having historical value.

Most records that fall into the first two categories also have historical value. Before commencing any microfilming project, consult the appropriate local records retention schedules to determine how long specific records must be retained. These *retention schedules are available on the Secretary of State's website* at: <http://www.sos.mo.gov/archives/localrecs/schedules/>

Although there are many advantages to having a microfilming program, a few cautionary notes are appropriate:

- ❖ The cost of developing a microfilm system is very high. Creating microfilm is best left to vendors or in-house operations that are already experienced in the creation of film.
- ❖ Citizens who have not used microfilm before may be reluctant to use it instead of paper records. If you create and provide *high-quality* microfilm, that user resistance will be reduced.
- ❖ Great care must be taken to ensure that a quality product is produced since the microfilm may be the only record the government will have of some transactions. Therefore, a large investment of time is required to review the microfilm before it is accepted into your collections.

3. Types of Programs

Once a local government decides to implement a microfilm program, the question arises as to what type of program to support. There are several options.

1. The option that is simplest and generally most cost-effective is to contract with a microfilm service bureau. Appendix A offers some advice about working with microfilm service vendors, and a list of microfilm bureaus in Missouri is available at <http://www.sos.mo.gov/archives/localrecs/conservation/vendor/microfilm.asp>
2. Local records officials may be awarded Local Records grants to cover the cost of capturing permanent public records on high-quality ("archival") microfilm and the cost of acquiring microfilm reader/printers to allow access to the microfilm. The grant application guidelines are at <http://www.sos.mo.gov/archives/localrecs/grants/>.
3. On occasion, the Local Records Program will partner with a county or municipal government to process a collection with a view toward microfilming. In those cases, the local office must provide personnel (staff and/or volunteers) and space to process/organize the records. The Local Records Program will train personnel and provide archival boxes and some supplies. Then the records may be microfilmed by the local office or through a grant from the Local Records Preservation Program.
4. The Local Records Preservation Program occasionally targets small-quantity series of historical records to be microfilmed at the State Archives. Contact 573-751-9047 or e-mail local.records@sos.mo.gov to explore that possibility.

Regardless of the type of program, all film must meet three criteria: archival quality (how long the film will last); legality (properly targeted, properly documented); and image quality.

4. Technical Guidelines

4.1. Archival Requirements

To meet archival requirements film **MUST** be manufactured, processed and stored according to American National Standards Institute (ANSI) and International Standards Organization (ISO) standards. Archival requirements establish the permanence or life expectancy of the film. Please see Appendix B for a list of relevant standards and other published guidelines.

4.1.1. Manufacturing Requirements

Manufacturing plays an important role in the longevity of the film. The film used for the master negative (i.e., camera film) must have the following qualities:

- gelatin silver halide emulsion
- polyester-based
- 4 mil or thicker (i.e., no "thin film")
- processed to a silver gelatin black-and-white photographic image
- LE-rating ("life-expectancy" rating) of 500 years – usually expressed as "LE-500"
- 35mm width. Documents smaller than 8½ x 11 inches may be filmed on 16mm microfilm. Local Records grant projects may only use 16mm film if the Local Records Division gives written approval *prior* to the beginning of filming.

4.1.2. Duplicates

A duplicate negative printing master should be created from the master film, and it must meet the same technical requirements as specified in section 4.1.1.

The printing negative should be used to create a service copy for use by the public. Service-copy film may be produced on either polyester-based silver or diazo film stock; diazo is considerably less expensive. Film used for the service copy should have at least an LE-100 rating.

4.1.3. Leader and Trailer

Microfilm produced with Local Records grant funds must include leader and trailer on each reel. 'Leader and trailer' is blank film found at the beginning and end of a reel. The leader and trailer each must be a minimum of four feet long.

4.1.4. Processing

Proper processing of the film is the second step toward ensuring an archival film is produced. ANSI and ISO standards require that a conventional process be used, such as a Kodak Prostar or Allen deep tank processor. (See illustrations in Figures 1-3.) This simply means that the film must be processed using a developer, a fixer, a wash, and a dry cycle. These should be individual tanks and not a mixture of any two as in monobath processing.

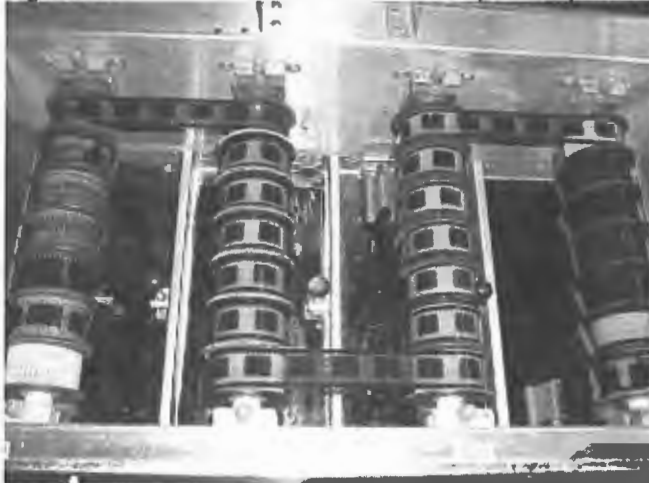
Figure 1. Kodak Prostar processor



Figure 2. Allen deep tank processor



Figure 3. Inside view of an Allen deep tank processor



While full reversal processing is considered an archival method of processing, Missouri's Records Divisions do not, at this time, use this method. The proper processing of film is crucial to permanent quality.

Whether sent to a film lab for processing or to a service bureau, a methylene blue test should be performed each day that film is processed. (A typical testing station is shown in Figure 4.) This test checks for residual thiosulfate and will ensure that the film has been washed properly of any excessive amounts of chemicals, which can eventually deteriorate the film. A copy of the test results should accompany the film. If the test results reveal film that does not meet the standards, then the materials should be re-filmed or the film should be rewashed. Maximum permissible concentration is .014. Test results should be confirmed periodically by an outside source such as Kodak or OCLC Online Computer Library Center, Inc.

Note: Improperly washed films with unacceptable levels of residual thiosulfate should not be stored with other films.

Figure 4. Methylene blue testing station, with test tubes, testing solutions, and equipment.



Polysulfide treatment. Post-processing microfilm treatments are available to help guard against oxidative attack from atmospheric pollutants, called **redox** or **red spots**. Either SilverLock (created by the Image Permanence Institute and currently manufactured by OCLC Online Computer Library Center, Inc.) or Brown Tone (created and manufactured by Kodak), can be used to help protect film. SilverLock has been proven to convert the silver in film to silver sulfide making the images more stable. If a polysulfide treatment is not used and the film is stored in a less than optimum environment, the information on the film could be obliterated and lost forever. Treatment should be considered as an optional service whenever available. It is strongly recommended but not required.

4.1.5. Storage

Proper storage of film is the last important step in film maintenance.

- ❖ Film housings/storage cabinets should be made of non-corroding, non-deteriorating, and non-ferrous metals or plastics.
- ❖ Button-and-string ties (illustrated in Figure 5) are appropriate for securing film on the reel as long as they meet the appropriate standards. (See Appendix B.) They are *recommended but not required* in projects funded by the Local Records Program. Do not use tape, strings, rubber bands, or adhesives to secure or fasten film for storage.

Figure 5. Button-and-string tie



- ❖ Cardboard boxes used for storage should be acid-free and lignin-free. When purchasing film or storage boxes, always ensure that the items meet national and international standards for archival storage including the Photographic Activity Test (PAT).
- ❖ Storage areas should be environmentally controlled to the proper temperature and humidity. The international standard, ISO 18911:2010, specifies conditions for master microfilm negatives.
 - Polyester-based silver film requires a temperature cooler than 70°F (2°C); 50-59°F is preferred. The temperature should not vary $\pm 3^\circ$ F in a 24-hour period. The relative humidity for polyester-base film should have a set-point between 25% and 45%, and should not vary more than $\pm 5\%$ during a 24-hour period.
 - Cooler storage is critically important for older cellulose-base film (nitrate and acetate). The maximum temperature is 45°F and relative humidity should be 20-30%. The same daily fluctuations apply for cellulose-based film as for polyester film.
- ❖ The film must also be protected from airborne gases, dirt particles or other contaminants. The storage area should have a separate heating/ventilation/air conditioning (HVAC) system. Whenever the storage area is to be sprayed or painted, all films should be moved off-site until the air has been re-purified. The length of time required will be dependent on the environment, equipment, and chemistry of the spray or paint.

