

Digital File Transfer Guidelines

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State Archives of North Carolina
NATURAL AND CULTURAL RESOURCES

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Purpose

This guide will assist with the transfer of electronic records identified for permanent retention to the custody of the State Archives, as prescribed on the agency's approved records schedule. It provides an overview of best practices for preparing electronic records for transfer, including the most appropriate file names and formats. This document also provides instructions about the tools used for file transfer and the steps that should be taken to ensure a smooth transfer process.

Brief Overview of Electronic Storage

Electronic records require constant care to ensure that the data they contain is preserved. A good digital preservation program protects records against data decay, obsolescence from ever-changing technologies, hardware failure, and natural or human disaster.

The North Carolina Digital Repository, jointly managed by the State Archives and the State Library, provides digital preservation and long-term storage for electronic records and publications with enduring historical value. The records kept in the Digital Repository are state and local government records scheduled for permanent retention in the custody of the State Archives, as well as permanent state agency publications managed by the State Library. The State Archives does not provide temporary security storage for electronic records. For more information, please see our guidelines for temporary storage: <http://archives.ncdcr.gov/Portals/26/PDF/guidelines/TemporaryStorageofERSRC.pdf>

Each agency has a program records retention and disposition schedule. Records that have permanent value should have a disposition instruction to transfer them to the custody of the State Archives. (<http://www.stateschedules.ncdcr.gov/>)

More information about the State Archives' electronic records standards can be accessed here: [Electronic Records Transfer Standard](#)

(http://archives.ncdcr.gov/Portals/26/PDF/guidelines/DataErecsTransferStandard_20141204_draft.pdf).

For assistance from your Records Management Analyst, please see the [Directory of Records Management Analysts](#) (<http://archives.ncdcr.gov/For-Government/Services-and-Training>)

General Guidelines for File Management and Transfer

Preferred File Formats for Transfer

The State Archives of North Carolina (SANC) has guidelines on file formats recommended for records transfer. These preferred formats were selected because they are sustainable for future use, are widely supported for access and functionality, and can support a variety of uses and needs.¹ These formats are considered the best suited for preserving data through future technological changes. If you have file formats that are not listed or cannot be converted to the preferred file format, please contact your Records Management Analyst <http://archives.ncdcr.gov/For-Government/Services-and-Training> prior to transfer.

These guidelines can be accessed at [File Formats for the Transfer of Electronic Records to the State Archives of North Carolina](#) (http://archives.ncdcr.gov/Portals/26/PDF/guidelines/file_formats_transfer_requirements.pdf).

Frequency of File Transfer

A regular schedule for transfers of digital records is important to ensure that the data they contain remains accessible. Preservation actions performed by SANC ensure that files are authentic and remain accessible well into the future. It is

¹ http://www.digitalpreservation.gov/formats/intro/format_eval_rel.shtml

recommended that transfers are scheduled on a 5-year interval at a maximum and agencies should consult their records retention schedule.

For information on transferring electronic records, contact your agency’s Records Analyst or see the [Scheduling Guide for State Agency Records Liaisons](http://archives.ncdcr.gov/Portals/26/PDF/gov_lists/Records_Liasion.pdf) (http://archives.ncdcr.gov/Portals/26/PDF/gov_lists/Records_Liasion.pdf).

Creating a “For Archives” Folder

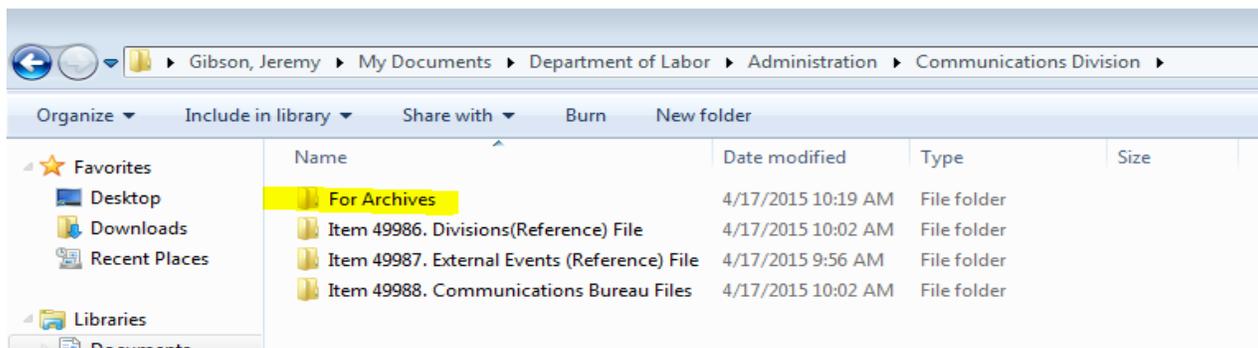
It is not necessary to transfer all your digital files or every draft of a single file. Instead, records custodians should create a “For Archives” folder on a shared drive and move the final copy of the records scheduled for transfer to the “For Archives” folder. The State Archives will not take drafts or additional copies of records. The SANC recommends that this “For Archives” folder be organized into sub-folders with the Item Number from the Records Retention and Disposition Schedule serving as the folder name. If you are having difficulty locating the Item Number, you can access your schedule by using the [Program Records Retention and Disposition Schedules for State Agencies](http://www.stateschedules.ncdcr.gov/) (<http://www.stateschedules.ncdcr.gov/>). You may also contact your Chief Records Officer or Records Management Analyst for assistance (<http://archives.ncdcr.gov/For-Government/Services-and-Training/Chief-Records-Officers>).

