

Storage Standard

Standard for the Storage of Records and Archives

JUNE 2007

ISSUED UNDER THE PUBLIC RECORDS ACT 2005, SECTION 27

THIS STANDARD IS MANDATORY FOR ALL PUBLIC OFFICES EXCEPT
SCHOOLS, ALL LOCAL AUTHORITIES, AND ALL APPROVED REPOSITORIES.

IT IS DISCRETIONARY FOR STATE AND INTEGRATED SCHOOLS.





Executive Summary

This standard sets minimum requirements for storage of physical records and archives under the Public Records Act 2005. Its purpose is to support and encourage government recordkeeping.

The standard applies to physical records such as paper files, photographs, microfilms, maps and plans. It does not apply to digital records.

The standard applies to central and local government records only.

The standard applies whether records are in active use, are held in storage for occasional use, are allowed to be destroyed, or must be kept because they are of archival value.

The standard is mandatory for all of central and local government, except schools. It is also mandatory for community archives which have been approved to hold government records.

To comply with this standard, you must make sure that:

- Records are controlled so that they are able to be identified and retrieved easily, without damage or loss.
- Records that are not in active use are stored in facilities that enable access and ensure preservation for as long as they are required.
- Disaster management programmes are established and maintained to minimise risks.
- Records are secure against theft, vandalism, misuse, or inadvertent release.
- Records are protected through appropriate packaging and shelving or storage equipment.
- Records are stored in environmental conditions which will ensure they are preserved for as long as they are required.

The standard contains a checklist to help you measure your compliance. If you have any questions, Archives New Zealand can advise on what is required in particular cases.

Chief Executive and Chief Archivist

Signed:



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Acknowledgements

The original version of this standard was developed during 1999-2000 by Evelyn Wareham, Archives Analyst at Archives New Zealand, with advice and guidance from a working party comprising:

- Jocelyn Cuming, National Preservation Officer, National Preservation Office / Te Tari Tohu Taonga, National Library of New Zealand
- Jonathan London, Head of Preservation Services, Archives New Zealand
- Russell McCartney, Branch Manager, Recall Total Information Management
- Jenny McDonald, Information Services Manager, and Jackie Jean, Information Management Adviser, Land Information New Zealand.

This revised version of the standard was developed during 2006-2007 by Patrick Power and Kate Jones, Archives Analysts in the Government Recordkeeping Programme at Archives New Zealand, in collaboration with an advisory group comprising:

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- Frans van Straaten, Manager Business Assurance, PricewaterhouseCoopers.

The Chief Archivist acknowledges the advice and guidance of the working party and advisory group members, which has been central to the development of this standard.

The storage principles in this standard are drawn from international best practice. In particular, the standard draws on British Standard *BS 5454-2000: Recommendations for the Storage and Exhibition of Archival Documents*, International Standard *ISO 11799-2003: Information and Documentation – Document Storage Requirements for Archive and Library Materials*, International Standard *ISO 15489-2001: Information and Documentation — Records Management*, and the Canadian Conservation Institute's *Technical Bulletin No. 23: Guidelines for Humidity and Temperature in Canadian Archives, 2000*.

The standard was also informed by government storage standards issued by the National Archives of Australia and the State Records Authority of New South Wales. The Chief Archivist gratefully acknowledges their assistance in preparing this standard.

Contents

1	Introduction	1
1.1	Purpose	1
1.2	Scope	1
1.3	Relationship with Other Processes and Standards	2
1.4	Advice and Guidance	3
2	Mandate and Responsibilities	4
2.1	Application	4
2.2	Benefits of Compliance	5
2.3	Responsibilities	6
2.4	Exemptions	6
2.5	Legislative Basis	7
3	Overview of Requirements	8
3.1	Risk Management	8
3.2	Requirements for Active Records	8
3.3	Requirements for Inactive Records	9
3.4	Requirements for Archives	10
4	Principles	11
	Principle 1: Identification and Control	11
	Principle 2: Facilities	12
	Principle 3: Protection against Disaster	14
	Principle 4: Security	15
	Principle 5: Shelving and Packaging	16
	Principle 6: Environmental Control	17
5	Glossary	19
6	Appendix: Checklist of Minimum Requirements	22

1. Introduction

This standard specifies minimum requirements for storage of physical records and archives under the Public Records Act 2005. It was developed by Archives New Zealand to ensure the preservation and proper management of New Zealand government records over time.

The standard is the Chief Archivist's interpretation of those sections of the Public Records Act 2005, which impose statutory responsibilities for the protection and preservation of physical records and archives.

1.1 Purpose

The purpose of this standard is to support and improve government recordkeeping. Its goals are:

- to specify minimum requirements for storage of public records and local authority records, in order to ensure their safe care and custody
- to enable assessment of storage facilities, including commercial facilities.

The outcome of these goals will be the preservation of government records for as long as they are required, in order to allow future retrieval and use.

The safe care and custody of records from their creation enables the retention of official records which document the actions and decisions of New Zealand central and local government and the rights of the public. It ensures that those records which are authorised for destruction are managed efficiently, and that records which have significant ongoing value survive, and are preserved as archives.

The rights of Māori to their recorded knowledge, which is a taonga in the terms of the Treaty of Waitangi, should be respected when this knowledge is incorporated into government records and archives. The standard aims to support Māori cultural practice regarding care of records by encouraging protection of sensitive information and the long-term preservation of valued records.

1.2 Scope

1.2.1 Physical, Not Digital Records

This standard applies to physical records. That is, it applies to physical objects which have been used to record information. Examples of common types of physical records are:

- paper files and documents
- volumes and registers
- photographic media including photographs, film, microforms, and x-rays
- maps, plans, and drawings
- magnetic media such as floppy disks, digital tape, video and audio cassettes
- optical disks such as CDs and DVDs.

