



Authentication of Hardcopy and Electronic Professional Documents

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Introduction

This publication was prepared by The Association of Professional Engineers and Geoscientists of Manitoba.

The emphasis in this publication is on the authentication of documents to indicate professional responsibility for technical or professional matters. It is intended that formal confirmation of responsibility be a key step in the quality control procedures employed by an individual or an organization authorized to practice professional engineering or professional geoscience.

The basic purpose of authenticating a document (sometimes referred to as 'sealing') is to identify work that has been performed by or under the supervision of a professional. As a process of quality control, authentication is as applicable to documents produced for use 'in house' by a professional's employer as it is to documents produced for an outside client.

If a consulting service is being provided, either by a Sole Practitioner or a Practicing Entity, the provider must have a Certificate of Authorization and must apply its Certificate of Authorization stamp to documents in accordance with the Act and by-laws.

Requirements of the Act , By-laws, and Code of Ethics

The Engineering and Geoscientific Professions Act, by-laws, and Code of Ethics spell out the authentication process by members and licensees.

This document is based on The Engineering and Geoscientific Professions Act (November 30, 2005 amendment); by-laws (effective December 10, 2010), and Code of Ethics (effective May 9, 2000).

The Engineering and Geoscientific Professions Act

The relevant sections of the Act are as follows:

Seal by members

[26\(1\)](#) Every member shall be issued an electronic seal, a manual seal or both an electronic seal and a manual seal and the member shall validate or impress his or her seal, as prescribed by the by-laws, on every engineering or geoscientific estimate, specification, report, working drawing, plan and other engineering document issued by the member.

Ownership of seal

[26\(2\)](#) Each seal issued by the association shall remain the property of the association and shall be returned to the registrar upon the suspension or cancellation of registration or removal from the register for any reason.

Seal by temporary licensees

[26\(3\)](#) Every temporary licensee shall validate or impress on every engineering or geoscientific estimate, specification, report, working drawing, plan and other document issued by the temporary licensee the seal issued to him or her by the association of which the temporary licensee is a member and comply with such other requirements as may be prescribed by the by-laws of the association.

Identification by holder of certificate of authorization

[26\(4\)](#) Where the practice of professional engineering or the practice of professional geoscience is carried out under a certificate of authorization, a form of identification of the holder of the certificate, as prescribed by the by-laws, shall appear in the vicinity of the professional engineer's seal or professional geoscientist's seal on each engineering or geoscience estimate, specification, working drawing, plan or other engineering or geoscientific document issued by the holder of a certificate of authorization.

Seal by specified scope of practice licensee

[26\(5\)](#) Every specified scope of practice licensee shall be issued an electronic seal, a manual seal or both an electronic seal and a manual seal and the specified scope of practice licensee shall validate or impress his or her seal, as prescribed by the by-laws, on every estimate, specification, report, working

drawing, plan and other engineering or geoscientific document issued by the licensee.

By-laws

The relevant sections of the by-laws are as follows:

11.1 Use of the Seal

11.1.1 Professional Member's Seal

The combined acts of affixing and validating a manual seal constitutes manual authentication of a document.

11.1.1.1 Affixing the Manual Seal

An image of the manual seal may be affixed through the use of either an inked stamped impression or a copy of it.

11.1.1.2 Validating the Manual Seal

The professional member, having affixed his or her manual seal in conformance with section 26(1) of the Act, shall validate it by signing the document in the vicinity of the seal and indicating the date upon which it was signed.

11.1.1.3 Use of Manual Seal

A copy of a validated seal shall not be used for the purpose of authenticating a document.

11.1.2 Professional Member's Electronic Seal

A member may authenticate a document which is in computer readable form by the use of his or her electronic seal. This authentication will have the same effect as affixing and validating a manual seal on a physical document.

11.1.2.1 Use of Electronic Seal

Validation of a document which is in computer readable form must only be performed with the explicit knowledge of and confirmatory action by the member. Any process and/or technology that automatically applies a professional member's seal to documents without the member's knowledge and action is strictly prohibited.

11.1.3 Temporary Licensee's Seal

The temporary licensee, having affixed his or her manual seal in conformance with section 26(3) of the Act, shall validate it by signing the document in the vicinity of the seal, marking his or her licence number and its expiry date directly below the seal, and indicating the date upon which it was affixed.

