

IDAHO SOCIETY OF PROFESSIONAL ENGINEERS

FEBRUARY 11, 2021

DIGITAL SIGNATURES

Raymond J. Watkins, P.E.

Idaho Board of Licensure of Professional Engineers and Land Surveyors



DIGITAL SIGNATURES

- Introduction
- Sealing of documents
- Signatures – Our current options
- Digital Signatures – Other jurisdictions
- Signatures – Proposed options
- Discussion and Questions



INTRODUCTION

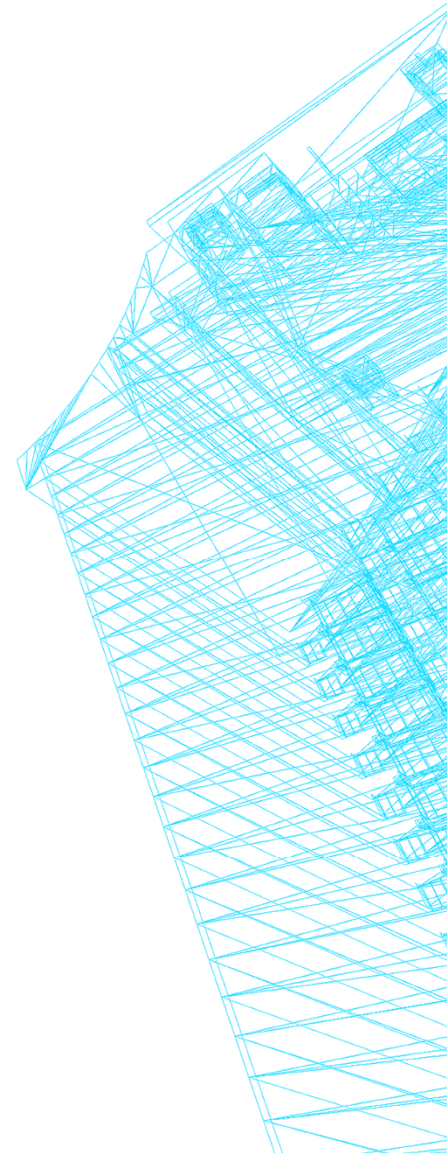
- Who, What, Where, When and How
- Who – Professional Engineers and Professional Land Surveyors
- What are wet, electronic , digital signatures, etc.?
- When do we use them?
- What are the requirements?
- What are the challenges?
- How do other States handle the issue?
- How should Idaho?

SEALING OF DOCUMENTS

IDAHO ADMINISTRATIVE CODE IDAPA 24.32.01

DOPL – Board of Professional Engineers & Land Surveyors Rules of IPELS

24.32.01.101.03 Use of Seal on Documents. A Licensee must affix his signature and seal only to plans or documents prepared under his responsible charge.

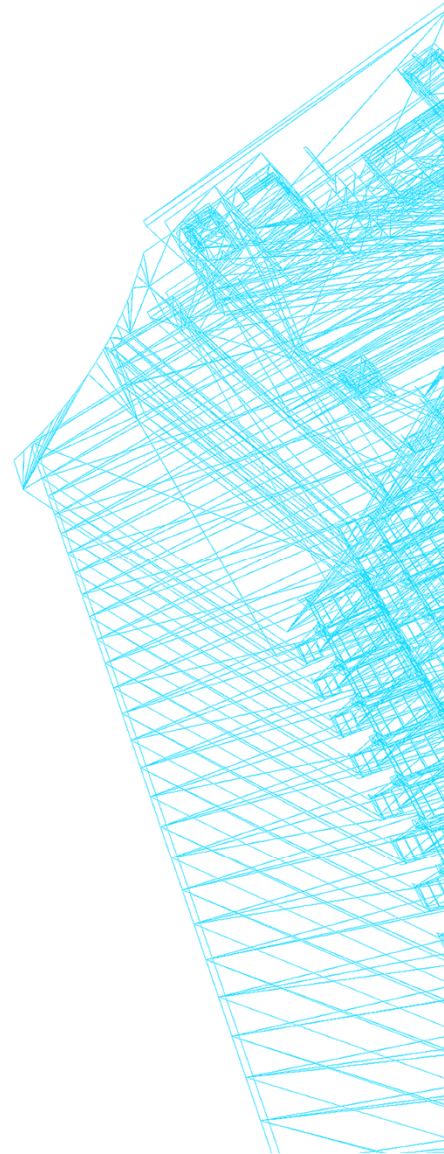


SEALING OF DOCUMENTS

*TITLE 54 PROFESSIONS, VOCATIONS, AND BUSINESSES
CHAPTER 12 ENGINEERS AND SURVEYORS*

54.1215(3)

- (a) The seal may be a rubber stamp, crimp or electronically generated image. Whenever the seal is applied, the licensee's signature and date shall also be included. If the signature is handwritten, it shall be adjacent to or across the seal. No further words or wording is required. A facsimile signature generated by any method will not be acceptable unless accompanied by a digital signature.