The standard does not apply to digital records. It does specify minimum requirements for the physical storage of digital media such as floppy disks, digital tape, CDs, and DVDs. However, because digital records are not permanently linked to their physical media, their preservation involves a different set of principles and conditions to that of physical records.

At the present time, most local authorities and public offices manage recordkeeping systems that contain both digital and physical records. For instance, physical paper documents may be registered and controlled by an electronic database. This standard applies only to the storage of the physical records within such a system.

1.2.2 Central and Local Government Records

The standard applies to central and local government records which are physical records, regardless of their location or disposal status. It applies to:

- records which are still in active use within public offices or local authorities
- records which are held in storage for occasional use
- records held by third parties such as contractors or commercial storage providers
- records appraised as having archival value
- records which have been authorised for destruction after a finite period
- records which have not yet been appraised.

In the terms of the Public Records Act 2005, the standard applies to all physical records which are public records, public archives, local authority records, or local authority archives.

1.3 Relationship with Other Processes and Standards

Storage interacts with other recordkeeping processes. Under the Public Records Act 2005, public offices and local authorities must create full and accurate records of their activities, and ensure that those records are captured into systems which will maintain them in accessible form for as long as they are required. These systems will include proper storage.

Under the Public Records Act 2005, disposal of public records and local authority records must be approved by the Chief Archivist. Records which are appraised to be of archival value will eventually be transferred to an archive, where they will be kept for the long-term. Records which are appraised to be of short-term value will be stored until the end of their retention period, and then be disposed of.

At any time during these processes, the records may be requested by a user, and it will be necessary to provide access to them.

Requirements for these processes are outlined in other publications issued by Archives New Zealand. These include:

- the list of local authority protected records (usually known as the *Local Government Schedule*), which specifies which local authority records must be protected and preserved. This is available on Archives New Zealand's website at <http://www.archives.govt.nz/continuum/>
- disposal authorities for public records, including the *General Disposal Authorities*. These documents specify which public records must be preserved and for how long. Copies of current disposal authorities are available in Archives New Zealand's Archway system at <http://www.archway.archives.govt.nz/>
- recordkeeping standards, including the *Access Standard*, the *Appraisal Standard*, the *Electronic Recordkeeping Systems Standard*, and the *Digitisation Standard*. These standards will be updated and revised over time. An up-to-date list can be found on Archives New Zealand's website at <http://www.archives.govt.nz/continuum/>.

Public offices and local authorities creating health records should also be aware of the New Zealand standard on health records, *NZS 8153:2002*, which gives some guidance on creation and maintenance of these records.

1.4 Advice and Guidance

This standard sets out to clearly specify minimum requirements for storage. Further information on storage of physical records will be available in the separate Archives New Zealand publication *A Guide to Best Practice in Storage* (forthcoming).

Advice and technical guidance on implementation is available from Archives New Zealand:

Government Recordkeeping Programme
Archives New Zealand
PO Box 12050, Wellington 6144
Telephone: 04-499 5595
Email: rkadvice@archives.govt.nz

The National Preservation Office are also available to assist:

National Preservation Office
National Library of New Zealand
PO Box 1467, Wellington 6140
Telephone: 04-474 3000
Email: preservation@natlib.govt.nz

✂ 2. Mandate and Responsibilities

This standard is issued under section 27 of the Public Records Act 2005. The standard is mandatory for all public offices except schools, for all local authorities, and for repositories approved under section 26 of the Act.

Public offices, local authorities, and approved repositories are now expected to be working towards compliance with the standard. Full compliance with all requirements in the standard will be expected from 1 January 2010.

2.1 Application

The standard is mandatory for:

- public service and non-public service departments
- offices of parliament
- crown entities, including district health boards and tertiary education institutions
- crown entity companies, including crown research institutes
- state enterprises
- regional councils
- territorial authorities
- council-controlled organisations
- council-controlled trading organisations
- local government organisations
- repositories for public archives approved under section 26 of the Public Records Act 2005.

The standard is discretionary for:

- state and integrated schools.

2.2 Benefits of Compliance

This standard aims to support and improve government recordkeeping, by clearly specifying what is expected from public offices, local authorities, and approved repositories with respect to storage of physical records and archives. The benefits of compliance with the standard may include:

- improved access to corporate information over time
- improved security for corporate information over time
- reduced risk of damage, loss, or destruction of records
- increased ability to demonstrate accountability, through the retention and preservation of records which document actions and decisions
- increased public confidence in the integrity of an organisation's records over time
- preservation of vital records in a disaster, so that an organisation can continue to function
- preservation of organisational records of historical and cultural value, through their transfer to archival repositories
- avoidance of the costly conservation treatment that may be required if records are damaged.

2.3 Responsibilities

Responsibility for compliance with the standard rests with the administrative head of each public office, approved repository, or local authority. However, the effective implementation of this standard will depend on responsibilities being assigned for effective recordkeeping within each organisation.

Records that are subject to this standard may be held by third parties such as contractors or commercial storage providers. Therefore, contracts with such third parties must take account of this standard.

Under the Public Records Act 2005, there are a number of mechanisms to encourage compliance with these responsibilities:

- Under s26 and s29, the Chief Archivist has the power to inspect public records or local authority records and their storage.
- Under s31, the Chief Archivist may direct a public office or an approved repository to report on any aspect of its recordkeeping practice.
- Under s33-35, the Chief Archivist must commission independent recordkeeping audits of every public office, and reports on these audits will be presented to Parliament. These audits will start in 2010, and will measure compliance with requirements in this standard.
- Under s61, wilful or negligent damage of public records is an offence.