12.2 Seals

12.2.1 Professional Member's Manual Seal

The registrar shall issue a manual seal in accordance with section 26 (1) of the Act and these By-Laws. A member shall not acquire a seal from any other source.

12.2.2 Professional Member's Electronic Seal

The Registrar may issue an electronic seal when he or she is satisfied that an appropriate process and/or technology is available. The authenticity of the seal shall be confirmable. The seal shall be revocable.

12.2.2.1 Protection of Professional Member's Electronic Seal

The member shall ensure that his or her electronic seal is secure and remains under the member's control at all times.

12.2.3 Temporary Licensee's Seal

The association does not issue a seal to the holder of a temporary license.

12.3.1 Certificate of Authorization Stamp

The form of identification required under sub-section 26(4) of the Act shall include the identity of the holder and a number on a stamp issued by the Association. The image of the stamp may be reproduced by the holder of the Certificate of Authorization and incorporated in electronic documents.

Code of Ethics

Canon 2.7 of the Association's Code of Ethics for Practice of Professional Engineering and Professional Geoscience stipulates that the Professional Engineer or Professional Geoscientist shall:

“seal all plans and other engineering or geoscientific documents which *The Engineering and Geoscientific Professions Act* stipulates shall be sealed, whether acting in the professionally responsible capacity of a consultant or an employee;”

and Canon 2.8 of the Association's Code of Ethics for Practice of Professional Engineering and Professional Geoscience stipulates that each practitioner shall:

“sign and seal only those plans and other engineering or geoscientific documents for which he or she has assumed professional responsibility and which he or she has prepared, or supervised the preparation of, or reviewed in detail and approved.”

Definitions

“Act” means The Engineering and Geoscientific Professions Act.

“Association” means The Association of Professional Engineers and Geoscientists of Manitoba.

“Authentication” means affixing the professional member’s seal, then validating it by signing and dating; or affixing the temporary licensee’s seal of his or her jurisdiction (including signing and dating as required by his or her jurisdiction) including licence number and its date of expiry, in accordance with the requirements of *The Engineering and Geoscientific Professions Act* and by-laws.

“By-laws” means by-laws of *the Association*.

"Certificate of Authorization" means the certificate issued under the seal of the association certifying that a partnership, corporation, or other legal entity is entitled to practice professional engineering or professional geoscience within the province through partners or employees who are members, temporary licensees or specified scope of practice licensees.

“Coordinating professional”, means the professional responsible for integrating the expertise and work of other professionals and who may take overall and total responsibility for the work including authentication of the documents.

“Direct supervision,” means the immediate and direct personal supervision and guidance of a natural person, member in training, or other professional.

“Document” means a single coherent body of information recorded on any medium in the form of words, symbols, sounds or images or any another system of symbols. The information is defined and structured, according to the medium used, by tangible or logical features and may be rendered using any type of writing.

"Electronic document" means data that is recorded or stored on any medium in or by a computer system or other similar device and that can be read or perceived by a person or a computer system or other similar device. It includes a display, printout or other output of that data.

"Electronic seal" means the form of identification issued by the association to any member to be used in the electronic validation of documents in computer readable form. This is not to be confused with an electronic version of a manual seal.

“Engineer of Record” means the professional member or licensee responsible for the overall practice of professional engineering for a project which may include the efforts of other professional members or licensees or just the effort of this member or licensee.

“Final Document” describes any record, written or graphic created for the purpose of transmitting information or instructions based on engineering

expertise or judgment that is intended to be relied on by others. In general, “final” means “final for the purposes intended”.

“Impression” means a facsimile of a seal on a document, regardless of the medium used.

“Manual seal” means the form of identification issued by the association to any member containing the name of the member and the words “Registered Professional Engineer, Province of Manitoba” or “Registered Professional Geoscientist, Province of Manitoba” as the case may be, to be manually impressed onto physical documents.

“Manual Stamp” means the form of identification issued by the association to any company that holds a Certificate of Authorization. This stamp contains the identity of the holder and their identifying number.

“Member” means a natural person who holds a valid and subsisting certification of registration and whose name is entered on the register of the association as a professional engineer or professional geoscientist in good standing.

“Practicing Entity” means a corporation that offers Professional Services, directly or indirectly, by more than one P.Eng. or P.Geo. who take(s) responsibility for the work.

“Original” means an authenticated document that emanates directly from the author.

“Professional” and “Professionals” when used as a noun means any natural person or persons with a valid certificate of registration or temporary licence entitling him or her to practice as a professional engineer or professional geoscientist in accordance with *The Engineering and Geoscientific Professions Act*.