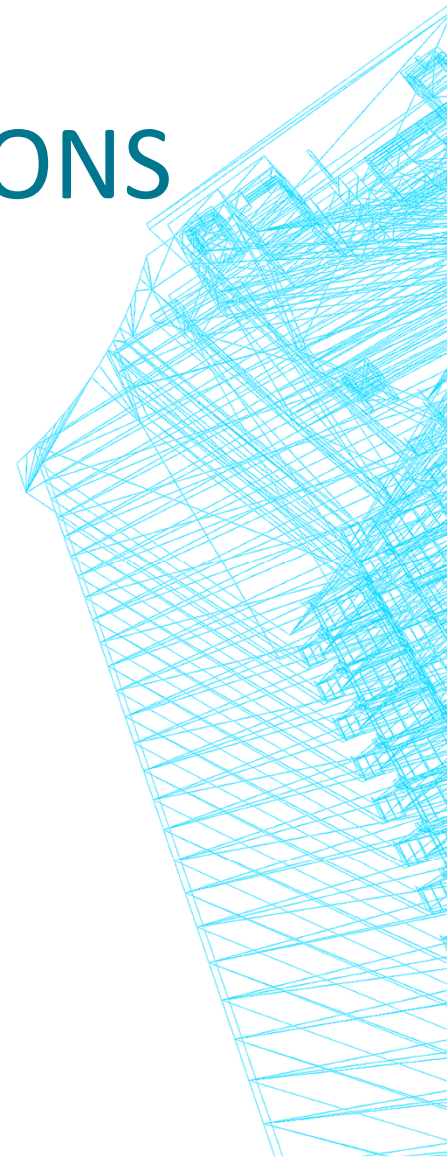


SIGNATURES – OUR CURRENT OPTIONS

*TITLE 54 PROFESSIONS, VOCATIONS, AND BUSINESSES
CHAPTER 12 ENGINEERS AND SURVEYORS*

DEFINITIONS:

54.1202(18) "Signature" means either: an original handwritten message identification containing the name of the person who applied it; or a digital signature, which is an electronic authentication process attached to or logically associated with an electronic document. The digital signature must be unique to the person using it; must be capable of verification; must be under the sole control of the person using it; and must be linked to a document in such a manner that the digital signature is invalidated if any data in the document is changed.



SIGNATURES – OUR CURRENT OPTIONS

Raymond J Watkins

Digitally signed by Raymond J Watkins
DN: CN=Raymond J Watkins,
OU=A01427D00000167BD99F36E00007E4C,
O=Unaffiliated, C=US
Reason: Engineer in Responsible Charge
Date: 2021.01.13 08:57:42-08'00'



Digital Signature

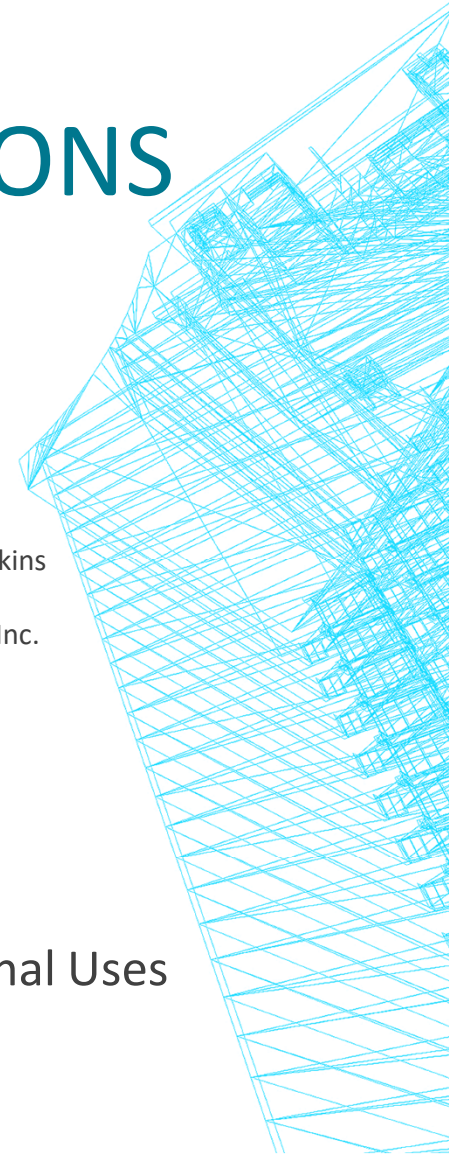
Original Signed By: Raymond J. Watkins
Date Original Signed: 01/14/2021
Original Stored at AEI Engineering, Inc.