2.4 Exemptions

The Chief Archivist may grant exemptions from compliance with the standard, on certain terms and conditions. Appeals against these decisions may be made to the Minister responsible for Archives New Zealand, who may allow or disallow the appeal after consultation with the appropriate Minister and the Archives Council.

Organisations that wish to seek an exemption must write to the Chief Archivist.

2.5 Legislative Basis

The Public Records Act 2005, imposes the following responsibilities to ensure that public offices, local authorities, and Archives New Zealand care for the records they control (the full text of the Public Records Act 2005 and other New Zealand legislation is available online at <http://www.legislation.govt.nz/>).

s17 requires public offices and local authorities to create and maintain full and accurate records of their business activities, in accordance with normal, prudent business practice, including the records of any matter contracted out to a third party. It also requires maintenance of public records and local authority protected records in an accessible form.

s18 states that no person may dispose of public records or local authority protected records without authority from the Chief Archivist, unless disposal is required by or under another Act.

s21 provides for transfer of public records to Archives New Zealand.

s22 provides for deferral of transfer.

s26 allows for the Chief Archivist to approve repositories for public archives, and to set standards for such repositories so that public archives are properly maintained.

s27 allows for the Chief Archivist to issue standards in relation to public records and local authority records.

s30 outlines the process for gaining exemptions from compliance with standards.

s40 outlines requirements for protected records of local authorities.

Various other acts also support the need for a good standard of recordkeeping by public offices and local authorities in New Zealand. These include the following legislation:

- Official Information Act 1982.
- Local Government Official Information and Meetings Act 1987.
- Public Finance Act 1989.
- Resource Management Act 1991.
- Health and Safety in Employment Act 1992.
- Financial Reporting Act 1993.
- Privacy Act 1993.
- Copyright Act 1994.
- Tax Administration Act 1994.
- Electronic Transactions Act 2002.
- Building Act 2004.
- Evidence Act 2006.

✕ 3. Overview of Requirements

3.1 Risk Management

The overall framework for this standard is the management of risks to records in storage. These risks include events which may prevent access to records or allow unauthorised access to records, as well as events which may damage or destroy them. These risks should be managed in a way which is consistent with Australian/New Zealand Standard *AS/NZS 4360:2004 Risk Management*. Risk management will usually involve the following activities:

- Communication and consultation.
- Establishing the context. For records in storage, this will include identification of vital records and determination of retention periods.
- Assessing risks by identifying them, analysing their consequences and likelihood, and evaluating priorities for treatment. Indicative risks have been identified within each requirement.
- Treating or mitigating risks.
- Monitoring and review.

3.2 Requirements for Active Records

Active records are those records which are required for the day-to-day functioning of an organisation. Storage of these records must take account of the fact that these records are being used and added to regularly, in a variety of working environments.

The requirements which apply to active records are:

- Active records must be identified and controlled, so that they are able to be identified and retrieved easily (see requirements 1, 2).
- There must be procedures in place for retrieving and handling records (see requirement 3).
- Active records with restricted access must be identified and protected (see requirement 17).
- Active records must be protected from sunlight; and from magnetic fields, if they are recorded on magnetic media (see requirements 22, 23).
- Active records must be protected against disaster (see requirements 13-16).

3.3 Requirements for Inactive Records

Inactive records are those records which are no longer required for the conduct of business, and therefore, do not need to be kept in work areas. Storage of these records must be appropriate to ensure that the records survive in a useable form.

Requirements which apply to inactive records are:

- Inactive records must be identified and controlled, so that they are able to be identified and retrieved easily (see requirements 1, 2).
- There must be procedures in place for retrieving and handling records, and for returning records to off-site storage (see requirement 3).
- Inactive records with restricted access must be identified and protected (see requirement 17).
- Inactive records must be packaged and shelved appropriately (see requirements 20, 21).
- Inactive records must be appraised to determine their retention periods, and stored in a way which reflects their format and their retention period (see requirements 4, 25).
- Inactive records must be stored in a dedicated storage area. A dedicated storage area is an area designated for storage of records. It may be a free-standing building, a sole-purpose room within a building, or a designated area within a larger storage space (see requirement 5).
- The dedicated storage area for inactive records must allow ongoing access, have adequate drainage, be insulated from the climate outside, and be free of internal hazards. It must be in a building which complies with the building code and has a building maintenance programme (see requirements 5-12).
- The dedicated storage area for inactive records must keep records secure against theft, vandalism, misuse, or inadvertent release (see requirements 17-19).
- The dedicated storage area for inactive records must be clean, and protect the records from light. Records on magnetic media must be protected from magnetic fields (see requirements 22-24).
- Inactive records must be protected against disaster (see requirements 13-16).

3.3.1 Requirements for Inactive Records of Archival Value

Records of archival value are those inactive records which have been appraised and identified as having continuing value. This includes all records which will become public archives and all local authority protected records. Storage of these records must ensure that the records are preserved for future use.

All requirements for inactive records also apply to those of archival value. However, there are some additional requirements which apply to inactive records of archival value. These are:

- Inactive records of archival value must be identified and be stored in conditions which will preserve them. This means they must be stored in conditions where the relative humidity is between 30% and 60%, and the temperature below 25 degrees centigrade. Environmental conditions for these records must be monitored, and records of this monitoring must be kept (see requirements 4, 7, 26, 27, 30).

Note that it is expected that inactive records of archival value will be transferred to an archival repository as soon as is practical.