Unfortunately, ideal storage conditions are rarely found in courthouses, city halls, and typical "office" facilities. We recommend that you locate an off-site facility with temperature and humidity readings that remain consistent. Several storage companies exist that specialize in the long-term, secure storage of paper and film. In general, bank vaults are not

recommended since they are not in the business of storing large volumes of records for other entities. **Under no circumstances** should the original camera film be stored in spaces that do not meet the strict temperature and humidity standards outlined above. In addition, remote storage should be considered so that at least one copy of the film is stored in a different location. This remote location will provide security against catastrophic loss during a natural disaster or other disasters caused by human forces.

The Missouri General Assembly authorized the building of the Kirkpatrick State Information Center, which includes a vault equipped with the proper storage requirements and the capacity to store microfilm from local and state government. Resembling a huge refrigerator, the vault is kept at the optimal humidity and temperature conducive for long-term storage of microfilm. This service is free of charge, and will continue as long as there is available space for local government film.

If you are interested in having your silver original camera master reels stored at the State Information Center, those reels will have to meet the same requirements as those listed under the Grant Requirements section. The records filmed will have to be either permanent or of historical significance, and the film must meet quality control specifications set by Local Records.

Microfilmed records stored at the Archives are open, public records. They are available for research in Archives reading room. Duplicates are available to the public.

Contact the Local Records Preservation Program (573-751-9047 or e-mail local.records@sos.mo.gov) for more information. Local Records can determine if your microfilm is eligible for storage and provide you with an agreement form. Selected exceptions may be made for microfilm produced long ago where original documents are not available and film is below industry standards. If you have film that requires evaluation, please send it to:

Missouri State Archives
Local Records Program Vault Storage
P. O. Box 1747
Jefferson City, MO 65102

Upon arrival, the records will be inspected for quality. Unacceptable reels will be sent back for either re-filming or storage at your facilities. Microfiche is not eligible for State Archives storage.

4.2. Image Quality

Image quality is the next important aspect of a good microfilm program. Image quality establishes how well the materials can be read on film. It is determined objectively by measuring the density and resolution of the film, the reduction that was used, and the completeness of the film.

All film should qualify as permanent according to the minimum specifications of ANSI/ISO.

The Local Records Preservation Program suggests initial quality control checks on the first reel of film produced, prior to subsequent filming. Inspecting this "pilot" reel will allow you to find any serious quality or bibliographic problems with the vendor's product. All subsequent film should be inspected to ensure that it continues to meet the quality control standards.

4.2.1. Density

Density is the method of determining the darkness or lightness of an image on film. As with any photographic image, if the image is too dark or too light, the legibility is compromised.

The density test is done with a piece of equipment called a transmission densitometer, which measures the amount of light that travels through the film. (See Figure 6.)

Figure 6. As part of the quality-control inspection, the density of the film must be checked with a densitometer.



Two uniform density targets are filmed at the beginning and end of each roll. The uniform density target can be as simple as a blank sheet of white bond paper, but ***it must be as large as, or larger than, the materials being filmed.***

After the film is processed, the microfilm frames containing these targets are placed on the densitometer. Take a minimum of three readings from the center of the image, at the top, middle and bottom; take five readings from the four corners and center. The density should not vary more than .15. Readings should also be taken on the images of material, at least 8 readings on a 100-foot reel and at least 11 readings from a 215-foot reel. Readings should be taken close to the text but not on the text in an area that best represents the majority of the background of the material. Readings should not be taken near the edge of the page or on an area that is stained, faded, or has bleed-through from the text on the opposite page. There may be exceptions to this rule depending on the condition of the material.

In order to ensure that exposures are being filmed at an appropriate density, tests, such as a step test, should be performed prior to any project being started. Step tests are targets filmed at different settings, to determine the best setting on which to film certain documents. If you are working in an in-house film lab, your equipment service vendor should be able to show you how to perform this test when installing the equipment. If you are using a vendor, you should ensure that they are performing the appropriate tests. The target originally used for the step test should remain in use until it becomes soiled. The target should then be replaced with a sheet of white bond paper, or other material, of the same thickness and shade as the previous one. If this is not possible, a new step test should be conducted using the new target. The Local Records staff will check step tests, if submitted.

The acceptable range for density is 0.80 to 1.30. If you have materials that exhibit low contrast between the text and the background (for example, brown ink on a yellowed page), the density should be between 0.80 and 1.00. If you have medium contrast materials, the density should be between 0.90 and 1.10. If your materials are high contrast in nature (for example, black print on white paper), the density should be between 1.00 and 1.30. Extremely low contrast materials may even benefit from density ranges in the .70s. While determining the level of contrast that will yield the best density readings, sometimes it may be difficult to determine the quality of the source material. In those instances, as a basic guideline, handwritten document density should be 0.80 to 1.00 and modern typed documents should be 1.00 to 1.30.

If the contrast on the material is not consistent, it may be necessary to film intentional second exposures of those pages at different densities than the average that has been chosen for the reel. This is also true of materials that contain photos and/or stains.

Acceptable Background Densities	
<i>Background density for the master negative should be based on the characteristics of the original documents.</i>	
High-contrast originals	1.00 - 1.30
<i>High quality, high-contrast printed materials and black typing. Fine-line originals, black opaque pencil writing. Documents with high-contrast printing.</i>	
Medium-contrast originals	0.90 - 1.10
<i>Bold text on moderately darkened paper or on light-colored paper. Faded printing. Very small printing. Pencil and ink drawings.</i>	
Low-contrast originals	0.80 - 1.00
<i>Low-contrast manuscripts and drawings. Documents typed with a worn ribbon. Poorly printed faint documents, especially those on moderately to badly darkened paper. Faint text on tissue, onionskin, or light-colored paper. Text on dark-colored paper. Graph paper with pale, fine colored lines.</i>	
Very low-contrast originals	0.75 - 0.85
<i>Documents with exceptionally poor contrast between printing/writing and paper.</i>	

Density readings should also be consistent on the reel. This means that there should be less than a 0.20 difference in the average density on the reel. Consistent density, with good contrast between the background of the material and the text, is crucial should the film be digitized later to create images for use in databases or websites.

Remember: If you or your vendor are not filming at the correct exposure, your film will appear either too light or too dark, and the characters will appear to blend with the background. If a target is run at the beginning and the end of each roll, this will enable the person taking the density readings to determine if the film has consistent densities from start to end.

4.2.2. Resolution

Resolution is a test that measures whether the film captured the fine detail or clarity of the document. Both a resolution test pattern target (illustrated in Figure 7) and a target containing the reduction ratio used (e.g., on the Camera Operator's Certificate contained in Appendix C of these *Guidelines*) **must** be present on the film, or the measurement cannot be taken.

The resolution test pattern target consists of a series of horizontal and vertical lines with a series of numbers located next to each line pattern. Resolution test pattern targets must conform to the requirements of ISO 3334:2006E (Micrographics - ISO Resolution Test Chart No. 2 - Description and Use). Some vendors are listed at the *Secretary of State website* (http://www.sos.mo.gov/archives/localrecs/grants/fy2010/Vendors_Information.pdf). **Copies** of resolution targets are **not acceptable**.

Figure 7. Resolution target



Two resolution targets must be filmed at the beginning and end of each reel and any time that the reduction ratio is changed. This target, after being filmed and processed, will be viewed through a 100-power microscope on a light table, as illustrated in Figure 8.

Figure 8. Resolution is measured using a 100-power microscope, viewing the film on a light box.



The smallest distinguishable line pattern number is taken and then multiplied by the reduction ratio used at the time of filming in order to calculate the resolution of the film. For example, the smallest line pattern number distinguished is 9.0 on a reel filmed at a 14:1 reduction ratio. Multiply 9.0 by 14 to get a resolution reading of 126 lines per millimeter (lpm). The higher the resolution reading, the better the legibility of the images on film and the better the results of future digitization will be.

Microfilm must have a minimum resolution of 100 lpm, although 120 lpm is preferred. There is one exception to this requirement: When the reduction ratio is 24x, a resolution of 96 lpm will be accepted.

Film should have consistent resolution throughout the entire image area, the corners, and the center. Therefore, resolution readings should be taken on all five patterns. **Whichever pattern has the lowest resolution is the one that will be used in the calculation.**

The resolution target must be as large as the documents being filmed. Thus, a legal-sized resolution target may be used when filming legal-sized documents. A larger target must be used when filming oversized records.

4.2.3. Reduction Ratio

"Reduction ratio" is a statement about the relationship between the size of the original material as compared to the image on microfilm. This relationship is expressed as a ratio, such as 12:1. This is also commonly referred to as 12X.

The reduction ratio information should appear on the film every time reduction is changed. This information is crucial for future digitization.