Wet Signature and Date



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ELECTRONIC DOCUMENTS WHITE PAPER

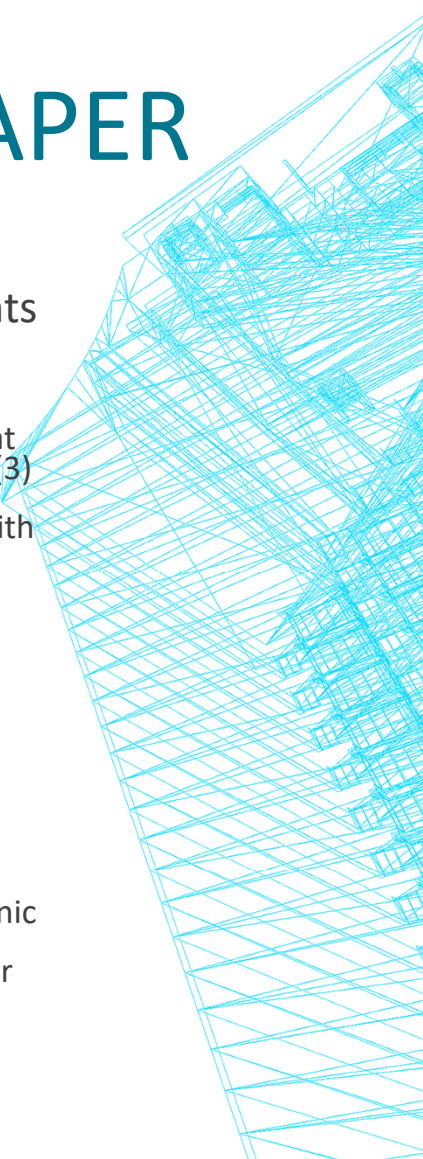
Adapted by the Board on 8/5/13 (revised 12/13/13 and 09/08/17)

Provided to clarify the various sections of Idaho Code regarding electronic documents and digital signatures.

2. If the Professional, AHJ or client desires an original signature on the electronically produced documents, that original signature can be either of the form of a wet seal, signature and date as stated in Idaho Code 54-1215 (3) or a Digital Signature that complies with Idaho Code 28-50 et. seq., in particular, as defined by Idaho Code 28-50-102 (8) with the security procedure as defined in Idaho Code 28-50-102 (14) present. In order to comply with the statutes and rules, a digital signature must have the following properties:

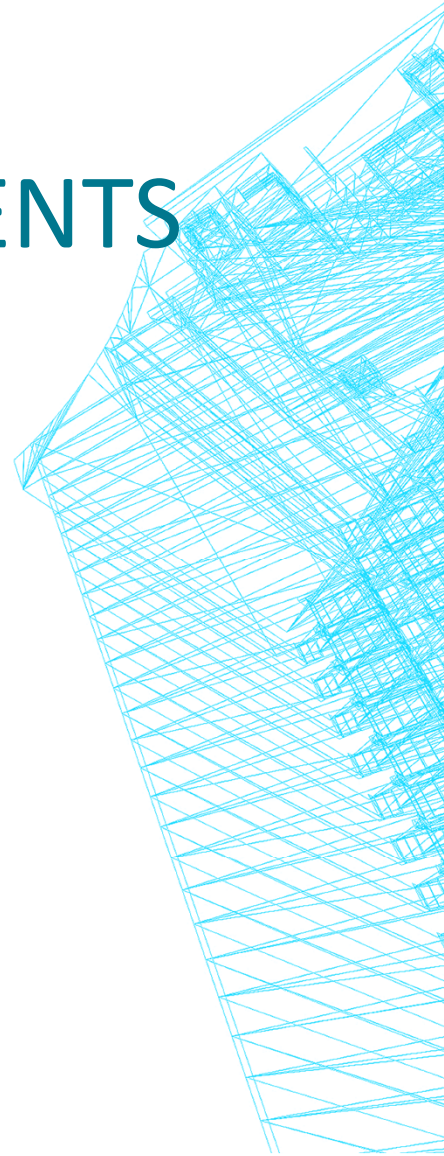
- (a) It must be unique to the licensee;
- (b) It must be capable of independent verification;
- (c) It must be under the exclusive control of the licensee;
- (d) It must encrypt the electronic document or "record" such that a recipient can determine if the document or "record" was the document or "record" that was signed by the licensee; and
- (e) It must encrypt the electronic document or "record" in such a manner the recipient can determine if the original document or "record" was altered since it was made.

