1 Purpose

1.1 This policy shall set out a process for scanning and verifying paper records in the custody and control of The Corporation of the Town of Fort Erie (Town) classified as records in The Ontario Municipal Records Management System (TOMRMS).

1.2 The purpose of this policy is to convert paper records to digitized records so they are easily accessible, retrievable, searchable and permanently preserved in a secure manner for future reference.

1.3 The purpose of this policy is to provide the necessary details to ensure that digitized records are considered trustworthy, reliable and recognized as the authentic record copy at the Town, or as a means of protecting vital records.

2 Definitions

For the purposes of this Policy:

2.1 **"Authenticity"** means a record is one that can be proven:

    i. To be what it alleges to be;

    ii. To have been created or sent by the person alleged to have created or sent it;

    iii. To have been created or sent at the time alleged.

2.2 **"Digital document"** means information that has been converted from a source document to a digital format that can be processed by a computer.

2.3 **"Digitization"** means the conversion of text, pictures, or sound into a digital form that can be processed by a computer.

2.4 **"Disposition"** means the final retention action carried out on an information asset (refer to TOMRMS). This may include destruction, deletion, secure destruction or deletion, or transfer for archival review or to a third party.

2.5 **"Information assets"** means information that is generated or managed by the Town and has value to the Town.

2.6 **"Integrity"** means the reliability of information content, processes and systems as to its completeness, accuracy, consistency and authenticity

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2.7 **"Metadata"** means a set of data that describes and gives information about other data.

2.8 **"Optical Character Recognition (OCR)"** means the automated electronic or mechanical conversion of images of typed, handwritten or printed text into machine-encoded text.

2.9 **"Reliability"** means the degree to which the quality of information content, processes and systems can be depended upon to be trustworthy, complete, accurate and authentic.

2.10 **"Source documents"** means information in the original format in which it was created, regardless of medium.

3   Policy Statement

This policy will serve to:

3.1 Reduce the space required for physical storage of records within Town facilities and reduce the number of storage units required to store physical paper records;

3.2 Preserve records in its original state to qualify as a legal document;

3.3 Apply electronic tracking of the document through a records management system to document any future changes that may be made to the document;

3.4 Increase security and better control access to confidential records;

3.5 Improve decision making processes and easily distribute records within the Town; and

3.6 Reduce costs for physical storage and staff time.

4   Background

5   Application

5.1 This Policy applies to all Town information assets, regardless of media, created or collected in the normal course of Town business. This Policy does not apply to born-digital information.

5.2 All digitization activities must comply with the following laws and standards:

   5.2.1 Evidence Act, 1990,

   5.2.2 Electronic records as documentary evidence CAN/CGSB-72.34-2017

   5.2.3 Copyright Act ,1985

   5.2.4 Municipal Freedom of Information and Protection of Privacy Act. 1990

5.3   All digitization activities must comply with the following Town of Fort Erie policies and procedures:

5.3.1   XX-### Records and Information Management Policy

5.3.2   XX-### Naming Conventions Policy

6   Policy

6.1   The digitization process includes the steps outlined in the following section. It should be noted that the workflow may vary depending on the nature and scope of the project:

6.1.1   Preparation of source material

➢ Carefully prepare the files and documents for digitization to reduce the risk of document deterioration and poor-quality digitization.

➢ Ensure the material is identified and organized according to TOMRMS.

➢ Physically prepare the material by unfolding documents, placing the pages in the right order, removing bindings, duplicates, staples, paper clips, separating post-it notes (include notes in scanning) and checking, for example, whether the document contains irregular formatting or highlighting.

6.1.2   Audit Log

➢ Create an audit log (See appendix A for example). Complete relevant portions of the audit log at every stage of the digitization.

➢ This information must be retained throughout the digitized document's life cycle, and a link between the digitized document and the digitization/indexation date must be created (for example, by recording this information in the digitized file's properties or in another file or metadata record related to the document).

6.1.3   Digitization

➢ Scan source documents and ensure scanned copies are created in the appropriate format (See Appendix B).

➢ Capture all required metadata (See Appendix C).

➢ Name the digital copy and save it to the appropriate location along with required metadata.

➢ Complete relevant portion of audit log.

6.1.4   Quantity and Quality control

➢ At each stage of the digitization process it is essential to evaluate the results. Two facets are involved: *quantity* control and *quality* control (see Appendix D).