“Responsible Member” means a Member who is full time employee or partner of the holder of a Certificate of Authorization who undertakes to provide responsible direction to and personal supervision of a portion of the holder’s professional practice.

“Retention” means to store original authenticated documents or a legally accepted alternative so that they can be found later, on request, without having been altered.

“Seal” means either a professional member’s electronic seal or a manual seal.

“Stamp” means a professional company’s manual certification of authorization stamp.

“Signature” means the name or personal mark that a person affixes to a document and routinely uses to express consent or acknowledge responsibility with respect to the document.

“Sole Practitioner” means a member who owns his or her own company, employs no other Professional Members, has five or fewer employees, and takes responsibility for all the work done.

“Software” means all information, commands, instructions, programs or procedures required to use and operate a computer system, one of its components or any other digital data processing device. Software is independent of the medium in which it is recorded.

“Transmission” is the action of sending and receiving a document from one person to another using information technology.

1 Authentication

1.1 Concepts and Principles of Authentication

1.1.1 Principles

The seal constitutes the distinctive mark of the professional. It certifies that its holder is a member of the Association, and is licensed to practice professional engineering or professional geoscience within Manitoba.

Authentication of documents relates to the practice of professional engineering or professional geoscience. It is a requirement under The Act and by-Laws. The principles involved in authenticating a document are independent of the methods employed for producing the document.

For reasons of legal and professional security, the integrity of authenticated documents is essential. The authentication of documents should be the last professional act performed with respect to the technical content of the documents, notwithstanding the fact that revisions may be made in the future, thereby creating a new document.

1.1.2 Purpose of Authentication

Authentication is the distinctive action of the professional. It identifies work performed by, or under the immediate and direct supervision of a licensed professional. It assures the document's recipient that the work meets the standards expected of experienced professionals who take personal responsibility for their judgments and decisions. This authentication is important because it is a visible commitment to the standards of the profession and signifies to the public that a particular professional has accepted responsibility for the document.

It should be considered a "mark of reliance", an indication that others can rely on the fact that the opinions, judgments, or designs in the authenticated documents were provided by a professional held to high standards of knowledge, skill, and ethical conduct. Authentication represents the professional's commitment to standards of care and excellence.

Authentication by a professional makes him or her assume responsibility and be answerable for the quality of the work presented therein. It is a statement by the professional to others that they can, with a high degree of confidence, depend upon the contents of the document for the furtherance of their projects. Authentication is not, and should not be considered, a certification or warranty of correctness.

It is important to emphasize to professionals that they are still responsible for work in which they are involved, but choose not to authenticate.

Authentication shall not be subject to specification or limitation by contract or work arrangements.

1.1.3 Obtaining a Seal

The Act states that “Every member shall be issued an electronic seal, a manual seal or both an electronic seal and a manual seal ...” by the association. In compliance with the Act, every member is issued a manual seal. The Association will authorize the issuance of an electronic seal to an eligible member who makes application and agrees to assume the costs. An application form for an electronic seal can be found on the APEGM website.

1.1.4 Electronic Version of a Manual Seal

The holder of the original manual seal may reproduce it by any means to generate an impression, including procedures that use information technologies. The impression must correspond in all respects to the original seal. A copy of the signed and dated image of a seal shall not be used for the purpose of authenticating a document.

The electronic version of a manual seal is not to be confused with an electronic seal, which is described below.

1.1.5 Electronic Seal

In the electronic world, a document is authenticated by the application of an electronic “certificate” (also called a digital certificate) unique to the user. The electronic/digital certificate is a security tag which identifies the sender and locks down the document. When you apply your digital certificate to a document, it prevents you or anyone else from making any unauthorized or undetected changes to that document. Because the certificate is unique to the user who controls its use by secure password, the certificate is used to verify that the user (and only that user) actually signed and sent the document..

Members must use their digital certificate issued by the supplier of the electronic seal under authority of the APEGM for all documents that they are required to authenticate.

1.1.6 Ownership of the Seal

Each seal issued by the association shall remain the property of the association and shall be returned to the registrar upon the suspension or cancellation of registration or removal from the register for any reason.

A seal issued to a member shall at all times remain under the direct control of that member.

To meet regulatory requirements, an APEGM member can only get a professional seal with the express written permission of the APEGM. The seal has to be obtained from a supplier authorized by the APEGM, and must be returned to the APEGM on demand. These rules apply equally to manual and electronic seals.