28-50-102(14) "Security procedure" means a procedure employed for the purpose of verifying that an electronic signature, record, or performance is that of a specific person or for detecting changes or errors in the information in an electronic record. The term includes a procedure that requires the use of algorithms or other codes, identifying words or numbers, encryption, or callback or other acknowledgment procedures.



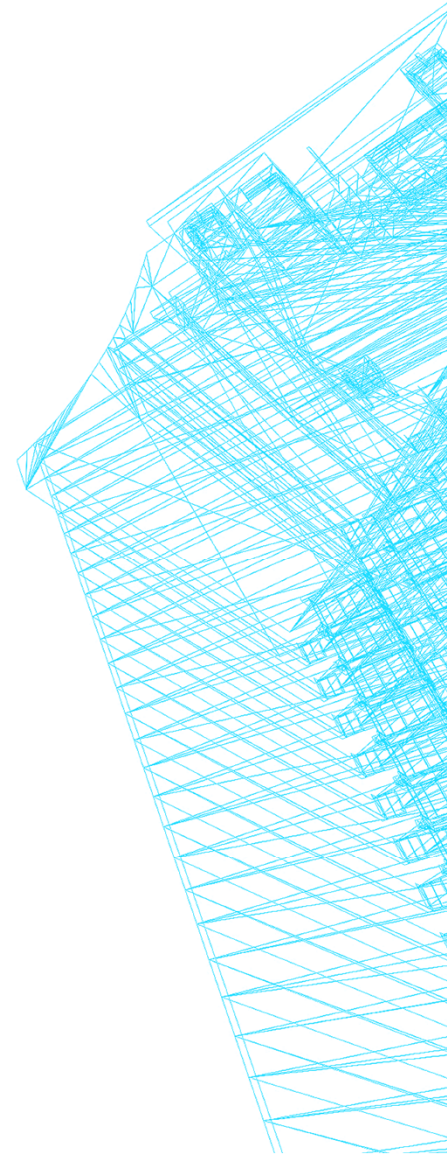
BENEFITS OF ELECTRONIC DOCUMENTS

- Clarity with respect to scanned versions
- Efficient and timely transfer of documents
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WHAT ARE THE CHALLENGES

- Combining documents on a multi-disciplinary team
- What will Governmental Agencies accept
- Architects
- Cost of 3rd party verifiable digital signature
- Enforcement
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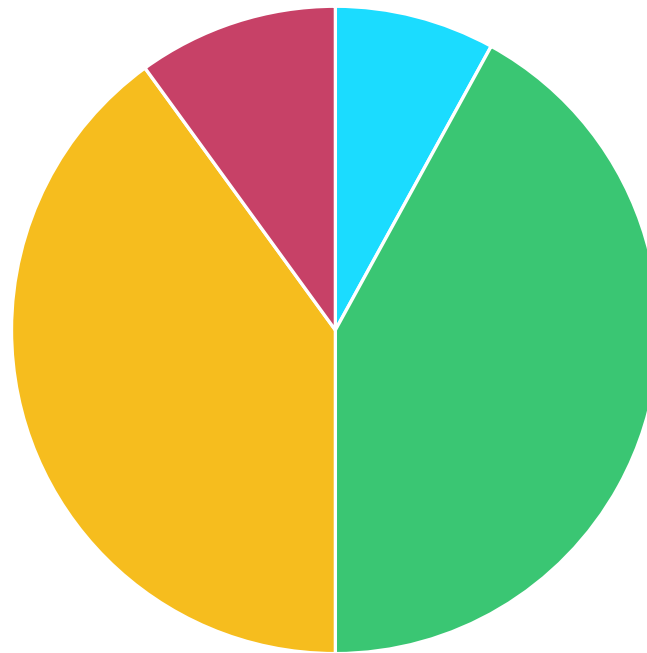