The reduction ratio used at the time of filming must be visible (preferably eye-readable) at the beginning of each roll of film. This should be either on the Camera Operator's Certificate or on the "Start" target, and it should be in large bold print. The reduction ratio chosen should be appropriate to the size of the original materials, the orientation of the materials on film, and the film chosen (35mm or 16mm). **The lowest possible reduction ratio should be chosen; the filmed images should approximately fill the frame.** Using a 24:1 reduction ratio when a 12:1 ratio will work is unacceptable. Besides providing the best image, keeping reduction ratios low helps in future projects of digitization and optical character recognition (OCR).

4.2.4. Reduction Changes

Reduction changes should be avoided, especially because they complicate automated scanning of microfilm.

There shall be no more than three reduction changes within a microfilm reel. When filming materials of different sizes, this method is recommended:

- a. Some records (such as municipal ordinance books) have many foldouts throughout the series. If these foldouts are no more than about 30% larger than the base size of the volume, choose the reduction that is appropriate to the size of the foldouts. This method avoids – or at least minimizes – the need to change reductions.
- b. Many loose record series include a range of document sizes. So long as the largest is roughly legal size, choose the fixed reduction that accommodates them.
- c. Some series include oversize items that are significantly larger than the bulk of the records. For example, a group of letter- and legal-size records may also include a

few maps, blueprints, and certificates that are more than 30% larger than the bulk of the records. The following practice is recommended:

1. Flatten the oversize items and move them to separate folders or boxes. Create cross-references between the original location and the oversized housing location as outlined in the next paragraph. [*Note: Oversize boxes and folders may be purchased with LR grant funds for grant-funded projects. Oversize housing may be available from LR for non-grant projects to microfilm permanent records.*]
 2. Within the series, insert a sheet in place of the oversize item, with wording such as "Large document(s) can be found in oversize storage" and reference the box/folder location.
 3. Film the oversize materials at the end of the series, so that only one reduction change is needed.
- d. This method requires careful preparation by the government entity, but provides a high-quality film product that will facilitate research and scanning.

An alternative is "sectional filming" – in which the reduction level remains unchanged, and sections of the large item are filmed in overlapping sections. Guidelines for sectional filming are available in the national standards, but this method has many drawbacks. Contact the LR office before using this method.

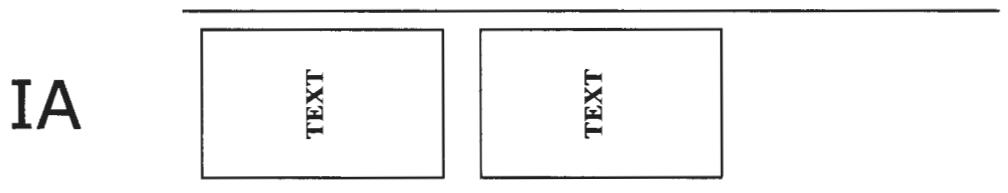
When the reduction ratio is changed within the reel, the camera operator must film a new "uniform density target," an eye-legible target specifying the new reduction, and the resolution test target. That same sequence shall be filmed again after filming the oversize materials and returning to the base reduction ratio.

4.2.5. Image Orientation

Microfilming projects funded by Local Records grants must be simplex format (one page filmed at a time – i.e., the IA or IB position) in either the cine (A) or comic (B) position. (See Figure 9.)

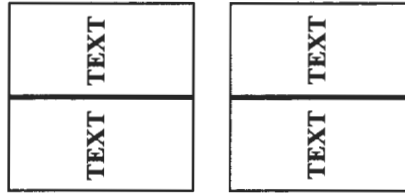
Duplex format (two pages filmed at a time, i.e. IIA or IIB) and duo-format (rotary camera parallel imaging) are not acceptable except with written permission from Local Records. Local Records may grant exceptions in certain instances; these will generally be restricted to documents in which two open leaves comprise one document (as sometimes occurs in indexes and tax records). The exception will only be allowed with written approval from LR.

Figure 9.



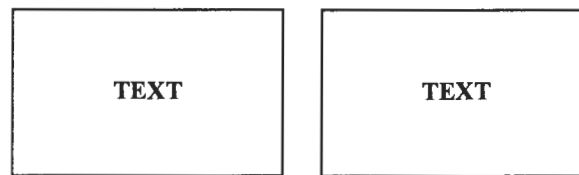
The IA position is recommended for most LR projects

IIA



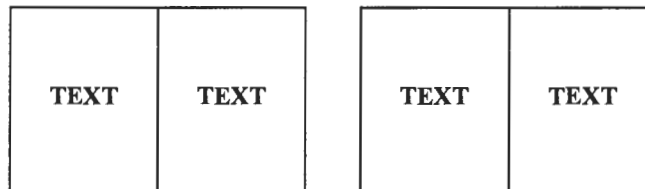
The IIA position is not acceptable, unless permission is granted.

IB



The IB position is allowed in LR projects, especially for documents wider than they are high.

IIB



The IIB position is not acceptable, unless permission is granted.

Suggestions for Reduction Ratio & Orientation Choices	
16mm	Suitable for materials up to 8½" x 11"
35mm	Suitable for materials larger than 8½" x 11"
Cine - "A" position	Suitable up to 17:1
Comic - "B" position	Suitable for materials that will not fit at 17:1 in Cine
1-up (simplex)	Suitable for materials that are or can be disbound
2-up (duplex)	Suitable for materials that cannot be disbound, but only with written exception from LR

The reduction ratio you choose also determines the lens size you will need on the microfilm reader to reproduce the document back to its original form. Most of the newer readers or reader/printers on the market today have multiple size lenses already built in, and these can be changed by a simple adjustment.

4.3. Additional Filming Practices

4.3.1. Skew

Skew is the degree to which the image that appears on film is "off-square" from the film. The more a filmed document is skewed, the more difficult it is to digitize the document, as software must be written or technicians must intervene to adjust the image.

The image shall not be skewed more than 2% (just under 2 degrees) from parallel with the longitudinal axis of the film. Skew shall be measured from the two corners of the document image parallel to the longitudinal edge of the projected image frame.

4.3.2. Baseline Filming

In order to facilitate digitization, camera operators shall position documents so that the lower edge of all pages on a reel shall appear at approximately the same distance from the edge of the film. Baseline filming will simplify an agency's efforts to use edge-detection software in an automated process of scanning microfilm into a digital format.

4.3.3. Intentional Second Exposures

When pages with extreme variation in lightness/darkness of background and color are present in the same frame, the contractor may film the frame more than once, using multiple or special exposures, whenever doing so will allow each part of the image to be captured more effectively.

The exposure required for optimal image capture of one type or portion of an image may vary in another portion of the same frame. Among the types of images for which multiple or special exposure may be required are those characterized by bleed-through or show-through, mottling, multiple-toned or color images, interleaving, overleafing, or multi-faceted openings, pencil markings and fine-lined inscriptions, and documents that have been partially "silked" or "backed."

If a page is intentionally filmed twice – for example, to correct an improper exposure, ensure that an operator did not skip a page, or provide the duplicate exposures required for retakes – the duplicates will be left as filmed; i.e., duplicate frames will not be edited out. However, an excessive number of duplicate exposures due to operator carelessness must be avoided.

The contractor shall make full use of available mechanical/optical means to ensure optimum legibility of information on film while meeting all technical requirements.

Multiple exposures of a page (at different light settings) shall be filmed only when deemed necessary. When the camera operator makes such multiple exposures, s/he shall insert the "Intentional Second Exposure" target before the 2nd exposure.

The "Intentional Second Exposure" target shall not appear as an in-frame target. There shall be no in-frame targets, except as authorized in writing by the Local Records Program.

If the camera operator makes more than one exposure of any image for which normal exposure is inadequate to reproduce the original material, the first shot shall be at the normal exposure and subsequent one(s) shall be at the adjusted exposure(s), not to exceed a total of three exposures per image.

When multiple exposures are made routinely and repeatedly within a folder, series, or collection, the "statement on duplicate images" target shall be filmed as part of the beginning target sequence on each applicable reel. (*See sample in Appendix C.*)

If the total image count of the project exceeds 5% of the estimate, or the contractor projects that possibility during the course of the project, the contractor shall notify the contracting agency.

4.3.4. Blank Pages

When dealing with unpaginated materials such as loose papers and court case files, blank pages shall not be filmed.

Many records are paginated. For example, record books often have pre-printed page numbers. They shall be filmed as follows:

- a. If there is one blank page in a volume, it shall be filmed.
- b. If there are multiple, consecutive blank pages, they shall not be filmed. Instead, a target such as illustrated in Appendix C.15 should be inserted within the volume and filmed in place of the blank pages.
- c. If a volume has many sections of blank pages, it may be more efficient to insert a target in the opening target sequence, informing users of the film that no blank pages are filmed.

4.3.5. Additional Requirements

Microfilm should also meet the following specifications.