Organizing Records for Transfer

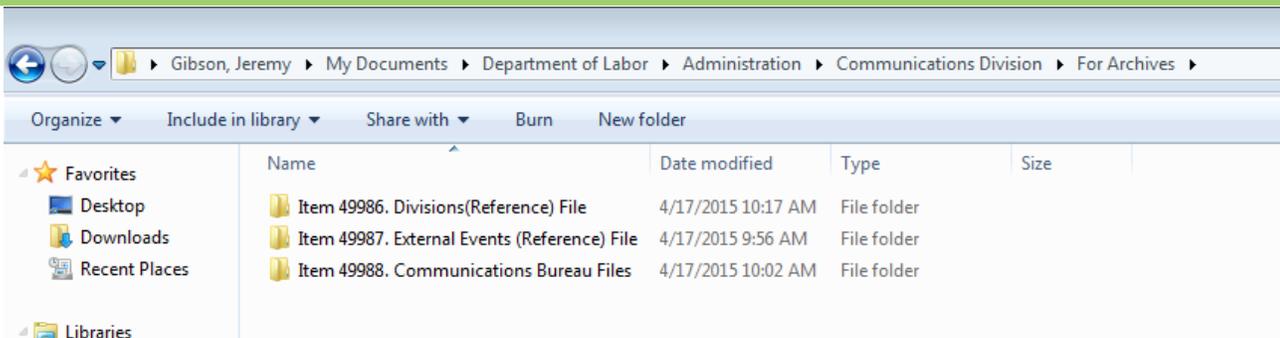
When copying your records into the “For Archives” folder, the sub-folders structure should be organized by the Item Number on your retention schedule. The next level should match your agency’s filing system. If you have any questions about organizing your file structure, please contact your Records Analyst.

Examples:

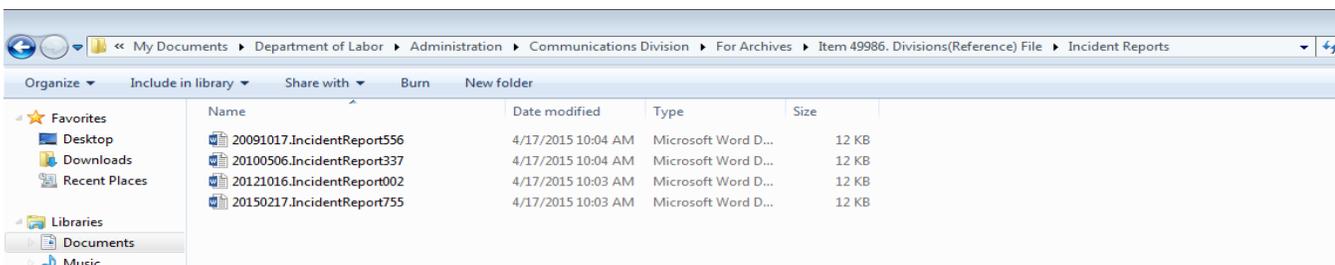
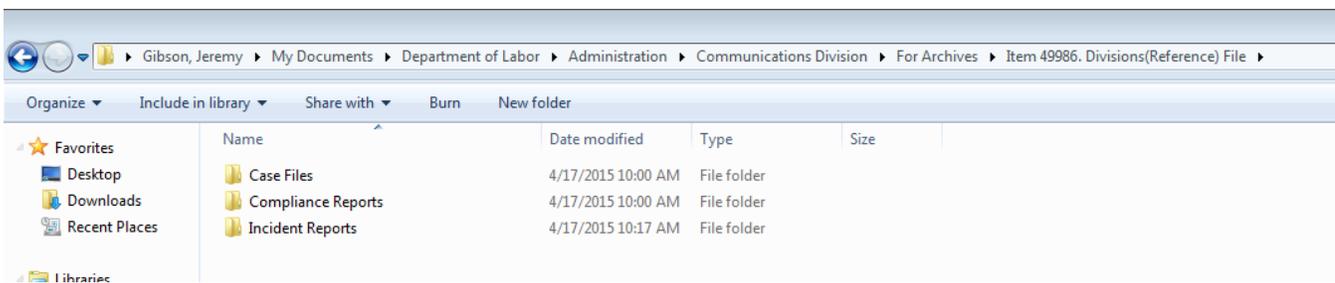
This is an example of the suggested filing structure. The “For Archives” folder should be located with the rest of the files for your agency/division.



Within the “For Archives” folder, files should be organized according to the Item Number on your retention schedule. The retention schedule will tell you which types of files should be placed in each folder.