DIGITAL SIGNATURES OTHER JURISDICTIONS

- Jurisdictions that do not allow electronic or digital signatures (only handwritten) (~8%)
- Jurisdictions that allow electronic signatures (~42%)
- Jurisdictions that allow non third party verified digital signatures (many Jurisdictions use language similar to the NCEES Model Rule) (~40%)
- Jurisdictions that require third party verified digital signatures (~10%)
 - Florida, Idaho, Maryland, New Jersey, Virginia and Oregon

DIGITAL SIGNATURES OTHER JURISDICTIONS



■ Wet Signature Only ■ Electronic ■ Non 3rd Party Verified Digital ■ 3rd Party Verified Digital

SIGNATURES – NCEES MODEL RULES

240.20 Seal on Documents

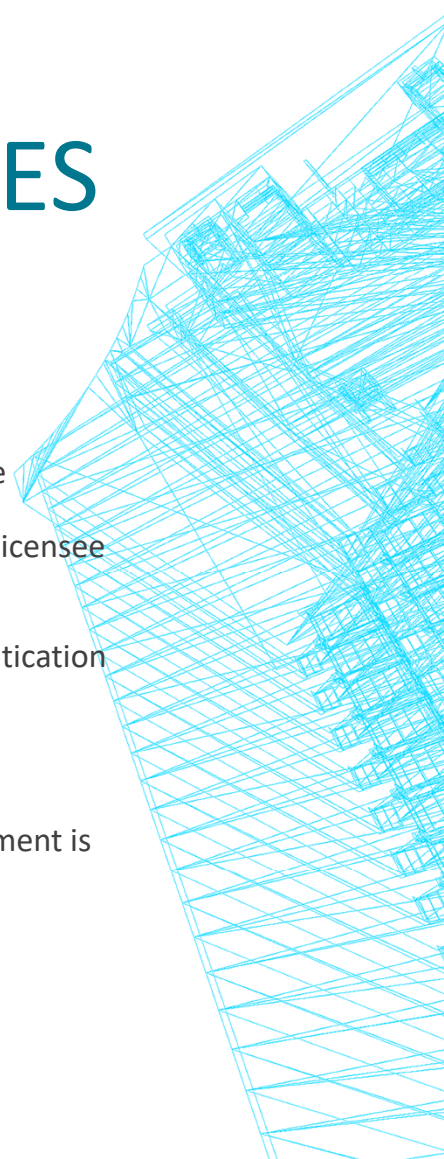
H. When a licensee is required to seal and sign engineering/surveying documents, one of the following methods must be used:

1. Physical placement of a seal and a handwritten signature in permanent ink containing the name of the licensee
2. Digital placement of a seal and a handwritten signature in permanent ink containing the name of the licensee
3. Digital placement of a seal and a digital signature containing the name of the licensee

Drawings, reports, and documents that are signed using a digital signature must have an electronic authentication process attached to or logically associated with the electronic document. The digital signature must be

1. Unique to the individual using it
2. Capable of verification
3. Under the sole control of the individual using it
4. Linked to a document in such a manner that the digital signature is invalidated if any data in the document is changed.

A digital signature that uses a process approved by the board will be presumed to meet the criteria set forth in Section H above. Any hard copy printed from the transmitted electronic file shall bear the facsimile of the signature and seal and be a confirmation that the electronic file was not altered after the initial digital signing of the file. Any alterations to the file shall cause the facsimile of the signature to be voided.