- ❖ Spools cannot have plugs.
- ❖ Reels cannot be in cartridges.
- ❖ Reels must be at least $\frac{3}{4}$ full.
- ❖ Film must not have significant scratches.
- ❖ Film must not have fogging (dark areas caused by exposure to light).
- ❖ Film must not have foreign matter adhered to the film.
- ❖ Film must not have images of body parts and other foreign objects. (Fingers used to hold materials in place may be allowed in certain circumstances. Consult the Local Records staff for guidance.)
- ❖ Film must conform to other quality requirements of ANSI/AIIM MS23 (*Standard Recommended Practice - Production, Inspection, and Quality Assurance of First-Generation, Silver Microforms of Documents*)

The Local Records Grant program does not fund microfiche or the creation of aperture cards. The grant program will fund the conversion of aperture cards to roll microfilm.

4.4. Quality Control

Quality control is vital to maintaining image quality. Both density and resolution should be checked frequently during the filming project, and the results should accompany each roll tested (see example of quality report form in Appendix D). For microfilming projects funded by LR, the vendor should submit a copy of the Quality Control Report form with each microfilm reel.

The client should check each reel of film upon completion or upon receipt from the vendor. The Local Records Grant Program requires that a minimum of 10% of all reels be fully checked.

If the density and resolution are not good on the camera master film, the duplicates made from the master may not be readable. Since the third-generation use copies are your work copy, you will want the best possible original that can be produced. The quality of the second-generation printing negative is also vital because it is used to generate the use copies and is typically the copy used in digitization.

All film should be checked for completeness – that is, to ensure that every document has been captured on the film. If the original documents will be destroyed after filming, it is recommended that staff compare 100% of the film against the originals. This inspection can be very labor-intensive and expensive. (See the “Destruction” section below.)

4.5. Legal Requirements

A good microfilm program must also ensure that legal requirements are met. Legal requirements determine whether microfilmed records are accepted as legally binding documents, are admissible in court, and otherwise serve the same purposes as the original paper records.

4.5.1. Missouri

Revised Statutes of Missouri (RSMo) 109.130 states: “Reproduced records deemed original, when. —Such reproduction of the original records *shall be deemed to be an original record for all purposes provided that the reproduction is equal in resolution to microfilm produced under those standards set forth in subsection 4 of section 109.241, and shall be admissible in evidence in all courts or administrative agencies. A facsimile, exemplification or certified copy thereof shall, for all purposes recited in sections 109.120 to 109.140, be deemed to be a transcript, exemplification or certified copy of the original.*”

Missouri law (RSMo 109.241, paragraph 4) requires that microfilm produced for or by the government meet criteria established by organizations such as the American National Standards Institute (ANSI) and International Standards Organization (ISO). Those standards are interpreted by the Division of Records Management and Archives Services. These standards are common in the microfilm industry and can be met by responsible vendors and experienced camera operators.

4.5.2. United States

Title 28, Sections 1731-1739 of the United States Code require records to be:

- ❖ Microfilmed during the regular course of business;
- ❖ Authorized documents of the organization;
- ❖ Created during the regular course of business;
- ❖ Accurate reproductions of original records and not destroyed if their preservation in original paper form is required by law.

4.5.3. Preparation

Government officials should take steps to prepare the records before filming, to ensure the legal admissibility of the film and assure adherence to existing statutes. Key steps are the proper use of targets (see Section 4.4.3) and compliance with image quality standards. When splicing film, proper targeting is necessary to insure information has not been added or deleted from the original records. Splicing is the joining of two pieces of film. *Appendix C* contains samples of targets that should be used.

When records are preserved by microfilm, they must be processed in the following manner: *"When files in the custody of a local governmental agency are microfilmed or otherwise reproduced through photographic, video, electronic, or other reproduction processes, including a computer-generated electronic or digital retrieval system, the public official having custody of the reproduced records shall, before disposing of the originals, certify to the director that the official has made provisions for preserving the microfilms or electronically created records for viewing and recalling images to paper or original form, as appropriate, and that the official has done so in a manner guaranteeing the proper retention and integrity of the records in accordance with standards established by the local records board. Certification shall include a statement, written plan, or reputable vendor's certificate, as appropriate, that any microfilm or document reproduced through electronic process meets the standards for archival permanence established by the United States of America Standards Institute or similar agency, or local records board. If records are microfilmed, original camera masters shall not be used for frequent reference or reading purposes, but copies shall be made for such purposes."* (Section 109.241(4) RSMo)

4.5.4. Corrections & Retakes

Corrections (also called "retakes") are only to be spliced onto the end of the reel. Retakes are errors that are discovered after filming, such as missed documents or pages that do not meet LR's quality-control requirements. The defective pages can be re-filmed and spliced onto the end of the reel. An error can result in the filming of many pages to correct it. Film will be rejected if it contains several errors. **A reel of microfilm will be rejected if the total number of frames re-filmed exceeds 10% of the frames on the reel.**

Splicing should be done with an ultrasonic splicer, but the LR Program will also accept retakes spliced with thermal butt welds. **Absolutely no other splicing methods are allowed**, such as adhesive splicing, use of staples or masking tape. Hole-punching through errors is not allowed without prior written permission.

When filming retakes, the camera operator shall include a uniform density target and a resolution target at the beginning and end of the retake section. The existence of the retake and its location must be identified on the outside of the microfilm reel box; a notation such as "Corrections to this film reel appear at the end of this reel" is acceptable. Retakes should be of a comparable quality to the original film (i.e., resolution and density should match the original).

When filming on a rotary camera, a correction target must immediately follow any camera or paper jams before refilming the documents.

There shall be no more than one splice on any reel of film (i.e., one for trailer to splice on the retakes).

4.5.5. Destruction

Government agencies shall not destroy original documents until the film product receives Local Records quality control approval and the government office inspects the film for compliance with technical standards, appropriate targets, text legibility, and content completeness. Grantees should anticipate spending roughly one hour per reel to perform a complete bibliographic inspection. This inspection will ensure that the contents of the microfilm are truly complete.

Despite the best efforts of camera operators and vendors, **most large-volume microfilming projects will have some missing original documents.** It is the

responsibility of the government agency that owns the records to do the inspection necessary to identify these, then require remedial filming.

4.6. Preparation for Microfilming

The government office is responsible for preparing the records for microfilming before the records are delivered to the microfilm vendor. LR staff members are available to provide information, guidance, and training.

4.6.1. Physical Preparation

Records must be organized and prepared for filming to ensure the best possible quality and usefulness. Archivists from the Local Records Preservation Program are available to assist in the preparation of records. In LR grant-funded projects, the LR archivists will work closely with government entities to ensure that records have been properly prepared before filming. Even in filming projects not funded by LR grants, the staff may be available to assist in preparation of records. *Contact the Local Records Program for assistance.*

Physical preparation generally requires the following steps.

- a. Organize the records to be sure they are in proper order. Generally, records should be arranged within series, then in chronological or alphabetical order.
- b. Remove extraneous materials that do not belong in the records. Remove all duplicates and all non-permanent records. Remove ephemeral items such as grocery lists, bookmarks, and so on.
- c. Clean the records.
 - i. Bound volumes should be vacuumed and dusted if they are dirty.
 - ii. Loose papers should be cleaned, especially if surface dirt obscures text.
 - iii. Instructions are available from the conservation staff, and training may be available.
- d. Remove all fasteners (paper clips, staples, pins, grommets, etc.) so the records are single leaves. Some vendors may be willing to remove fasteners, but they will generally charge extra for that service.
- e. Torn pages may be mended. Use "archival" tape if the records will be retained after filming. Regular or "Scotch" tape is acceptable only if the records will be destroyed after filming.
- f. Unfold and flatten all folded documents. Follow the instructions at <http://www.sos.mo.gov/archives/localrecs/conservation/notes/humidification.asp>. Contact the LR staff for additional guidance.

The physical preparation generally must be done by the local government office. If you are using a vendor for the microfilming, you should discuss with them how they expect to receive the collection. Are they willing to remove staples? Must all of the collection be disbound (loose) pages? Can the binding be removed and destroyed?

4.6.2. Editorial Preparation

When organizing materials for microfilming, try to consider how the microfilm will be used in the future. Citizens may consult the records to ensure their rights. Genealogists may seek information about their ancestors. Historians may seek information about certain trends. Government officials may need to access older records in the course of their business. All these needs will be supported if the records are well organized and logically arranged.

Develop an accurate index or "finding aid" to the records. If the index is relatively straightforward, it should be filmed as part of the opening sequence of targets. If you

develop an extensive finding aid (one that runs more than about 10 pages), film it after the opening sequence.

Prepare targets as outlined in these *Guidelines* and insert them into the proper series, box, file, or volume as appropriate. LR staff can provide more detailed guidance.