3.4 Requirements for Archives

For the purposes of this standard, archives are those records which have been appraised as having continuing value, and have been transferred to an archival repository. Under the Public Records Act 2005, transfer to an archive is generally required when records are 25 years old. Therefore this category includes all records over 25 years old, unless they have been determined not to be of archival value. Storage of these records must focus on preserving the records, particularly by ensuring a stable environment, and on providing archival access.

All requirements in this standard apply to archives. The additional requirements which apply only to archives are:

- Archives must be kept in a stable environment, where the temperature and humidity fluctuate as little as possible (see requirements 28-30).

✕ 4. Principles

The standard is structured around six principles which should be taken into account when storing records and archives. Each principle is followed by a statement of its objective and a list of minimum requirements, together with explanations of why these requirements are considered essential, and examples of the risks they mitigate. The principles are:

- > identification and control
- > facilities
- > protection against disaster
- > security
- > shelving and packaging
- > environmental control.

Principle 1: Identification and Control

Records are controlled so that they are able to be identified and retrieved easily, without damage or loss.

REQUIREMENT	EXPLANATION	EXAMPLES OF RISK
Requirement 1: Records must be identified and registered in a system which controls the records and allows efficient retrieval. <i>(Applies to all records and archives)</i>	This is a fundamental requirement which supports many of the other requirements in this standard. If records are not registered in a system such as an inventory or database it will be very difficult to manage them effectively.	Unable to retrieve or access records. Excessive time to retrieve records. Inability to control access.
Requirement 2: Records must be arranged in an orderly manner, and well managed so that order is maintained. <i>(Applies to all records and archives)</i>	Records must be arranged in a meaningful sequence, so that they can be located and retrieved when necessary.	Excessive time to retrieve records. Damage to records from excessive handling. Inability to control access.
Requirement 3: Procedures must be in place for retrieving, handling and reshelfing records, and for returning records to off-site storage. <i>(Applies to all records and archives)</i>	Proper handling will minimise damage or loss when items are accessed and returned to storage. Staff should be trained in these procedures and the effectiveness of the procedures should be checked regularly.	Damage due to inappropriate handling or packaging. Loss of records. Inability to control access or security. Inability to trace lost or missing records.
Requirement 4: Inactive records of archival value must be identified so that they can be stored appropriately. <i>(Applies to inactive records and archives)</i>	Some records, such as public archives or protected records of local authorities, must be preserved for long periods. These records should be identified as early as possible so that they can be managed in a way that will ensure their preservation.	Deterioration or loss of high value records over time due to inappropriate storage and environmental conditions.

Principle 2: Facilities

Records that are not in active use are stored in facilities that enable access and ensure preservation for as long as they are required.

REQUIREMENT	EXPLANATION	EXAMPLES OF RISK
<p>Requirement 5: Records that are not in active use must be stored in a dedicated storage area.</p> <p>(Applies to inactive records and archives)</p>	<p>Records that are in active use generally need to be stored where they are readily accessible to their creators and users. For this reason they are normally stored near to work areas.</p> <p>Records that are not in active use must be stored in a dedicated storage area which is used only for records. This may be a free-standing building, a sole-purpose room within a building, or a designated area within a larger storage space.</p> <p>The dedicated nature of the area is more important than its size.</p> <p>If inactive records are not stored in a dedicated storage area it will be more difficult to maintain suitable fire protection, security, and environmental controls.</p>	<p>Higher risk of sensitive records/ information being easily accessible if stored in high traffic work areas.</p> <p>Inactive records stored in work areas may not be accessible to other users requiring access to these records.</p> <p>Theft or vandalism.</p> <p>Deterioration from exposure to dust, dirt, sunlight, moisture, extremes of temperature and humidity while in an active work area.</p> <p>Damage through inappropriate handling.</p> <p>Damage or contamination from non-record material or equipment stored nearby.</p>
<p>Requirement 6: Storage areas must allow ongoing access to the records by authorised users.</p> <p>(Applies to inactive records and archives)</p>	<p>Records are stored in order to preserve them for future access. Records in storage must therefore continue to be accessible to authorised users, either through the physical location of the storage area or through other means, such as digitisation.</p>	<p>Inability to access the information in records.</p>
<p>Requirement 7: Records must be stored in locations which reflect the characteristics of their format and their retention period.</p> <p>(Applies to inactive records and archives)</p>	<p>Different types of records will require different storage equipment and different environmental conditions. Records which have been determined to be of archival value, such as public archives or local authority protected records should be stored in conditions which will minimise their deterioration over time.</p> <p>Some record formats – such as colour photographs – are less stable than others, and may require specialised storage. If these records are of archival value, they should be transferred to an archive as soon as possible.</p>	<p>Deterioration or loss of records over time due to inappropriate storage and environmental conditions.</p> <p>Inability to access records recorded on unstable media because of rapid deterioration.</p> <p>Inability to access records because equipment to read data is not available.</p>