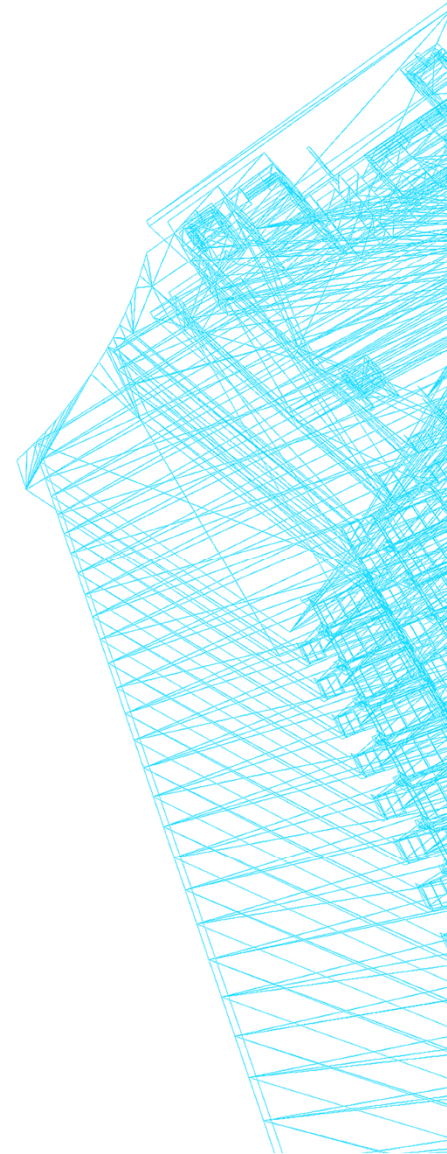


SIGNATURES – PROPOSED CHANGE

**Rationale for Changes
to
Signature Definition and Use
Problem Statement
Draft November 20, 2020**

The IBPELS desires to address concerns related to the definition and use of signatures to align better with practice that can better serve the public and licensees. The concerns are summarized as follows:

1. The existing law allows for either a manual “wet” signature or a digital signature. There is no allowance for a facsimile signature or one generated with an electronic image.
2. Many jurisdictions have adopted a third option allowing for electronic signatures as implementing manual or digital signatures alone has become impracticable for plan sets with many sheets or plans developed with electronic technology such as Building Information Models.
3. The law regarding signatures needs to be updated to allow for consistent legal practice by engineers and land surveyors
4. Survey documents that are recorded (plats, surveys and corner records) will continue to be required to meet recordability standards. Electronic or facsimile signatures will not be acceptable on these documents.



SIGNATURES – PROPOSED OPTIONS

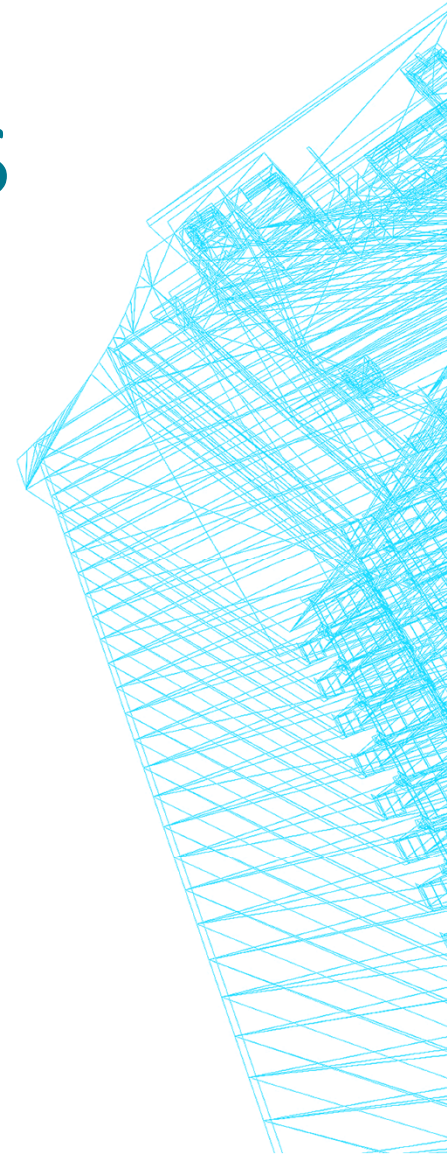
PROPOSED DEFINITIONS:

54.1202(18) Signature. The term "Signature" shall include the terms "manual signature," "facsimile signature" and "digital signature," and shall be defined as follows:

(a) Manual Signature. A manual signature is the original handwritten name of the person applied to a document or record that identifies the person, serves as a means of authentication of the contents of the document, provides responsibility for the creation of the document and provides accountability for the contents of the document;

(b) Facsimile Signature. A facsimile signature is a graphic representation of an original signature attached to or logically associated with a document or record and executed or adopted by a person with the intent to sign the record;

(c) Digital Signature. A digital signature is a digital authentication process attached to or logically associated with an electronic document, and executed or adopted by a person with the intent to sign the document or record. A digital signature must be unique to the person using it; must be capable of verification; must be under the sole control of the person using it; and must be linked to a document in such a manner that the digital signature is invalidated if any data in the document is changed.