4.6.3. Reel Programming

Reel programming is the process of deciding what materials will be filmed on an individual reel of microfilm. Reels should be programmed logically. When possible, program the breaks between reels so they occur between volumes, at the end of a year, or at a place that makes sense for your materials, keeping in mind the arrangement of the entire collection. If the vendor is programming the reels, be specific with your instructions on how programming is to be done.

4.6.4. Final Preparation

Prepare an accurate inventory or shipping list for the vendor.

Place all items in boxes for transport to the vendor. Use standard-size boxes, preferably all the same size. Number each box with the name of the office and the box number (e.g., "box 1 of 5," "box 2 of 5," and so on). Identify boxes on ends and sides.

4.7. Targets

Targets are pieces of paper on which certain information is printed. They must be used, to ensure legal standards are met. Identification targets are generally letter- or legal-size pages generated using a word processing program. (See Appendix C for templates and samples of targets.) Roll number, agency origin, and reduction ratio should be eye-legible on exposed film, meaning that you can read this information as it occurs on the film without any magnification.

Targets are necessary to ensure ready access to the information contained on the film and to assist in meeting the requirements of admissible evidence in court. Targets indicate quality, organization, and validity of the microfilmed collection. Film will be rejected if proper targets are not used. If you are using a vendor, they should provide some targets. The targets that a vendor should provide are indicated below with an asterisk (*).

Targets cannot be spliced onto the film. Only one target should be filmed in each frame. There shall be no in-frame targets, except as authorized in writing by the Local Records Program. Targets must be filmed at the same reduction ratio as the materials.

Targets should appear in the following order on the beginning of each reel:

- ❖ **Start***: blank sheet of bond paper with START printed on it.
- ❖ **Uniform Density Target***: plain white sheet of bond paper or non-glossy poster-board free of lines and characters. It must be approximately the same size as the largest documents being microfilmed on the reel.
- ❖ **Camera Operator's Certificate**: must include date, camera operator's name, roll number, county, office, series/record title, inclusive dates for the series, arrangement (for example, "chronological by date"), reduction ratio, and vendor name.
- ❖ **Continued From Last Roll***: if the filming project from the last roll is continuing on this reel.
- ❖ **Reel Number**: use consecutive numbering system for each project.

- ❖ **Title Target:** must include county and/or city, office, records series title, information content, inclusive dates, and arrangement. Also indicate if the records are of a closed or confidential nature. Please consult the appropriate records retention schedule to determine the exact records series title. If there are multiple volumes or boxes on one reel, a title target is necessary before each. (See discussion at "Additional Bibliographic Targets" below.) Also, make sure each volume is indicated separately on the microfilm box label.
- ❖ **Statement on Duplicate Images Target:** blank sheet of bond paper with Duplicate Images text printed on it.
- ❖ **Corrections Target:** blank sheet of bond paper with Corrections text printed on it.
- ❖ **Additional Bibliographic Targets:** varies depending on the collection being filmed but can include Series Title Targets, Volume or Box Targets, or other informational targets as appropriate. If an index or finding aid runs more than about 10 pages, it should appear after the target sequence.
- ❖ **Resolution Test Target*:** consists of a series of horizontal and vertical line patterns with a series of numbers located next to each line pattern. This target must meet the ANSI/AIIM MS51 (also ANSI/ISO 3334) and should be of approximately the same size as the material.

Targets should appear in the following order at the end of each reel:

- ❖ **Continued On Next Roll*:** if the filming project is to continue onto the next reel.
- ❖ **Reel Number:** use consecutive numbering system for each project.
- ❖ **Camera Operator's Certificate:** must include date, camera operator's name, roll number, county, office, series/record title, inclusive dates for the series, arrangement (for example, "chronological by date"), reduction ratio, and vendor name.
- ❖ **Uniform Density Target*:** plain white sheet of bond paper or non-glossy poster-board free of lines and characters. It must be approximately the same size as the largest documents being microfilmed on the reel.
- ❖ **Resolution Test Target*:** consists of a series of horizontal and vertical lines with a series of numbers located next to each line pattern. This target must meet ANSI/AIIM MS51 (ANSI/ISO 3334) and should be of the appropriate size for the material.
- ❖ **End Of Reel*:** blank sheet of bond paper with END OF ROLL – PLEASE REWIND printed on it.

The following targets should appear when retakes are appended:

- ❖ **Start of Corrections/Additions*:** blank sheet of bond paper with START OF CORRECTIONS/ADDITIONS printed on it.
- ❖ **Uniform Density Target*:** plain white sheet of bond paper or non-glossy poster-board free of lines and characters. It must be approximately the same size as the largest documents being microfilmed on the reel.
- ❖ **Resolution Test Target*:** consists of a series of horizontal and vertical lines with a series of numbers located next to each line pattern. This target must meet ANSI/AIIM MS51 (ANSI/ISO 3334) and should be of the appropriate size for the material.
- ❖ *[Film corrections here]*
- ❖ **End of Corrections/Additions*:** blank sheet of bond paper with END OF CORRECTIONS/ADDITIONS printed on it.

- ❖ **End Of Reel*:** blank sheet of bond paper with END OF ROLL PLEASE REWIND printed on it.
- ❖ **Camera Operator's Certificate:** must include date, camera operator's name, roll number, county, office, series/record title, inclusive dates for the series, arrangement (for example, "chronological by date"), reduction ratio, and vendor name.
- ❖ **Uniform Density Target*:** plain white sheet of bond paper or non-glossy poster-board free of lines and characters. It must be approximately the same size as the largest documents being microfilmed on the reel.
- ❖ **Resolution Test Target*:** consists of a series of horizontal and vertical lines with a series of numbers located next to each line pattern. This target must meet ANSI/AIIM MS51 (ANSI/ISO 3334) and should be of the appropriate size for the material.

The following targets should appear as needed on the reel. Some samples appear in Appendix C.

- ❖ **Sections Target*:** a white piece of bond paper with text regarding filming in sections. This target should be used when a document is too large and needs to be filmed in sections
- ❖ **Condition Targets:** a white piece of bond paper with text describing the poor condition. Examples of condition targets include BOOK IN POOR CONDITION, LAMINATED PAGES, and TIGHT BINDING. (See examples in Appendix C of these *Guidelines*.)
- ❖ **Blank Pages Target:** a white piece of bond paper with text such as BLANK Page or PAGES 32-89 ARE BLANK.

4.8. Microfilm Box Labeling

Box labeling is critical. If the information that is permanently preserved on the microfilm is not clearly indicated on the label, it will be useless because users will not know what is contained in the record. It is imperative that you provide your vendor a list of exactly what is to be filmed, and in what order, and require that the vendor make accurate labels.

Sometimes the information on the cover of a book is not what is inside. Make sure to communicate the correct data to your vendor. Label each reel fully: "Deed Books, 1-4, 1884-1910" would not be acceptable. Each book, or series, with specific titles and dates must be clearly stated. (See samples in Appendix D).

Each label must have:

- ❖ Agency Origin, e.g., which political subdivision (county, school district, city, etc.) and office (recorder, clerk, etc.) the information comes from.
- ❖ Description of records filmed on the reel – e.g., minutes, ordinances, student records, etc.
- ❖ How the records are arranged – e.g., A-C or 1910-1915. Even if the records are arranged alphabetically, there **must** be inclusive dates on the label.
- ❖ Indication if an INDEX is filmed at the front of a record (if applicable).

5. Assistance

The Local Records Preservation Program of the Missouri State Archives shares your concern for the preservation of vital records in your care. A number of services are available to local government entities, including assistance in planning your microfilm program, in purchasing microfilm equipment, and in storing microfilm masters. For more information about the services available, please contact the Local Records Division:

Missouri State Archives
Local Records Preservation Program
Office of the Secretary of State
P. O. Box 1747
Jefferson City, MO 65102
(573) 751-9047
local.records@sos.mo.gov
<http://www.sos.mo.gov/archives/localrecs/program.asp>

The website is a good source of up-to-date information. The latest version of these *Guidelines for Microfilming Public Records* can be located on the website. The website also lists vendors of microfilm services and equipment at <http://www.sos.mo.gov/archives/localrecs/conservation/vendor/microfilm.asp>. The website also includes record retention schedules at <http://www.sos.mo.gov/archives/localrecs/schedules/>, so you can identify permanent record series that qualify for LR grant funding.

Appendix A: Contracting for Services

Working with a microfilm vendor can sometimes be challenging. Most microfilming vendors exist to film short-term business records with a goal of space-savings. By contrast, preservation microfilming requires vendors with a view to long-term preservation and a stringent adherence to strict national standards. Communication with the vendor is crucial, to be sure the vendor can meet your long-term goals.