An arrangement between the APEGM and a third-party provider allows the APEGM to retain control of revocation of electronic seals.

1.1.7 Security

The by-laws state that “The member shall ensure that his or her electronic seal is secure and remains under the member’s control at all times.” Examples of failing to comply with this stipulation includes instances where:

- a) a member discloses any personal codes or marks enabling any other persons to use their digital certificate, including passwords, activation codes or verification codes used for identification purposes, and
- b) a member allows any other person access to devices that would permit another individual to use the electronic seal.

Failure to comply with this obligation may result in the immediate revocation of the certificate by either or both the APEGM and the supplier of the electronic seal.

1.1.8 Temporary Licensee’s Seal

Temporary licensees are not issued a seal by the association. They are to use the seal issued by the association of which they are a member.

1.2 Authentication of Documents

Each document solely prepared by, or solely under the direct and personal supervision of, an individual licensed professional must be authenticated only by that professional.

If there is a coordinating professional responsible for adherence to concept, corporate standards and coordinating the engineering of the team, he or she should also authenticate each document and identify their coordinating responsibilities. Administrative supervision only of the professional team would not entitle the supervisor to authenticate the work as the coordinating professional. If only one authentication is to be used it must be that of the professional taking coordinating responsibility for all the engineering work, generally the coordinating professional.

For documents prepared by, or under the direct and personal supervision of several licensed professionals, each should authenticate and identify the specific portion of the document for which he or she is responsible. Professionals are encouraged to authenticate all documents he or she share responsibilities for, regardless of whether there is a coordinating professional.

An individual licensed professional can only authenticate multi-discipline portions of documents if he or she has adequate training and knowledge meeting the requirements of the Code of Ethics.

1.2.1 Authenticating Manuals, Specification, Reports and Other Types of Documents

Manuals, specifications, reports and other types of documents meeting the definition of engineering must be authenticated. They should not be authenticated if incomplete. However, if they are complete for the purposes intended they may be authenticated for that purpose. For example, a drawing submitted for a permit may not be complete for construction. However, it must be completed for the purpose of obtaining a permit before it is authenticated. It should be clearly marked for its intended purpose.

Preliminary manuals, specifications, reports, and other types of documents should not be authenticated and should be clearly marked PRELIMINARY or NOT FOR CONSTRUCTION etc.

1.2.2 Shop Drawings

Generally applicable design details developed by manufacturers or standards organizations, verified by testing and/or approved by government bodies, do not need to be authenticated. However, details or subsystem designs produced by manufacturers or contractors for specific projects, or applications that require professional engineering design or judgment, needed for coordination by the Engineer of Record, must be authenticated, to ensure there is consistent delineation of design responsibility for all aspects of the work.

All shop drawings should be provided to the Engineer of Record for review and coordination prior to fabrication or installation. Professionals preparing shop drawings should cooperate in working with other professionals engaged on a project, including providing the Engineer of Record with all the information they require for design, coordination, or review in a timely manner.

Professionals acting as the agents of people or organizations receiving materials are often required to review shop drawings prepared by others for the purpose of confirming compliance with the specifications and drawings of the devices, systems, structures, and other apparatuses indicated on the shop drawings. Professionals should note that this review is for the sole purpose of ascertaining conformance with the general design concept and does not indicate an approval of the design details. In other words, the reviewing professional is not taking responsibility for the design. Therefore, a reviewing professional must not authenticate shop drawings. However, if such a review is completed an indication shall appear on the document, by a mark or stamp, confirming by whom and when the review was completed.

1.2.3 As-built and Record Drawings

Drawings referred to as “as-builts” are prepared by a third party, or by the professional using information furnished by the contractor or other field staff. Drawings referred to as “Record drawings” are those prepared by the reviewing professional after verifying in detail the actual conditions of the completed project. For some projects, this verification may require frequent or continuous

presence on site. The distinction between as-built and record drawings determines whether drawings representing the final state of the project should be authenticated.

Because professionals are responsible for the content of drawings bearing their seals, as-built drawings should not be authenticated, since the engineer is not responsible for the content of these documents.