➢ Quantity control: verify that each page has been digitized, either by manually counting the pages before digitization or by relying on automatic functions in the digitization software that mark and count the pages and then compare the result obtained to the number of pages digitized.

➢ Quality control: Preserving the integrity of the documents content and ensuring that the text is very legible, that no sentence or word has been cut off, that OCR has been applied, and that the resolution is sufficient, are essential. This involves confirming that the digital version is an accurate reproduction of the source document and that its resolution is good enough for the type of document and how it will be used. Reproduction: The quality of the reproduction (for example, brightness, contrast, colours) must be checked to avoid losing detail in shaded areas and to avoid recording images that are unclear or incorrectly oriented or cropped. Visual checks of each digitized document must be performed to ensure and record the integrity of the reproduction.
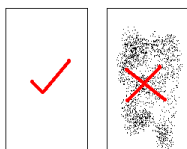
6.1.5   Integrity of Digital Documents

6.1.5.1   Ensure all scans are (Appendix E):

➢ Legible

➢ No Skew
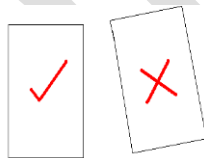
➢ No Noise or Speckle

➢ No Missing Parts or Pages

> ➢ Minimal colour dropout (colour removal on scanned image to increase OCR capability)

> ➢ Good Contrast between text and background

> ➢ Repeat scanning if any errors are found.

6.1.6 Disposition and ongoing management

> ➢ Digitized documents must be retained and made accessible in accordance with the approved corporate classification system, as well as any and all procedures or legislation to which the source document was subject to. The system the Town has adopted as the Town's official record classification system is the 'The Ontario Municipal Records Management System' (TOMRMS).

> ➢ Source documents having undergone digitization can be destroyed 12 months after their digitization/indexation and when the following conditions are met:

> a) The decision to destroy source documents must be reconsidered if there are doubts about the integrity (quality and quantity) of the digitization.

> b) The digitization process has been documented and validated.

6.2 Only the director (or the highest-level manager if there is no director) can authorize the destruction of source documents in accordance with the principles set out in this procedure.

6.3 Secure destruction methods must be adopted to protect personal and confidential information and to ensure that it is impossible, or at least extremely difficult, to recreate destroyed documents (for example, shredding). Destruction of source documents must be documented.

6.4 If digitization is completed by an external service provider, they must comply with applicable legislation, policies, procedures and standards listed in this policy. This requirement must be expressly written in any contracts or agreements with third parties conducting digitization.

7 Responsibilities

7.1 Employees:

7.1.1 Follow digitization procedures, consult with the Town Clerk on preserving source documents that are found in a unique format, or have particular archival value or interest.

7.1.2 Verify the retention periods of source documents before beginning, and check required output formats as per Appendix B.

7.2 **Town Clerk**

7.2.1 Develop and maintain procedures, provide advice and guidance to units undertaking digitization projects and approve destruction of original source documents.

8   Exceptions

8.1 No exceptions to this procedure can be made without the written approval of the Clerk.

Appendix A: Example of audit log

The format of the audit log is up to the individual project, but the log must contain a full list of all boxes and files/items that are being scanned. For each file/item, the following information must be tracked:

File/item ID	Prepared for scanning		Scanned		Transferred to new physical location		Quality and quantity checks (*See checklist below)		Digital object transferred to file structure		Final project quality and quantity control conducted		Original destroyed (if applicable)		Etc.	
Example A	Date	Initials	Date	Initials	Date	Initials	Date	Initials	Date	Initials	Date	Initials	Date	Initials	Date	Initials
Example B	Date	Initials	Date	Initials	Date	Initials	Date	Initials	Date	Initials	Date	Initials	Date	Initials	Date	Initials

Appendix B: Required Formats[1]

Documents on paper		
	Information with retention period of more than 10 years (uncompressed)	**Access copy**
File format	PDF/A (with OCR)	JPEG, PDF/A, PDF (with OCR)
Bit depth	8 bit greyscale, 24 bit colour	same
Resolution	Minimum 300 ppi, recommended 400ppi	Minimum 75 ppi, recommended 300 ppi

Documents on microfilm/microfiche		
	Information with retention period of more than 10 years (uncompressed)	**Access copy**
File format	TIFF or PDF/A (with OCR)	JPEG, PDF/A, PDF (with OCR)
Bit depth	8 bit greyscale	same
Resolution	Varies based on original size of document	Varies based on original size of document