The most important factor in a successful project is a positive relationship with your vendor. Communication is critical to a positive relationship. The first step is to give your vendor a copy of these guidelines in their most up to date version (check our website at <http://www.sos.mo.gov/archives/pubs/mfmg/>). The vendor should be made aware that you want preservation microfilm, not typical business microfilm that will not meet these standards (see Section 4.0 above). The quality control requirements should be clear and agreed upon before you discuss price with the vendor.

In order to assist local government in obtaining archival quality microfilming services from a vendor, the Records Management and Archives Services recommend the following guidelines:

- Request that the vendor provide you a list of references, and contact at least three clients from the list. Make sure that you ask the references when their project was done, and ask enough questions about their projects to make sure they were similar to yours. Make sure that you contact any references that are government entities similar in nature to your own.
- If your government agency has received a grant from the Local Records Program, consult the grant award letter or contracts for any special stipulations about your microfilming project, and convey these to your vendor before entering into a firm agreement.
- Request a cost estimate. This would be a good time to give the vendor a copy of these Guidelines. If you are filming under an LR grant, also give the vendor a copy of any special stipulations in your grant contract. Be specific about what services you want and about what type and what condition of materials you have.
- Request a time estimate for completion. Tell the vendor if you have a deadline by which the project must be complete. If your project is a Local Records grant project, do not forget to leave yourself time to inspect the film, write your final report, and submit it to the Local Records grant administrator by the deadline.
- Inform the vendor about the indexing system you prefer and the information that should be included on the labels (e.g., roll numbers, title targets, new file begins, etc.). See samples in Appendix D.
- Ask questions, such as
 - ❖ Will documents be filmed on-site? If not, who pays for boxing the documents and transportation to the vendor's site? Who is responsible for loss or damage in transit? Is the vendor insured against damage or loss? Are vendor personnel insured during filming conducted at your site?
 - ❖ Will the vendor provide all services or will parts of your project be subcontracted to another vendor? If the vendor plans to use a subcontractor, they must notify you.
 - ❖ What type of security do they have at their facility? Ask what systems are in place to protect material from theft, fire, or other disasters.
 - ❖ What type of material handling skills do their staff members have? Ask them to describe the training that new staff members are given.

- ❖ Do they offer a polysulfide treatment option?
- ❖ What reduction ratio do they plan to use for your collection? (They will need to know the material dimensions.) You will need to check your reader or reader/printer to determine if you will need to purchase a new lens to view that reduction ratio.
- Confidential or closed records require special protection, and archivists in the Local Records staff can provide you with special guidance. Be sure that the vendor treats your records in a confidential manner. Discuss your expectations with the microfilm vendor.
- Contact more than one vendor. Decide which vendor seemed most sensitive to your needs and most experienced with your type of materials.
- Send the vendor three copies of the letter of agreement (see Appendix D), and request a contract. The contract should state that:
 - ❖ Film will be manufactured and processed according to archival quality standards established by the American National Standard Institute (ANSI) and International Standards Organization (ISO). (See Appendix B.) If for any reason the films do not meet applicable ANSI and/or ISO standards, the vendor will re-film the records at no additional cost to you.
 - ❖ Each roll will meet established legal and image quality requirements as established and referenced in this guideline.
 - ❖ If retakes (corrections or additions) are necessary, the vendor will re-film and splice the retakes onto the end of the proper roll with the proper targets. If the retakes are necessary as a result of vendor error, this will be done at no extra charge.
 - ❖ The price will include the cost of the film stock, the filming labor, processing, and a duplicate roll. (Note: Films should be clearly marked as to which is the original and which is the duplicate.) If you have requested additional services, such as preparation, make sure that this is included as well.
- **If the vendor does not wish to enter into a written contract, it may be because of an inability to meet some or all of the requirements. This should be a warning sign to you about the capability of the vendor. If the vendor will not sign a written letter of agreement, then you should explore why they are hesitant to sign the agreement and carefully assess your options.**

Note: Microfilming funded by the Local Records Grant Program must also adhere to RSMo 109.241, the State Archives' interpretation thereof, and additional guidelines promulgated by the Missouri Historical Records Advisory Board. Call 573-751-9047 or contact the Local Records Preservation Program for further details.

Appendix B: Standards and Guidelines

When the published standards and guidelines listed here conflict with the technical requirements explicit in this document, this document should prevail.

Core Resources

The resources listed here are particularly comprehensive and important. These are especially useful for officials/agencies just beginning to launch a preservation microfilming project.

ANSI/AIIM MS23-2004. *Standard Recommended Practice - Production, Inspection, and Quality Assurance of First-Generation, Silver Microforms of Documents.*

Elkington, Nancy E., ed. *RLG Archives Microfilming Manual.* Mountain View, CA: Research Libraries Group, 1994.

Elkington, Nancy E., ed. *RLG Preservation Microfilming Handbook.* Mountain View, CA: Research Libraries Group, 1992.

Fox, Lisa L., ed. *Preservation Microfilming: A Guide for Librarians and Archivists.* Chicago, IL: American Library Association, 1996.

Additional Resources

These standards and guidelines can be purchased through their publishers. We recommend visiting the websites of the International Standards Organization, the American National Standards Institute, the Association of Information and Image Management, the Research Libraries Group, and the American Library Association.

ANSI/AIIM MS18-1992 (R1998). *American National Standard - Micrographics - Splices for Imaged Microfilm - Dimensions and Operational Constraints.*

ANSI/AIIM MS34-1990. *American National Standard Dimensions for 100-Foot Reels for Conventionally Threaded Processed 16mm and 35mm Microfilm.*

ANSI/AIIM MS43-1998. *American National Recommended Practice for Operational Procedures/Inspection and Quality Control of Duplicate Microforms of Documents and From COM.*

ANSI/AIIM MS45-1990. *American National Recommended Practice for Inspection of Stored Silver-Gelatin Microforms For Evidence of Deterioration.*

ANSI/AIIM MS48-1999. *American National Standard for Information and Image Management - Recommended Practice - Microfilming Public Records on Silver Halide Film.*

ANSI/AIIM MS51-1991 or ANSI/ISO 3334-1991. *Standard for Information and Image Management - Micrographics - ISO Resolution Test Chart No. 2 - Description and Use.*

ANSI/NISO Z39.62-2000. *Eye-Legible Information on Microfilm Leaders and Trailers and on Containers of Processed Microfilm on Open Reels.*

ISO 18901:2010(E) . *Imaging Materials - --Processed Silver-Gelatin-Type Black-and-White Films - Specifications for Stability.*

ISO 18902:2007(E). *Imaging materials – Processed imaging materials – Albums, framing and storage materials*

ISO 18906:2000(E). *Imaging materials – Photographic films – Specifications for safety film.*

ISO 18911:2010(E). *Imaging materials – Processed safety photographic films – Storage practices.*

ISO 18916:2007(E). *Imaging Materials - Processed imaging materials - Photographic activity test for enclosure materials.*

ISO 18917:1999(E). *Photography - Determination of residual thiosulfate and other related chemicals in processed photographic materials - Methods using iodine-amylose, methylene blue and silver sulfide.*

Appendix C: Sample Targets

Caveat regarding Sample Targets: Throughout this "Sample Targets" section, several targets are provided in two formats.

Targets labeled "template" may be used as document templates to create a government office's own targets. These templates have been created in layouts and font sizes that will conform to these *Guidelines*.

Sample targets are labeled "example only." They have been created to show how a fictional agency might use such a target. None of these "example" targets should be photocopied and used; all require modification for use in a microfilming project.

C.1: "Start" target

START

Camera Operator's Certificate

VENDOR NAME

Microfilmed at Vendor City, Vendor State

Date:

Camera Operator:

Roll No.:

County/City:

Office:

Series/Record Title(s):

Inclusive Dates:

Arrangement:

Reduction Ratio:

Funded in part by the
Local Records Preservation Program
Missouri State Archives
Jefferson City, Missouri

Camera Operator's Certificate

MICROFILM COMPANY Q

Microfilmed at St. Louis, Missouri

Date: 6/10/2004
Camera Operator: Susie Q
Roll No.: 2004-DR10
County/City: Rose County
Office: County Collector
Record Series Title: Real Estate (Land) Tax Books
Inclusive Dates: 1875 through 1997
Arrangement: Chronological by collection year,
then by section, township, and
range.
Reduction Ratio: 12:1

Funded in part by the
Local Records Preservation Program
Missouri State Archives
Jefferson City, Missouri

**CONTINUED
FROM LAST
ROLL**

C.4: Reel Number Target

ROLL #



ROLL #
EXAMPLE ONLY
2004-DR10

TITLE TARGET

Missouri Local Records Preservation Program Grant Project

COUNTY/CITY:

OFFICE:

RECORD SERIES TITLE:

INFORMATION CONTENT:

DATES (Inclusive):

ARRANGEMENT:

CONFIDENTIAL: YES NO

CLOSED: YES NO

TEMPLATE

TITLE TARGET

Missouri Local Records Preservation Program Grant Project

COUNTY/CITY: Rose County

OFFICE: County Collector

RECORD SERIES TITLE: Real Estate (Land) Tax
Books

INFORMATION CONTENT: This records series contains information relating taxes collected for land ownership. An alphabetical index accompanies this record.