<p>Requirement 8: The building in which records are stored must comply with the New Zealand Building Code that applied at the time of construction and associated codes and standards, and be appropriate for use in storing records.</p> <p>(Applies to inactive records and archives)</p>	<p>If a building does not comply with the Building Code, it may not be a safe place to store records. Even if a building does comply with the Building Code, it may still be inappropriate for storing records – for instance, if the floor loading is not sufficient to carry densely stored paper. Seek advice from a structural engineer or other qualified professional.</p>	<p>Damage/destruction of records due to:</p> <ul style="list-style-type: none"> ➤ collapse of the building in earthquakes or subsidence ➤ water damage and contamination from leaks or floods ➤ humidity and mould growth due to lack of ventilation ➤ fire risk. <p>High floor loadings may result in floors collapsing and damaging records.</p>
<p>Requirement 9: The building in which records are stored must have adequate drainage systems to prevent flooding.</p> <p>(Applies to inactive records and archives)</p>	<p>If a leak or flood occurs, the drainage system for the building must be able to dispose of the water without causing damage to the records.</p>	<p>Water damage due to floods or leaks.</p> <p>Humidity and mould growth.</p>
<p>Requirement 10: The storage area must be insulated from the climate outside.</p> <p>(Applies to inactive records and archives)</p>	<p>The environment within the storage area must be controlled to prevent damage to records from constant changes in temperature and relative humidity. To achieve this, gaps around door-frames, windows and elsewhere should be sealed, and windows should be avoided, or covered. The walls, roof and floor of the storage area should be constructed from materials which insulate the interior from rapid climatic changes.</p>	<p>Gradual deterioration due to lack of environmental control.</p> <p>Growth of mould in humid conditions.</p> <p>Embrittlement of paper due to low humidity.</p> <p>Cost of maintaining a stable environment without sealing or insulation.</p>
<p>Requirement 11: Storage areas must be protected against internal hazards.</p> <p>(Applies to inactive records and archives)</p>	<p>Internal hazards may include flammable finishes or furnishings, chemicals, electrical plants, overhead pipes (other than fire suppression systems) and other unnecessary plumbing. If storage areas contain such hazards this places records at increased risk.</p>	<p>Fire risk.</p> <p>Floods due to burst or blocked pipes, or storage below flood line.</p> <p>Contamination from chemicals or sewerage.</p>
<p>Requirement 12: A building maintenance programme must be in place.</p> <p>(Applies to inactive records and archives)</p>	<p>A building maintenance programme will ensure regular inspection for risks and prompt repairs when problems are identified.</p>	<p>Failure of equipment and facilities.</p> <p>Floods from blocked pipes or gutters.</p> <p>Gradual damage from slow leaks.</p>

Principle 3: Protection against Disaster

Disaster management programmes are established and maintained to minimise risks.

REQUIREMENT	EXPLANATION	EXAMPLES OF RISK
Requirement 13: Records are located as far as possible from natural and man-made hazards. (Applies to all records and archives)	Much of New Zealand is vulnerable to disasters such as floods, earthquakes, rural fires, and volcanic eruptions. Disasters for records can also include less dramatic incidents which are just as damaging, such as leaks, spills or insect infestations. Records storage facilities should be located as far as possible from natural and man-made hazards. Because in New Zealand it is often not possible to store records away from natural hazards, provision must be made to minimise the associated risks.	Physical damage from earthquakes, subsidence, or volcanic eruptions. Water damage from floods, leaks and tsunamis. Fires and explosions in adjacent sites. Places or buildings which attract rodents, insects, and other pests. Plants, installations, or geothermal areas emitting harmful gases, smoke, or dust.
Requirement 14: A disaster management plan and procedures must be in place, kept current, and known to staff. (Applies to all records and archives)	A disaster management plan and procedures specify how records will be protected from disaster. The plan will include information about disaster prevention, preparedness, hazard identification, response and recovery. To be useful, the plan must be tested and reviewed at regular intervals to keep it up to date. Staff should be familiar with the plan, so that they are able to follow it.	Loss of records due to delayed response or preventable risk. Damage to records from inappropriate response or recovery activity.
Requirement 15: Staff who are responsible for records must be trained in emergency procedures to protect and salvage the records. (Applies to all records and archives)	Training in emergency procedures will ensure that records are not damaged by delays, or by the salvage process itself.	Loss of records due to delayed response. Damage to records from inappropriate response or recovery activity.
Requirement 16: There must be a comprehensive fire protection system and equipment for the building, in compliance with the New Zealand Building Code. (Applies to all records and archives)	Minimising the risk of fire is essential to ensure the survival of records. Comprehensive fire detection and suppression systems, such as sprinklers, alarms, heat and smoke detection and extinguishing equipment, should be provided in accordance with the provisions of the New Zealand Building Code and the compliance documents produced by the Department of Building and Housing.	Loss of records in a fire. Damage to records from exposure to heat and smoke. Extensive water damage.

Principle 4: Security

Records are secure against theft, vandalism, misuse, or inadvertent release.

REQUIREMENT	EXPLANATION	EXAMPLES OF RISK
<p>Requirement 17: Records which contain sensitive or classified information must be identified and protected.</p> <p>(Applies to all records and archives)</p>	<p>Records may contain information which is private, of commercial, political, or cultural sensitivity, or security classified. There must be procedures in place for identifying these records and ensuring they are protected.</p> <p>More information on identification and appropriate management of sensitive records will be available in the accompanying <i>Guide to Best Practice in Storage</i> (forthcoming).</p> <p>General advice on security is available from the <i>Security in the Government Sector</i> website at http://www.security.govt.nz/. The physical security section of the New Zealand Security Intelligence Service is also available for consultation on protective security matters.</p>	<p>Unauthorised or inappropriate release of classified information.</p> <p>Inability to protect private or sensitive material.</p> <p>Inappropriate use of culturally sensitive material.</p>
<p>Requirement 18: Access to records storage areas must be controlled and restricted to authorised staff.</p> <p>(Applies to inactive records and archives)</p>	<p>All records require a basic level of security to ensure their authenticity and integrity, and to prevent misuse. Security is a requirement of the Privacy Act 1993, which requires personal information to be secure against access, modification, or misuse. In many cases normal building security measures that prevent public access to administration areas will be sufficient.</p> <p>Controls should also be applied when records are stored by third parties such as commercial storage providers.</p>	<p>Theft, vandalism or misuse of records.</p>
<p>Requirement 19: Storage areas must be intruder resistant and have an intruder alarm system.</p> <p>(Applies to inactive records and archives)</p>	<p>To minimise the risk of theft or vandalism, storage areas should be intruder resistant.</p> <p>Where the storage area is a free-standing building, this means that the number of entrances should be minimised, the perimeter should be well lit, and there should be no windows. Where there are existing windows, these should be covered. There should be a monitored intruder alarm system, and the building should ideally have 24 hour physical or electronic surveillance.</p> <p>Where the storage area is a room or space within a larger building, security measures for the whole building may satisfy this requirement.</p>	<p>Theft, vandalism or misuse of records.</p>

Principle 5: Shelving and Packaging

Records are protected through appropriate packaging and shelving or storage equipment.