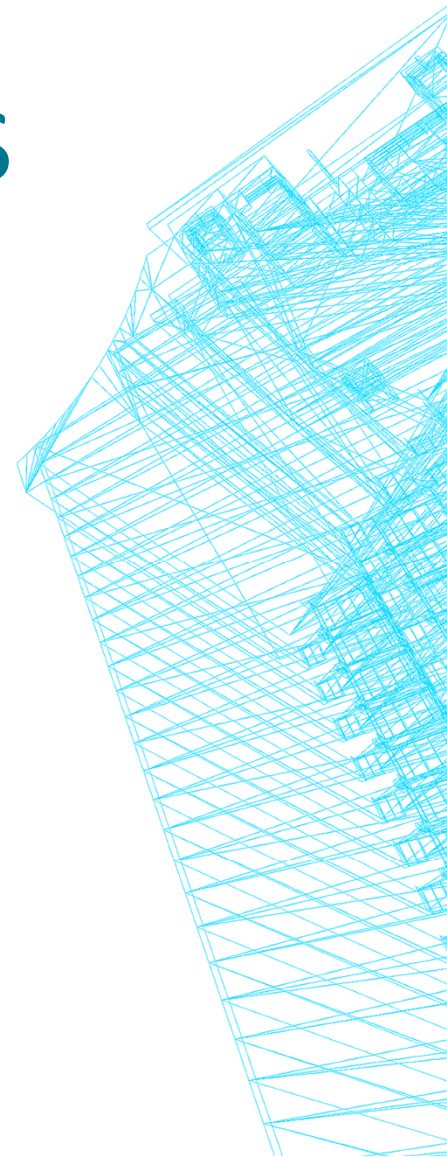


SIGNATURES – PROPOSED OPTIONS

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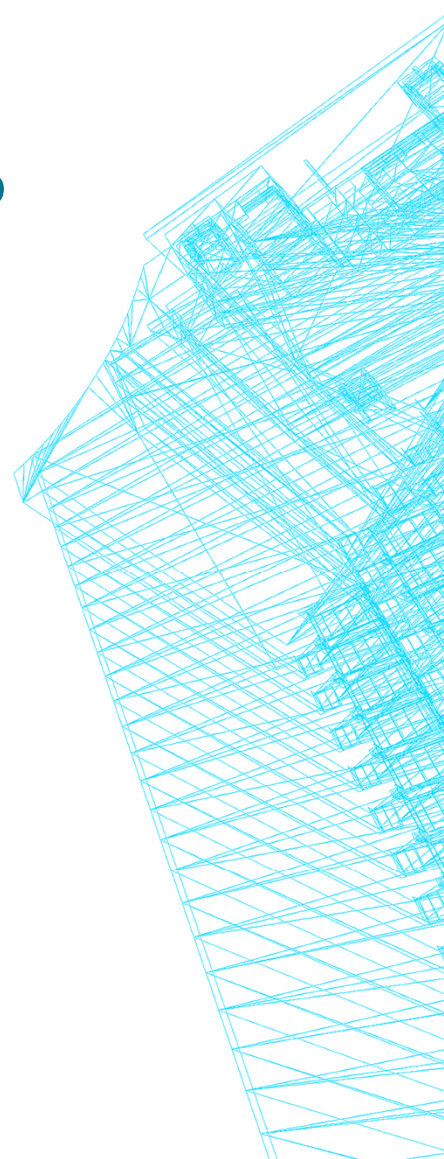


SIGNATURES – PROPOSED OPTIONS

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(b) Facsimile Signature. A facsimile signature is a graphic representation of an original signature attached to or logically associated with a document or record and executed or adopted by a person with the intent to sign the record;