Some of the information provided on as-built drawings might be changes authorized by the professional during construction. Other information might reflect changes initiated by other parties due to site conditions or other causes. Changes by the professional will already have been documented by change orders, authenticated sketches, or reports, so there is no need to authenticate the as-builts. Where changes are by others, although the professional will have a responsibility to advise the client whether the change was the result of a safety concern or a contravention of codes or standards, the professional should not authenticate the documents, since doing so might imply that the changes were part of the engineer's design. If as-builts are produced by making changes to the original construction drawings, the authentication should be removed if already in place, and the drawings marked "as-built drawings". In place of the authenticated seal, there should be a note referencing the original authenticated drawings.

Ideally, a professional member should determine in advance whether the client requires authenticated drawings reflecting the details of how the project was built. He or she should then perform the adequate amount of work necessary to responsibly state that the drawings represent actual conditions.

Professionals acting as the agents of people or organizations receiving materials are often required to review as-built drawings prepared by others for the purpose of confirming compliance with the specifications and drawings of the devices, systems, structures, and other apparatuses indicated on the as-built drawings. Professionals should note that this review is for the sole purpose of ascertaining conformance with the general design concept and does not indicate assurance that the as-built drawings are in fact a true representation of the building as constructed. In other words, the reviewing professional is not taking responsibility for documenting whether or not construction was in conformance with the as-built drawings. Therefore, the reviewing professional must not authenticate as-built drawings. However, if such a review is completed an indication shall appear on the document, by a mark or stamp, confirming who and when the review was completed as well as the purpose of the review.

2 Certificate of Authorization

2.1 Concepts and Principles of the Certificate of Authorization

2.1.1 Principles

The certificate of authorization stamp is the distinctive mark of the professional member company. It is a way of identifying its holder as a member of the

Association, which in turn identifies it as one where professional members are employed and as a company that maintains insurance appropriate for the provision of professional services.

Application of the stamp to documents relates to the provision of professional engineering or professional geoscience services by a company to an external entity. It is a requirement under the Act and by-Laws. It provides assurance to the public by ensuring that the services are completed by a registered company.

2.1.2 Obtaining a Stamp

Every member company will be issued a manual stamp by the association.

2.1.3 Electronic Version of a Manual Stamp

The original stamp may be reproduced by a designate of the holder by any means to generate an impression, including procedures that use information technologies. The impression must correspond in all respects to the original seal.

2.2 Application of the Stamp to Documents

Each new, modified or record document prepared by a member company that constitutes the practice of professional engineering or the practice of professional geoscience must have the member company's stamp applied to it. The stamp shall be placed in the vicinity of the member's seal. It is not required that the stamp be signed or dated.

3 Other Recommended Policies

3.1 Modifications to Documents

All authenticated documents are considered to be final documents. At times such documents need to be modified (i.e. edited, altered, or amended) either during the course of the project or as part of a new project. In order to ensure that professionals are not unknowingly accepting responsibility for work they did not do, it is important that documents, once authenticated, are not altered without undergoing an additional authentication process.

Modifying an authenticated document constitutes a professional act that should be identified as such. Authors of the modifications are professionally responsible for the work segment directly or indirectly affected by their modifications, particularly if they affect the original concept.

The author(s) should authenticate modifications, including all elements of the original document affected by the modification, and clearly identify the professional responsibility of the original author(s) and the author(s) of the modifications.

In cases where altering of documents previously authenticated is required, the following procedure should be followed:

- original authentication is to remain on documents unaffected by the alterations;
- any professional(s) altering documents authenticates his or her work;
- any professional(s) clearly identifies alterations on the documents, notes a revision mark in sequence to the last authentication process, and who is responsible for them;
- newly authenticated documents are to be considered distinct from each previous authentication process.

The same principles and procedures for authentication of documents as per Section 1 herein should apply to the modification of documents.

3.2 Retention of Documents

Documents should be retained for as long as any liability for the work exists. Once a document is authenticated, it should be stored in a manner that preserves the integrity of the document and its authentication.

Professionals responsible for authenticating documents should ensure that their organization implements a document management process that prevents the possibility of:

- others altering authenticated documents without the knowledge of the author or adhering to 3.1 here in
- removal or duplication or unauthorized use, of the seal; and
- unauthorized use of documents.

In providing this protection, those responsible should incorporate the following:

- procedures that assure that all documents that so require it have been prepared by or under the direct supervision of a professional;
- procedures that assure the design, report, or other output of technical work complies with all applicable regulations, codes, industry standards, practices, etc.;
- an authenticating procedure to ensure that all documents are authenticated by the professional(s) taking responsibility for the work;
- procedures that assure data integrity by prohibiting unauthorized and/or undocumented changes;
- procedures to identify unauthorized copies of final documents;
- established document retention periods; and
- protection of records against loss or inadvertent destruction.