REQUIREMENT	EXPLANATION	EXAMPLES OF RISK
<p>Requirement 20: Records must be stored using shelving or equipment appropriate to the format and size of the items.</p> <p>(Applies to all records and archives)</p>	<p>Records should not be stored on the floor, as this increases the risk of damage from floods, leaks, and dampness.</p> <p>Suitable shelving or storage equipment enhance safe access to records, while providing overall support to items and protecting them from physical, chemical and mechanical damage.</p>	<p>Mould or water damage due to flooding or rising damp.</p> <p>Shelf collapse in an earthquake or flood.</p> <p>Breaking, tearing, or other physical damage to records.</p> <p>Strain, distortion and tearing due to lack of support.</p> <p>Inability to access without causing damage.</p>
<p>Requirement 21: Inactive records of archival value must be packaged in containers which are clean, in good condition and appropriate to the format and retention period of the records.</p> <p>(Applies to inactive records of archival value, and archives)</p>	<p>Suitable packaging protects records against incidental damage through handling, helps to produce stable environmental conditions, and reduces water and fire damage in cases of disaster.</p> <p>Containers need to be clean and in good condition, designed to fit the records, strong enough to withstand handling, pressure and the weight of the records, and suitable for the records format, value and use. Materials used for storage of records of archival value should be chemically stable over time, and should not initiate any reaction which would affect the records.</p>	<p>Water or fire damage.</p> <p>Breaking, tearing, or other damage from incidental handling.</p> <p>Gradual physical damage from dust, light, and environmental variation.</p> <p>Chemical and physical damage from inappropriate packaging.</p> <p>Strain, distortion, or tearing due to lack of support within containers.</p>

Principle 6: Environmental Control

Records are stored in environmental conditions which will ensure they are preserved for as long as they are required.

REQUIREMENT	EXPLANATION	EXAMPLES OF RISK
Requirement 22: Records must be stored away from light. (Applies to all records and archives)	All forms of light can damage records, in particular ultraviolet radiation which is present in sunlight. Protecting active records from direct sunlight, and minimising illumination in storage areas, are therefore simple and effective ways to reduce damage.	Records are damaged by prolonged exposure to direct sunlight. Records cannot be read or used because of fading and ageing. Records can no longer be used because of structural damage and embrittlement.
Requirement 23: Magnetic media must be stored away from magnetic fields. (Applies to all records and archives)	Magnetic media include video, audio and computer tape, floppy and hard disks. Power supplies, electricity generators, cables and lightening conductors may generate magnetic fields which can distort or erase the data on such media.	Erasure of disks or tapes resulting in data loss.
Requirement 24: Storage areas must be kept clean. (Applies to inactive records and archives)	All records should be stored in an environment which is free of pests, such as insects and rodents. Dirt, dust and food encourage pests, and increase the risks of damage. Records which are dirty and dusty are also less likely to be consulted or cared for.	Neglect or abandonment. Infestation by rats, mice, or insects.
Requirement 25: Records of short-term value must be stored in conditions which ensure preservation until they are no longer required. (Applies to inactive records)	Records which are of short-term value may be disposed of after a finite period because they have been appraised not to be of archival value. Storage requirements for these records should be determined based on the format of the record and on how long it must be kept.	Damage to records stored in unsuitable conditions.

<p>Requirement 26: Inactive records of archival value must be stored in conditions where the relative humidity is never above 60% or below 30%. (Applies to inactive records of archival value, and archives)</p>	<p>Dormant mould spores are always present in the environment. Active mould growth is more likely to occur above 60% relative humidity.</p> <p>Relative humidity below 30% is very dry and causes damage, such as embrittlement and loss of strength in paper records.</p>	<p>Mould growth leads to physical weakening, tears, and loss of information from staining.</p> <p>Inks running, warping and distortion of records due to high relative humidity.</p> <p>Delamination of composite records due to low relative humidity.</p> <p>Damage from handling brittle or weakened records.</p>
<p>Requirement 27: Inactive records of archival value must be stored in conditions where the temperature is never above 25 degrees centigrade. (Applies to inactive records of archival value, and archives)</p>	<p>High temperatures increase the chemical reactions in records that hasten deterioration.</p>	<p>Increased physical weakness of records, leading to handling damage, tears and losses.</p>
<p>Requirement 28: Archives must be stored in conditions where the relative humidity does not fluctuate by more than 10% in a 24 hour period, or 20% in a year. (Applies to archives)</p>	<p>Constant, rapid fluctuations in relative humidity cause records to absorb and release moisture. This places stress on the record, increases the rate of deterioration and shortens the life of the record.</p> <p>Gradual seasonal variations in relative humidity are not as detrimental as rapid fluctuations, but still need to be controlled to avoid extremes in relative humidity.</p>	<p>Increased physical weakness of records, leading to handling damage, tears and losses.</p> <p>Reduced record lifetime.</p>
<p>Requirement 29: Archives must be stored in conditions where the temperature does not fluctuate by more than 4 degrees centigrade over a 24 hour period, or 10 degrees centigrade over a year. (Applies to archives)</p>	<p>Fluctuations in temperature increase the chemical reactions in records that hasten deterioration.</p> <p>Fluctuations in temperature influence fluctuations in relative humidity.</p>	<p>Increased physical weakness of records, leading to handling damage, tears and losses.</p> <p>Reduced record lifetime.</p>
<p>Requirement 30: Environmental conditions for records of archival value must be regularly monitored, and records of monitoring must be kept. (Applies to inactive records of archival value, and archives)</p>	<p>Temperature and relative humidity levels must be monitored, so that problems with the storage environment can be identified and managed.</p> <p>Thermohygrographs or data loggers are recommended as relatively simple means to monitor temperature and humidity, but should be operated by trained staff, following the manufacturer's instructions.</p> <p>Thermohygrographs require regular calibration.</p>	<p>Lack of timely identification of unfavourable conditions could result in long periods of exposure of records to inadequate conditions.</p>