Within each Item # folder, files should be structured the same way your agency organizes files in active use.



Electronic files need to be named accurately and consistently so that they are identifiable and accessible. This practice is necessary for administrative use, public access, and maintaining confidentiality. A good file name should include consistently formatted dates, all necessary descriptive information, and the version of the file. See our instructions on good-file naming practices:

[Best Practices for File Naming](http://archives.ncdcr.gov/Portals/26/PDF/guidelines/filenaming.pdf) (http://archives.ncdcr.gov/Portals/26/PDF/guidelines/filenaming.pdf)

Steps for Transferring Electronic Records to the State Archives

Requesting Electronic Records Transfer

Please contact your agency's records analyst before beginning the transfer process and complete the form below:

[Electronic Records Transfer Request Form](#)

If confidential data exists in the transfer, the agency should inform the records analyst and specify the data. One option is to nest a folder labeled "confidential" within each item number. Alternatively, you can include a readme.txt file or MS Word file that contains a description of the confidential records. If transferring a database, the description should include the Database Index including a listing of the confidential fields.

Agencies should confirm that records are accessible (i.e., able to be opened) prior to transfer.

Regulations for Digital File Transfer

The [North Carolina Administrative Code Title 7, Chapter 4, Subchapter M, Section .0510](#) includes the following information on transferring electronic records:

1. The custodian will create a checksum for each file transferred using a DCR-approved hash algorithm and include this information with the transfer (accomplished by using Bagger tool).
2. The custodian of the electronic records must check them for computer viruses.
3. The file's metadata should also be included in the transfer.²
4. Transfer of records should be accompanied by the index information set out in [G.S. §132.6.1](#)

Using Bagger for Electronic Records Transfer

Per the Administrative Code, [07 NCAC 04M.0503](#), SANC uses a data transfer and authentication tool to transfer records. Currently, SANC uses Bagger, a tool developed by the Library of Congress to verify the integrity and authenticity of electronic records prior to and after they have been transferred. The Bagger tool:

- Packages files into a single directory
- Creates a manifest of checksums (unique identifiers) for each file
- Creates a subdirectory that contains the actual files and data
- Packages the file structure of an entire directory.

By using Bagger, SANC can validate the records' integrity, confirm that the files are unchanged bit-for-bit by the transfer, and by capturing the file structure allow SANC to identify and store the files following the transfer.

Bagger must be used prior to file transfer so that the files may be validated after they have been transferred, as required by [07 NCAC 04M.0503](#). If the files are not bagged before transfer, SANC cannot provide any proof as to the integrity and authenticity of them. Using Bagger ensures that the records are transferred completely and accurately. If SANC staff finds that the files are corrupted during the transfer, SANC will contact the transferring agency to repeat the process.

More information about data transfer guidelines can be found by reviewing our [Data and Electronic Records Transfer Standard](#) (http://archives.ncdcr.gov/Portals/26/PDF/guidelines/DataErecsTransferStandard_20141204_draft.pdf).

SANC can provide you with flash drives with Bagger already configured, or you may choose to download and configure Bagger on your machine prior to transfer. For step-by-step instructions about installing and using Bagger, please see our [Bagger user guide](#).

² Metadata includes complete and intact e-mail header information, sidecar metadata (any other files containing information about the file), spreadsheets or databases used to track a project or file, and any information created by geolocation data or an image editing program. For more information on metadata see:

http://archives.ncdcr.gov/Portals/26/PDF/guidelines/Metadata_Guidelines.pdf.

- **Bagger User Guide:** http://archives.ncdcr.gov/Portals/26/PDF/guidelines/Using_Bagger.pdf
- **Bagger Tutorial Video:**

If agencies have packaged files using the Bagger tool themselves, they should place the bagged files on a portable hard drive or flash drive to be mailed or delivered to the State Archives. The bagged files may also be transferred using a secure online file transfer program. Please contact your records analyst if you have any questions about how to transfer files.

Deleting Files

Once State Archives staff has validated the transfer of files, you will be contacted and instructed to delete the “For Archives” folder. The [Administrative Code](#) 07 NCAC 4M. 0510 defines electronic records destruction as overwriting, unlinking and deletion of data and metadata so that they cannot be reconstructed. For more information about records destruction, please contact the State Archives.

The agency should also retain documentation of the transfer in office permanently as a part of its Records Management File, Item G41 of the General Schedule,

http://archives.ncdcr.gov/Portals/26/PDF/schedules/schedules_revised/GS_2015_05_01_final.pdf.

References

North Carolina General Assembly, “General Statutes, G.S. 132.” Last Modified 1995. Accessed January 23, 2015.
<http://www.ncleg.net/gascripts/statutes/statutelookup.pl?statute=132>

North Carolina Administrative Code, “07 NCAC 04M. 0503 Procedures for Transfers of Records. Last Modified 2014. Accessed January 23, 2015. <http://reports.oah.state.nc.us/ncac/title%2007%20-%20cultural%20resources/chapter%2004%20-%20archives%20and%20history/subchapter%20m/07%20ncac%2004m%20.0503.pdf>