DATES (inclusive): 1875 through 1997

ARRANGEMENT: Chronological by collection year, then by section, township, and range.

CONFIDENTIAL: YES NO

CLOSED: YES NO

STATEMENT ON DUPLICATE IMAGES

This reel of microfilm contains material that has paper color changes, stains, or illustrations (some of which may appear on pages mixed with printed text). In order to ensure that all text and illustrations are legible, exposure settings must be changed. Therefore, when text and illustrations exist in a single image or when material backgrounds differ, such frames may be exposed twice on the microfilm copy.

The first exposure reflects the camera operator's best effort to capture the majority of the text. The second exposure reflects the camera operator's best effort to capture illustrative material or the remaining text. It is hoped that this practice will result in a microfilm product that fully serves the needs of most researchers.

STATEMENT ON CORRECTIONS

Materials discovered to be missing in the microfilm, or other corrections found to be needed, may be added to the end of the reel.

Researchers should always check the end of the reel for corrections.

Record Series Title
Volume #, Letter, or Box #
Begin Date – End Date

**REAL ESTATE (LAND)
TAX BOOKS**

EXAMPLE ONLY

Volume 14

Jan. 1, 1875 – Dec. 31, 1875

**CONTINUED
ON NEXT
ROLL**

**END OF
ROLL**

**PLEASE
REWIND**

START OF CORRECTIONS / ADDITIONS

END OF CORRECTIONS / ADDITIONS

THE FOLLOWING
DOCUMENT HAS
BEEN FILMED IN
SECTIONS TO
INSURE
READABILITY.
SECTIONS
OVERLAP.

BOOK IN POOR CONDITION

C.15: "Blank Pages not Filmed" target

PAGES ARE BLANK

**PAGES 32-89
ARE BLANK**

Appendix D: Sample Forms

D.2: Labels

Microfilm Box Label

Microfilm box labels should have the dimensions indicated here:

label width: 3 3/8" (8.5mm)

label height: 4 13/16" (12.2mm)

distance from top border to first line: 1.6mm

distance from 1st to 2nd line: 1.9mm

distance from 2nd to bottom line: 8.6mm

Microfilm Labels for Bound Volumes

TEMPLATE

SAMPLE

ROLL NUMBER		
COUNTY/CITY OFFICE		
SERIES TITLE	<u>VOL.</u>	<u>RANGE</u>
TITLE/CONTENT	BOOK #	DATES
TITLE/CONTENT	BOOK #	DATES

C 48353		
ROSE COUNTY RECORDER OF DEEDS		
DEED RECORDS	<u>VOL.</u>	<u>RANGE</u>
Warranty	441	May 1939 - Feb 1940
Mortgage	442	Nov 1939 - Mar 1941

Microfilm Labels for Unbound Records

TEMPLATE

ROLL NUMBER			
COUNTY NAME			
OFFICE			
SERIES TITLE			
BOX #__	FOLDER #	DATE	CONTENT
<i>THRU</i>			
BOX #__	FOLDER #	DATE	CONTENT

SAMPLE

C 48678			
ROSE COUNTY			
CIRCUIT COURT			
CASE FILES			
BOX #32	FOLDER #55	1860	
<i>THRU</i>			
BOX #33	FOLDER #74	1867	

D.3: Quality Control Report

**Missouri State Archives/ Local Records Preservation Program
Quality Control Report**

Institution: _____
Preservation Microfilming Project: _____
Filming Agent: _____

MASTER NEGATIVE STORAGE NUMBER _____ Exposures _____
RECORD _____ BOX _____ FOLDERS _____

1. FILMING

Technician (Initials) _____ Camera: _____ Filming Date(Mo/Day) _____
Pg# _____ Reduction Ratio _____
Image Orientation _____ Required changes in orientation or reduction? _____

2. INITIAL QUALITY CONTROL

Processor (Initials) _____ Inspector (Initials) _____ Processing Date _____
Density Readings 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ Avg. _____
Resolution pattern required _____ Highest Resolution pattern Read _____

3. FILMING ERRORS (give page/frame numbers)

Overexposed images _____ Density: _____
Underexposed images _____ Density: _____
Focus defects _____ Cause: _____
Obstruction in frame _____ Cause: _____
Streaks _____ Fogging: _____
Other _____

4. PHYSICAL DEFECTS (give page numbers)

Fingerprints _____
Scratches _____
Water Spots _____
Dust/Dirt etc. _____
Other/Comments _____

5. ACTIONS TO CORRECT DEFECTS

Refilming whole title ? _____ Refilming of page(s) list _____
Splices needed (number) _____ Number of exposures refilmed _____
Other action/comments _____

6. APPROVAL FOR VARIANCE FROM PROJECT SPECIFICATIONS

Variant density (check) _____ other ? _____
Variance approval of Project Manager (initials) _____ Date: _____

7. CERTIFICATION OF REPORT

Filming Agent (Initials) _____ Date: _____
Project Manager (Initials) _____ Date: _____

Reel Filmed by: _____
Density & Resolution by: _____
Frame-by-Frame Insp'n by: _____
Corrections spliced by: _____

D.4: Large Document form

LARGE DOCUMENTS CAN BE FOUND IN OVERSIZED STORAGE

Location: _____

Box: _____

Folder: _____

of Items: _____

D.5: Sample Letter of Agreement

Sample Letter of Agreement

<Date>

<Name>

<Microfilm Company>

<Address>

Dear **<Name>**:

I am pleased to say that you have been awarded our microfilming project: **<insert project name>**. In order to proceed with this project, we ask that you sign the three copies of this letter of agreement, which I have already signed. Please keep one copy for your files, and return the other two to me. I will forward one copy to the Local Records Program of the Missouri State Archives for their grant records.

This letter serves as an agreement that you understand that this project is part of the Local Records Preservation Grant Program and therefore must follow the guidelines set forth by that agency. Those guidelines can be found on the Internet at <http://www.sos.mo.gov/archives/pubs/mfmg/>. The Local Records Program also requires that your company perform all the work as discussed in the estimate. Subcontracting is only allowed with written notification and acceptance by my office. As part of the requirements for this grant program, microfilm will not be accepted and payment will not be made until the Local Records Program completes its quality control and determines that the film meets the requirements of their specifications.

We would also like to sign a formal contract with you for this project. Please send us your standard contract for review.

Thank you for your assistance in preparing for this project. We look forward to the project start. We plan to **<deliver the materials or ship the materials or have the materials ready>** on **<date>**. Please let me know when you plan to begin the filming.

Sincerely yours,

<Name>

<Government office/agency>

<Address>

Appendix E: Grant Project Workflow

To those who have received a grant from the Local Records Preservation Program involving the production of microfilm, congratulations! The information provided in this guideline will be very important to implement a smooth grant project. Most importantly, before you begin **any** microfilming, fill out and return the "Microfilm Information Sheet" provided in your award packet. This will inform the Local Records Grant Administrator (573-751-2798) which vendor you plan to use for your microfilming. *We can discuss the project with the production staff selected to do the filming (not the sales representative) so that a clear understanding of all standards, specifications, and expectations will be established before the project begins.*

LR grant recipients should also complete and sign a letter of agreement with the chosen vendor. (See sample in Appendix D).

WORKFLOW FOR MICROFILM PRODUCED FOR A LOCAL RECORDS GRANT PROJECT

- 1) Grant awarded by the Secretary of State upon recommendation of the Missouri Historical Records Advisory Board (MHRAB).
- 2) Microfilm Information Sheet and Letter of Agreement completed.
- 3) Local government agency prepares/processes records for microfilming. The work may be done by agency staff and/or volunteers, professional consultant, or vendor.
- 4) Vendor microfilms records, develops them, inspects them, and creates duplicates.
- 5) Vendor sends master (original) silver film and associated quality-control report form to Local Records. Work copies should be sent to grantee.
- 6) Local Records staff enters film into database as being received.
- 7) Local Records staff performs quality-control inspection on master microfilm
 - a. If master microfilm passes Quality Control Inspection, then
 - i. Film released from grant authority when project is complete and
 1. Film is returned to government office.
 2. Or, retained by Archives, labeled, and stored.
 - ii. Silver duplicate made—labeled and stored.
 - iii. Silver or Diazo duplicate made—labeled and goes to Archives Reference.
 - b. If master microfilm does not pass Quality Control Inspection, then film is
 - i. Returned to vendor for re-filming

Grant recipients are notified by postcard whether film is accepted or rejected. The quality control inspection effort of the Local Records Program may reject any reel of film that does not meet the standards and specifications of these *Guidelines*.