5. Glossary

Access:

The right, opportunity or means of finding, using, or retrieving information.

Active records:

Those records required for the day-to-day functioning of an agency or person.
Also referred to as current records.

Appraisal:

The process of evaluating records to determine which are to be retained as archives, which are to be kept for specified periods and which will be destroyed. This step should precede a disposal decision.

Archives:

For the purposes of this standard, archives are those records which have been appraised as having continuing value, and have been transferred to an archival repository. Under the Public Records Act 2005, transfer to an archive is generally required when records are 25 years old. Therefore, this category includes all records over 25 years old, unless they have been determined not to be of archival value.

Classified information:

Information which has been classified in accordance with the publication *Security in the Government Sector*, available at <http://www.security.govt.nz/>.

Data logger:

A small computer which saves or 'logs' temperature and humidity readings over a designated period. A computer and commercially available software are required to download and analyse the data generated.

Digital records:

A record communicated and maintained by means of digital computer technology.

Format:

The physical medium in which information is recorded or carried, e.g. paper files, computer printouts, photographs, microfilm, machine-readable records, plans, cards, volumes, etc.

Humidity:

The concentration of moisture in the atmosphere. See also relative humidity.

Inactive records:

Those records no longer required for the conduct of business and which may therefore be transferred to intermediate storage, archival custody or destroyed.

Local authority:

A regional council or territorial authority. Under the Public Records Act 2005, this includes: (i) a council-controlled organisation; (ii) a council-controlled trading organisation; and (iii) a local government organisation.

Local authority archive:

A local authority record that is no longer in current use by the controlling local authority; or has been in existence for 25 years or more (whether or not in current use). Also includes protected records and local authority records that the controlling local authority resolves are worth permanent preservation.

Local authority record:

A record or class of records in any form, in whole or in part, created or received... by a local authority in the conduct of its affairs.

Local authority protected record:

A local authority record declared by the Chief Archivist to be a protected record by notice in the *New Zealand Gazette*. A local authority must provide for the adequate protection and preservation of its protected records. Protected records must not be disposed of without the authorisation of the Chief Archivist. The list of local authority protected records is known as the 'Local Government Schedule'.

Physical record:

A physical object which has been used to record information. Examples of common types of physical records are paper files and documents; volumes and registers; photographic media including photographs, film, microforms, and x-rays; maps, plans, and drawings; magnetic media such as floppy disks, digital tape, video and audio cassettes; and optical disks such as CDs and DVDs.

Protected record:

See local authority protected record.

Public archive:

A public record that is under the control of the Chief Archivist.

Public office:

The legislative, executive and judicial branches of the Government of New Zealand and their agencies or instruments, including departments, offices of parliament, state enterprises, crown entities, the Police, Defence Force, and the Security Intelligence Service. Crown entities include district health boards, school boards of trustees and tertiary education institutions.

Public records:

A record created or received by a public office in the conduct of its affairs. This includes records declared to be public records by the Governor-General and estray records. This does not include special collections (records collected for purposes such as research) or records created by the academic staff or students of a tertiary education institution, unless the records have become part of the records of that institution.

Recordkeeping:

The creation and maintenance of complete, accurate and reliable evidence of business transactions in the form of recorded information.

Records of archival value:

For the purposes of this standard, records of archival value are those records that have been appraised as having continuing value, but have not yet been transferred to an archive. This includes all records which will become public archives and all local authority protected records.

Relative humidity:

The ratio, expressed as a percentage, of the amount of water vapour present in the atmosphere to the amount required to saturate it at the same temperature. In a closed environment, relative humidity varies inversely with temperature.

Short-term records/records of short term value:

For the purposes of this standard, short-term records are those records which may be disposed of after a finite period, because they have been appraised not to be of archival value.

Storage:

The function of storing records for future retrieval and use.

Storage area:

For the purposes of this standard, a storage area is an area designated for storage of records. It may be a free-standing building, a sole-purpose room within a building, or a designated area within a larger storage space.

Thermohygrograph:

A scientific instrument which records temperature and relative humidity over a period of time, generally daily or weekly. Also referred to as hygrothermograph.

Vital records:

Those records that are essential for the ongoing business of an agency, and without which the agency could not continue to function effectively. The identification and protection of such records is a primary object of records management and disaster planning.

✕ 6. Appendix: Checklist of Minimum Requirements

This checklist is a tool for managing risks to records in storage. It can be used to assess compliance with the standard. Where a requirement is not met, an organisation must assess and treat the storage risks involved over time.