Maps and plans		
	Information with retention period of more than 10 years (uncompressed)	**Access copy**
File format	TIFF, GeoTIFF	JPEG, PDF, GeoTIFF, GeoPDF, KML
Bit depth	8 bit greyscale, 24 bit colour	same
Resolution	Minimum 300ppi, recommended 600 ppi	Minimum 75 ppi, recommended 300 ppi

Photographs		
	Information with retention period of more than 10 years (uncompressed)	**Access copy**
File format	TIFF	JPEG
Bit depth	8 bit greyscale, 24 bit colour	Same
Resolution	Minimum 300 ppi, recommended 400 ppi, 600 ppi for fragile	Minimum 75 ppi, recommended 300 ppi

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[1]Compiled from National Heritage Digitization Strategy "Digitization Best Practices and Recommendations", April 2019, https://cnhds.files.wordpress.com/2019/05/nhds-digitization-best-practices-and-recommendations-2019.pdf as well as Library and Archives Canada, "Guidelines on File Formats for Transferring Information Resources of Enduring Value", 2015-02-05 https://www.bac-lac.gc.ca/eng/services/government-information-resources/guidelines/Documents/file-formats-irev.pdf or https://www.bac-lac.gc.ca/eng/services/government-information-resources/guidelines/Pages/guidelines-file-formats-transferring-information-resources-enduring-value.aspx

Appendix B – Required Formats, Continued

Negatives/Slides		
	Information with retention period of more than 10 years (uncompressed)	**Access copy**
File format	TIFF	JPEG
Bit depth	8 bit greyscale, 24 bit colour	same
Resolution	Minimum 4000 pixels on longest edge, recommended 4000-6000 pixels on longest edge	Minimum 75 ppp, 300 pp
Colour profile	RGB	RGB or sRGB

Moving images (video)			
	Information with retention period of more than 10 years (uncompressed)		**Access copy**
	Video/Film: Stream	Film: Image + Audio	
File format	Stream: Uncompressed/MOV, Uncompressed/AVI, JPEG2000/MXF OP1a Audio: LCPM	Image: DPX Audio: LCMP/BWF	Vary depending on needs. Common formats: H.264/MPEG-2 or MPEG-4
Bit depth	Stream: 8 bit Audio: 16 bit	Image: 10 bit Audio: 16 bit	
Resolution	Stream: match original	Image: 4K-4,096 ppi (35mm) 2K-2,048 ppi (16mm)	
Sample Rate	Stream: variable, 30-50mbps Audio: 48khz	Audio: 48khz	
Colour	4Y,2Cb,2Cr (4:2:2)	RGB	

Audio		
	Integrity of digital documents	**Integrity of digital documents**
File format	BWF(Broadcast wave) with LPCM encoding (Linear Pulse Code Modulated Audio)	MP3
Sample and Bit depth	96kHz/24 bits	Mono: 44.1 kHz/128 Kbps Stereo: 44.1 kHz/256 Kbps

Appendix C – Metadata Control

Metadata control	
Are the required fields complete?	Yes ☐ No ☐
Spelling (of all completed fields)	Correct ☐ To be revised ☐ Comment/explanation:
Format (of all completed fields e.g. Dates, order of info first name, last name)	Correct ☐ To be revised ☐ Comment/explanation:

Appendix D - Quantity and Quality Control Checks During Scanning

Evaluation of the digitization				
	Yes	No	To be revised	Comments
Do the resulting documents have the same information as the source document? Ex. Title of the document match the information in the document				
Does the digital document have the same number of pages as the source document?				

Appendix E - Integrity of Digital Documents

	Yes	No	To be revised	Comments
Is the text readable?				
Are the sentences or lines broken?				
Are the images blurred? Are the details complete?				
Are the images cut out?				
Is the watermark removed from the scanned document?				
Is the data compressed?				
Have the documents/images been realigned, re-framed, of a different size than the original?				
Are the borders removed?				
Have the black spots been removed?				
Is the density of the black sections and the color faithful to the source document?				
Is the digital reproduction faithful to the source document?				
Is the printed copy of the digital document of good quality?				

Scanning format	Colour			Resolution	Compression		OCR
	B&W	Greyscale	Colour				
				DPI	Yes No		
					Type		
Brightness and contrast	50/50						
	Other				Specify		

Is the integrity of the documents assured?				
Yes	No		To be revised	N/A

Comments :