3.2.1 Retention of Electronic Documents

The average lifespan of an electronic document has variously been reported at between three to five years - not a long time given the potential for professional

accountability and legal liability issues to arise many years later. While the APEGM has taken steps to address considerations of security, revocation, and authentication/verification, it cannot directly address storage issues. This is something that must be addressed by the member. This said, the APEGM recommends, as a matter of prudent practice that members have in place document storage, backup, and recovery systems that meet legal and regulatory requirements. Members are strongly encouraged to consult with legal and information technology professionals to determine if they are adequately protected.

APPENDIX

A-1 FREQUENTLY ASKED QUESTIONS

Certificate of Authorization stamp

Q. Does a Responsible Member need to apply and sign the APEGM certificate of authorization stamp on all professional documents?

A. The Responsible Member shall implement a process that ensures that all professional documents contain the identity and number of the holder. The member responsible for the certificate of authorization need not sign or date the impression.

Articles

Q. Is it necessary for a professional member to authenticate an article he or she has prepared for publication in a technical journal or for presentation at a conference or seminar?

A. Such articles intended for non-specific, general information are not required to be authenticated.

Letters and Memoranda

Q. Should letters or memos be authenticated?

A. Ordinary letters with little or no engineering or geoscientific content should not be authenticated. Letters containing considerable degree of engineering or geoscientific content should be authenticated.

Memoranda which are generally used for communication within a working unit need not be authenticated. Memoranda which go beyond the normal work unit and which contain engineering or geoscientific technical data for which the author is responsible, and which may have an impact upon another party should be authenticated.

Preliminary documents

Q. Should preliminary professional documents be authenticated?

A. Preliminary documents that are incomplete should not be authenticated. However, where professional documents are issued for some restricted purpose and where someone may rely on those documents, they shall be authenticated. The professional documents shall be authenticated but shall be clearly identified as to their intended purpose or their limitations, e.g., "For Budget Purposes", "For Site Planning Only", as appropriate. Preliminary drawings should be marked as "Preliminary – Not for Construction".

Specifications

Q. Should specifications that form part of a set of design documents be authenticated?

A. Specifications which form part of a set of design documents, which are to be read in conjunction with authenticated drawings, and which are directly referenced to the drawings, need not be sealed. Stand alone specifications must be authenticated.

The frequency and location of the seal shall be such that the removal of the seal would render the overall document incomplete.

Where different elements or sections of a complete set of specifications that are to be authenticated, are prepared by more than one practitioner, then the practitioner responsible for each section should apply his or her seal to that section of the document. If this is not practical, the document shall be authenticated by at least one member to indicate professional responsibility for the entire document.

Software and Firmware

Q. Do computer software programs and embedded electronic control programs that were prepared by a professional member need to be authenticated?

A. The creation or modification of software and firmware programs that involve the practice of the professions results in products of a professional nature. These include, for example, programmable logic controller (PLC) code, application, modelling, and simulation programs. The original version or modifications of the program or code (either written or electronic) shall be authenticated.

Employee professionals keeping copies

Q. I will soon be leaving my present employer. Can I, as an employee professional, take and keep copies of professional documents that I have authenticated while working for my employer?

A. Professional documents created by a professional member as an employee are usually the property of the employer including the copyright to those documents. However, the employer should allow the employee to keep copies of any documents he or she has authenticated with the understanding that the work contained in the documents is the property of the employer and cannot be used by the employee for any purpose without the employer's permission.

Design Notes and Calculations

Q. Am I required to authenticate the design notes and calculations?

A. Design notes or calculations are usually considered to be the property of the professional member for his or her own use and normally do not require sealing. However, if the design notes or calculations are issued for review or use by another person, either in accordance with the scope of the project or by agreement, the cover sheet shall be authenticated in a manner that clearly indicates acceptance of professional responsibility for the notes or calculations without needing to authenticate each page. Design notes and calculations should be prepared in a format which records the names of the responsible professional member, designers and checkers and the dates on which their work was performed.

Manuals

Q. Are manuals considered to be professional documents that would require authentication?

A. Manuals prepared for direction and guidance of others in technical and public safety areas shall be authenticated using the same principles of quality control and professional responsibility as apply to other professional documents.