Because of the requirements under which the Local Records Program operates, we will not be able to grant any funds for a project which we judge has not met the quality control standards. In the unlikely event there is a situation where grant funds have already been expended by the agency or office for microfilm that does not meet standards, that agency or office will replace the sub-standard film at their expense or reimburse all grant funds to the Local Records Program.

Local government agencies may also request subsequent diazo-film reference copies at any time for direct cost -- currently \$15.00 per reel.

Appendix F: Glossary of Terms

ANSI: American National Standards Institute – a federation of trade associations, technical societies, professional organizations, consumer groups, and private companies that develops national standards, including those that govern the creation of permanent microfilm.

Archival Master (also AM, Archival, Master Negative, Camera Negative, or first generation film): The film used in the camera during filming. When manufactured, processed, and stored in accordance with national standards, this film should achieve a Life Expectancy (LE) of at least 500 years. See also *print master* and *service copy*.

Baseline Filming: Microfilming practice in which operators position documents so that the lower edge of all pages on a reel appear at approximately the same distance from the edge of the film.

Bleed-Through: An effect caused when ink has migrated, generally due to the porousness of the paper, from the surface of a sheet of paper to the surface of the verso.

Blurred Frame: An image on the film that is out of focus. Generally occurs when the cradle or pages are moving during filming, the camera experiences a focus problem.

Brittle: Describes paper that breaks or cracks when folded or bent. Paper that is acidic as a result of its manufacture becomes brittle as a result of a chemical reaction.

Cine (or Position A): Defined as the placement of source materials so that their bottom edges of frames or pages are perpendicular to the long edge of the microfilm. See also *Comic*.

Collate: To review an item to ascertain whether it is complete and in the correct order. Other conditions that may be noted during collation include damaged pages or bibliographic irregularities (such as irregular volume/issue numbering, pagination, or title changes). It may also be useful to note foldouts or other unusual features that the camera operator may need to prepare for, and also to keep track of the number of pages present, which can be used for *reel programming*.

Comic (or Position B): Defined as the placement of source materials so that their bottom edges of frames or pages are parallel to the long edge of the microfilm. See also *Cine*.

Condition Target: Usually an *eye-legible target*, inserted in the target sequence, describing unusual or specific conditions for that title or reel.

Contrast: An expression of the relationship between text and background of material or between the high and low *density* of a photographic image. See also *high contrast*, *medium contrast*, and *low contrast*.

Cradle (or Book Cradle): A device that supports bound volumes for microfilming (under glass) in a position so that pages are open flat under the lens of the camera.

D-Max (Maximum *Density*): A measurement taken on the dark area of the film; used on Archival, Print Master, and Service Copies. Dmax must fall within a specified range dependent on material type and film type.

D-Min (Minimum *Density*): A measurement taken on the light/clear area of the film; used on Archival and Print Master. Dmin must fall within a specified range dependent on film type.

Densitometer, Transmission: Piece of equipment used to inspect microfilm to measure the amount of light able to pass through the film. This equipment is used to measure *density* during the Quality Assurance process.

Density: A measure of the amount of light able to pass through the film. See also *densitometer, transmission and uniform density target*.

Duplicate (or Dupe): To make copies of microfilm, from the *archival master* or *print master*. Also used to refer to the reels that have been duplicated (*Print Masters* and *Service Copies*).

Duplicate frame: the appearance of an identical *frame* on film due to operator error. See also *Intentional Second Exposure*.

Eye-legible Target: Refers to a *target* that can be read by the human eye on microfilm without magnification. In order to achieve this, it is necessary for a *target* to be printed in a font size of at least 60 pts.

Fade (or Background *Density*): The background darkness or color of a page.

Fade Changes: Fades that vary from one page of text to another or within the same page.

Flag: Narrow strip of paper inserted in a volume, generally to alert the camera operator to film a particular *target* or to provide instructions for filming.

Fog: A dark patch on film that can be caused by stray light during film manufacture, exposure, or loading/unloading.

Frame: Each exposure on film is referred to as a frame.

Generation: One of the successive stages of duplication (see *duplicate*) of an original or a master.

Gutter Glare: A reflection from the camera lights that appears in the inner margin of the book if volume is too tightly bound, is too thick or is printed on glossy paper. Gutter glare can sometimes obscure text to the point of illegibility on microfilm.

Gutter Shadow: Shadow that appears in the inner margin of the book if volume is too tightly bound or is too thick. Gutter shadow can sometimes obscure text to the point of illegibility on microfilm.

High Contrast: 1. Film in which the light and dark areas are represented by extreme differences in density. Most black and white film is high contrast film. 2. Material that is easily readable and has bold or clear text. See also *medium contrast* and *low contrast*.

In-frame Target: A sheet of paper with technical or explanatory information, which is small in size and appears in the same frame with the document being filmed. Cf. "Target."

In-frame targets are not to be used in microfilm produced with grant funds from the Local Records Program.

Intentional Second Exposure: Second exposure of the same page(s) taken intentionally in order to capture the most legible image of everything in the frame, usually for a *fade change*, photograph or illustration.

Leader: Clear film added to the front of each reel. Used for protection of images from *fog* and handling *scratches* and for threading into micrographics equipment.

Light Balance: Equal amounts of light appearing in all areas of a frame. Achieved by positioning camera lights so that there is an even background *density* across the entire frame.

Light Box: Translucent box with a light inside, designed to provide evenly dispersed illumination. Used to check film for *scratches* or other flaws.

Loupe: Small hand-held magnifying glass used to inspect film over a *light box*.

Low Contrast: 1. Film in which the light and dark areas on a frame are represented by small differences in density. 2. Material that has little or no contrast between text and background – often difficult to read. See also *high contrast* and *medium contrast*.

Medium Contrast: 1. Film in which the light and dark areas on frame are represented by moderate differences in density. 2. Material that is legible, with moderate contrast between text and background; onionskin paper and type written material usually fall into this category. See also *high contrast* and *low contrast*.

Microscope: A 100X microscope is used to check the *resolution target* patterns.

Orientation (or Position): The position of the camera head in relation to the material being filmed. See also *Comic* and *Cine*.

Print Master (also PM, duplicate negative, or second generation film): This film is duplicated from the *archival master* and is used to create *service copies* of the film. See also *archive master* and *service copy*.

Reduction Ratio: Relationship between the size of the original document and the size of the microfilmed image. Generally referred to with an "X". 12X represents the reduction ratio 12:1. Example: 12X or 12:1 means the size of the image on film will be 1/12th the actual size of the original document.

Reel: 1. A physical roll of film. 2. Informally used to refer to the corresponding original material that is contained on a reel of film.

Reel Programming (or reel breaking): Determining what material is to be filmed on a given reel. This can be done before beginning filming, or at camera during filming.

Resolution: A test that measures whether the film captured the fine detail or clarity of the document.

Resolution Target: A target that is filmed so that the optical performance of the microfilm equipment can be measured. Consists of a series of successively smaller patterns with

alternating black and white line pairs. Each pattern contains both vertical and horizontal line pairs and is numbered – the smaller the pattern, the higher the number.

Scratch: Damage that occurs when film is inadvertently scraped. Can be caused by improper handling or malfunctioning equipment, and can occur on either the emulsion or the polyester base.

Service Copy (also SC, Positive Copy, or third generation film): The copy of the microfilm that will be used by readers. Generally a positive service copy is made. See also *archive master* and *print master*.

Skew: The degree to which the image that appears on film is “off-square” from the film. Skew is measured from the two corners of the document image parallel to the longitudinal edge of the projected image frame.

Splice: A joint made by ultrasonically welding two pieces of film together so they will function as a single piece. Splices can also be made using tape, ultrasonic welding, or thermal methods. However, tape splices do not meet preservation guidelines.

Splicer: A device for joining strips of photographic film.

Target: Used throughout a reel to convey information a future reader might need (such as a bibliographic record target or a copyright target) or to provide a basis for quality testing of the film (such as a *resolution target* or *uniform density target*).

Tie-Wrap (or Button and String Tie): An acid-free covering that protects a reel of microfilm.

Trailer: Clear film added to the end of a reel. Used for protection of images from *fog* and handling *scratches* and for threading into micrographics equipment.

Uniform Density Target: A single sheet of clean white bond paper or card stock, filmed at the beginning and end of every reel. The target should completely fill the image area and its primary function is to verify light balance.