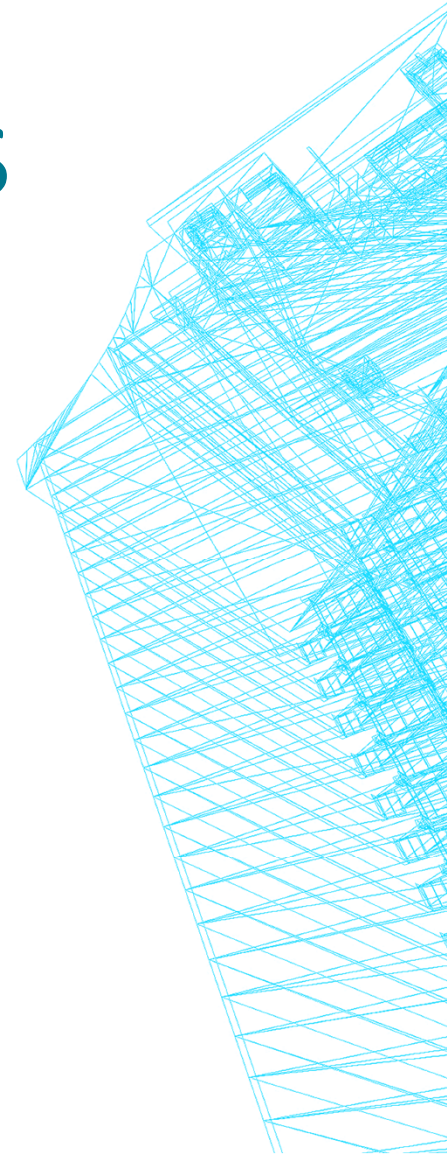


SIGNATURES – PROPOSED OPTIONS

PROPOSED DEFINITIONS:

54.1202(18) Signature. The term "Signature" shall include the terms “manual signature,” “facsimile signature” and “**digital signature**,” and shall be defined as follows:

(c) Digital Signature. A digital signature is a digital authentication process attached to or logically associated with an electronic document, and executed or adopted by a person with the intent to sign the document or record. A digital signature must be unique to the person using it; must be capable of verification; must be under the sole control of the person using it; and must be linked to a document in such a manner that the digital signature is invalidated if any data in the document is changed.

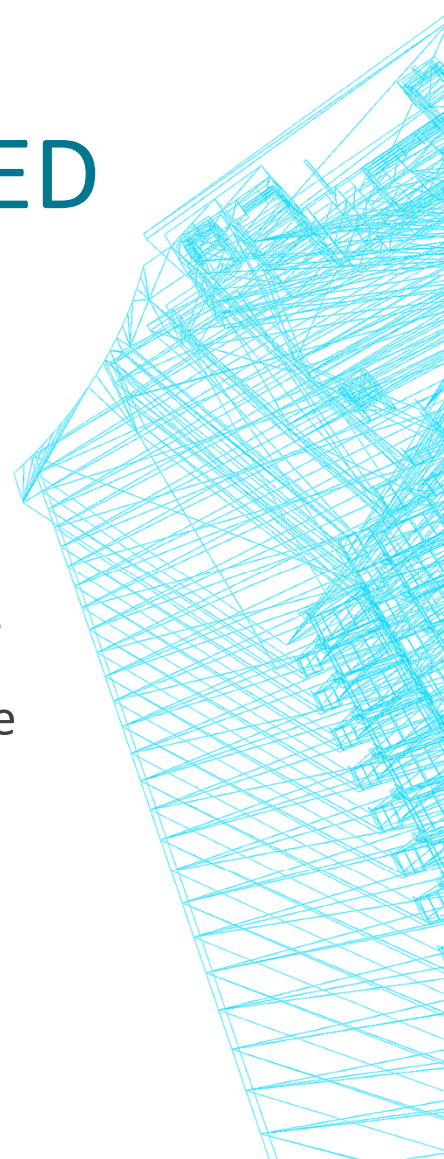


SEALING OF DOCUMENTS PROPOSED

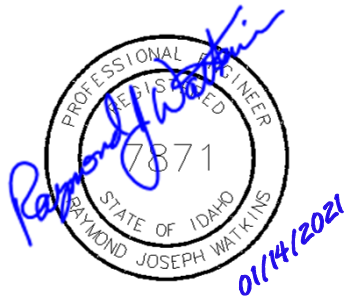
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SIGNATURES – PROPOSED OPTIONS



Facsimile Signature and Date



Manual Signature and Date

Raymond J Watkins
Digitally signed by Raymond J Watkins
DN: CN=Raymond J Watkins,
OU=A01427D00000167BD99F36E00007E4C,
O=Unaffiliated, C=US
Reason: Engineer in Responsible Charge
Date: 2021.01.13 08:57:42-08'00'



Digital Signature



Original Signed By: Raymond J. Watkins
Date Original Signed: 01/14/2021
Original Stored at AEI Engineering, Inc.

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QUESTIONS



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