Fabricator drawings

Q. Do "fabricator", "shop", or "spooling" drawings need to be authenticated?

A. There may be several kinds of drawings that might be referred to as shop drawings or fabricator drawings. The fabricator commonly prepares them after he or she reviews the drawings and specifications supplied by a professional member. Authentication requirements are as follows:

- Fabricator general arrangement drawings

Drawings that specifically describe the location of structural members, connections and components to be supplied by the fabricator, and that may be reproducible copies of the drawings provided by a professional member on whom the fabricator's information is noted, are not considered to be design drawings and therefore do not require authentication.

- Fabricator detail drawings

Drawings produced by the fabricator to provide information needed by shop personnel to fabricate or assemble the items are not required to be authenticated since they do not contain any fabricator's engineering design.

- Fabricator design drawings

Structural elements or special connections that have been designed specifically for a particular application by a professional member acting for a fabricator shall be authenticated.

- Fabricator proprietary items

Drawings for proprietary items (such as open web steel joists) shall be authenticated by the professional member who prepared them.

- Standard connections

A professional member may specify that standard connections be selected from industry handbooks. Although the connection drawings do not require authentication, the professional member responsible for their selection shall authenticate the specification.

- Erector drawings

Drawings or documents produced by the erector to address temporary loading, temporary bracing, false work and erection sequence instructions shall be authenticated.

Back-Dated Authentications

Q. Is it acceptable to back date a signature applied to a seal?

A. The practice of applying a seal to a document and then signing and dating the seal, with some prior date is not permitted. The authentication of a document is intended to record and communicate an acceptance of responsibility for the quality and the accuracy of the document to which it is affixed on the date of such authentication (i.e. the standards might have changed in the interim). Back dating the seal amounts to a qualification or limitation of the seal and is therefore not in the public interest.

Errors in authenticated documents

Q. What should a professional member do when he or she discovers that a professional document that he or she has authenticated and issued to someone contains errors?

A. The professional member shall notify the person to whom he or she has issued the document and recall, cancel, and/or supersede it as soon as possible with a satisfactory replacement. If appropriate, the original author of the document should be informed.

APPENDIX

A-2 How digital certificates work in the “real world”

This Guideline deals primarily with the rules and rationale for authentication. It is not intended as a complete instruction manual on how to use and apply the digital certificate.

Drawings

The same principles apply to drawings created by CAD and related software applications. Images of a member’s professional seal and signature can be placed in each of the title blocks after which the document is then converted to .pdf format and the digital certificate is applied.

When issuing a set of drawings, members may either

- a) create a single document with one electronic certificate, or
- b) create multiple documents, each with its own certificate.

The recommended (best practice) when dealing with a multi-page set of drawings is to create a separate .pdf file for each drawing page. The technology may allow for bulk/batch conversion of such files as well as bulk/batch certificate application. This method is similar to what happens in the physical world where a person has to physically apply the seal and physically sign each page. The advantage here is that the process is a lot quicker and easier in the electronic world. The individual digitally signed .pdf files for each drawing can then be “bundled” together in a single “zip” or other archive file for transmission or archiving as a single file containing many individual .pdf drawing files.

The main advantage to this method is that if a single sheet needs to be changed, that change can be made in the CAD/Design software, the revision tracking information can be typed into the template, and that page can then be converted into a single .pdf file and digitally certified. That page can then stand alone without having to convert and print the entire set again.

For smaller sets of documents where changes are not anticipated, members may convert all of them into a single .pdf format file to which the digital certificate is applied. The advantage of this method is that the certificate only needs to be applied once. The disadvantages are that:

- a control sheet must be included detailing whether the set is original, whether it is a revised set, as well as each and every revision made to the set;
- each page of the bundle must include wording indicating that it is part of a complete set and can only be trusted if the set remains together; and
- the extra image that appears when the digital certificate is applied will only appear once in the set.

Hard Copies

If the document is one which will be printed out and provided in hard copy form to the recipient or others, wording in the form prescribed below must be added to each page (either in the title block or some other prominent location) signifying it is a paper copy of the electronic original as well as the conditions on which it can be relied.

This is a print of a document that has been electronically authenticated with technology authorized by the APEGM. The original is in electronic form.

Any printed version can be relied upon as a true copy of the original when supplied by the original author, bearing images of the professional seal and digital certificate or when printed from the digitally certified electronic file. .

The document is then converted to .pdf format and the digital certificate is applied.