PRINCIPLE/REQUIREMENT	YES	NO	IF NO, WHAT RISKS EXIST?	ACTIONS REQUIRED TO TREAT RISKS
Principle 1: Identification and Control <i>Records are controlled so that they are able to be identified and retrieved easily, and to prevent damage or loss.</i>				
Requirement 1: Records must be identified and registered in a system which controls the records and allows efficient retrieval. (Applies to all records and archives)				
Requirement 2: Records must be arranged in an orderly manner, and well managed so that order is maintained. (Applies to all records and archives)				
Requirement 3: Procedures must be in place for retrieving, handling and reshelving records, and for returning records to off-site storage. (Applies to all records and archives)				
Requirement 4: Inactive records of archival value must be identified so that they can be stored appropriately. (Applies to inactive records and archives)				

PRINCIPLE/REQUIREMENT	YES	NO	IF NO, WHAT RISKS EXIST?	ACTIONS REQUIRED TO TREAT RISKS
Principle 2: Facilities <i>Records that are not in active use are stored in facilities that enable access and ensure preservation for as long as they are required.</i>				
Requirement 5: Records that are not in active use must be stored in a dedicated storage area. (Applies to inactive records and archives)				
Requirement 6: Storage areas must allow ongoing access to the records by authorised users. (Applies to inactive records and archives)				
Requirement 7: Records must be stored in locations which reflect the characteristics of their format and their retention period. (Applies to inactive records and archives)				
Requirement 8: The building in which records are stored must comply with the New Zealand Building Code that applied at the time of construction and associated codes and standards, and be appropriate for use in storing records. (Applies to inactive records and archives)				

PRINCIPLE/REQUIREMENT	YES	NO	IF NO, WHAT RISKS EXIST?	ACTIONS REQUIRED TO TREAT RISKS
Requirement 9: The building in which records are stored must have adequate drainage systems to prevent flooding. (Applies to inactive records and archives)				
Requirement 10: The storage area must be insulated from the climate outside. (Applies to inactive records and archives)				
Requirement 11: Storage areas must be protected against internal hazards. (Applies to inactive records and archives)				
Requirement 12: A building maintenance programme must be in place. (Applies to inactive records and archives)				
Principle 3: Protection against Disaster <i>Disaster management programmes are established and maintained to minimise risks.</i>				
Requirement 13: Records are located as far as possible from natural and man-made hazards. (Applies to all records and archives)				
Requirement 14: A disaster management plan and procedures must be in place, kept current, and known to staff. (Applies to all records and archives)				

PRINCIPLE/REQUIREMENT	YES	NO	IF NO, WHAT RISKS EXIST?	ACTIONS REQUIRED TO TREAT RISKS
Requirement 15: Staff who are responsible for records must be trained in emergency procedures to protect and salvage the records. (Applies to all records and archives)				
Requirement 16: There must be a comprehensive fire protection system and equipment for the building, in compliance with the New Zealand Building Code. (Applies to all records and archives)				
Principle 4: Security <i>Records are secure against theft, vandalism, misuse, or inadvertent release.</i>				
Requirement 17: Records which contain sensitive or classified information must be identified and protected. (Applies to all records and archives)				
Requirement 18: Access to records storage areas must be controlled and restricted to authorised staff. (Applies to inactive records and archives)				
Requirement 19: Storage areas must be intruder resistant and have an intruder alarm system. (Applies to inactive records and archives)				

PRINCIPLE/REQUIREMENT	YES	NO	IF NO, WHAT RISKS EXIST?	ACTIONS REQUIRED TO TREAT RISKS
Principle 5: Shelving and Packaging <i>Records are protected through appropriate packaging and shelving or storage equipment.</i>				
Requirement 20: Records must be stored using shelving or equipment appropriate to the format and size of the items. (Applies to all records and archives)				
Requirement 21: Inactive records of archival value must be packaged in containers which are clean, in good condition and appropriate to the format and retention period of the records. (Applies to inactive records of archival value, and archives)				
Principle 6: Environmental Control <i>Records are stored in environmental conditions which will ensure they are preserved for as long as they are required.</i>				
Requirement 22: Records must be stored away from light. (Applies to all records and archives)				
Requirement 23: Magnetic media must be stored away from magnetic fields. (Applies to all records and archives)				
Requirement 24: Storage areas must be kept clean. (Applies to inactive records and archives)				

PRINCIPLE/REQUIREMENT	YES	NO	IF NO, WHAT RISKS EXIST?	ACTIONS REQUIRED TO TREAT RISKS
Requirement 25: Records of short-term value must be stored in conditions which ensure preservation until they are no longer required. (Applies to inactive records)				
Requirement 26: Inactive records of archival value must be stored in conditions where the relative humidity is never above 60% or below 30%. (Applies to inactive records of archival value, and archives)				
Requirement 27: Inactive records of archival value must be stored in conditions where the temperature is never above 25 degrees centigrade. (Applies to inactive records of archival value, and archives)				
Requirement 28: Archives must be stored in conditions where the relative humidity does not fluctuate by more than 10% in a 24 hour period, or 20% in a year. (Applies to archives)				
Requirement 29: Archives must be stored in conditions where the temperature does not fluctuate by more than 4 degrees centigrade over a 24 hour period, or 10 degrees centigrade over a year. (Applies to archives)				

PRINCIPLE/REQUIREMENT	YES	NO	IF NO, WHAT RISKS EXIST?	ACTIONS REQUIRED TO TREAT RISKS
Requirement 30: Environmental conditions for records of archival value must be regularly monitored and records of monitoring must be kept. (Applies to inactive records of archival value, and archives)				



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