



# GUIDE TO DIGITAL SIGNATURES

## Creating a Digital Signature to Meet State Statute Requirements Using a Certificate Authority Building & Development Services

### DIGITAL SEAL AND SIGNATURE REGULATIONS

#### 2015 Florida Statutes

[Title XXXII REGULATION OF PROFESSIONS AND OCCUPATIONS](#)

[Chapter 471 ENGINEERING - SECTION 025 Seals](#)

471.025 Seals.—

(1) The board shall prescribe, by rule, one or more forms of seal to be used by licensees. Each licensee shall obtain at least one seal in the form approved by rule of the board and may, in addition, register his or her seal electronically in accordance with ss. [668.001-668.006](#). All final drawings, specifications, plans, reports, or documents prepared or issued by the licensee and being filed for public record and all final documents provided to the owner or the owner's representative shall be signed by the licensee, dated, and sealed with said seal. Such signature, date, and seal shall be evidence of the authenticity of that to which they are affixed. Drawings, specifications, plans, reports, final documents, or documents prepared or issued by a licensee may be transmitted electronically and may be signed by the licensee, dated, and sealed electronically with said seal in accordance with ss. [668.001-668.006](#).

[Chapter 668 ELECTRONIC COMMERCE – PART 1 ELECTRONIC SIGNATURES \(ss.668.001-668.006\)](#)

668.003 Definitions.—As used in this act:

- (1) "Certificate" means a computer-based record which:
  - (a) Identifies the certification authority.
  - (b) Identifies the subscriber.
  - (c) Contains the subscriber's public key.
  - (d) Is digitally signed by the certification authority.
- (2) "Certification authority" "Certification authority" means a person who issues a certificate.
- (3) "Digital signature" means a type of electronic signature that transforms a message using an asymmetric cryptosystem such that a person having the initial message and the signer's public key can accurately determine:
  - (a) Whether the transformation was created using the private key that corresponds to the signer's public key.
  - (b) Whether the initial message has been altered since the transformation was made.

A "key pair" is a private key and its corresponding public key in an asymmetric cryptosystem, under which the public key verifies a digital signature the private key creates. An "asymmetric cryptosystem" is an algorithm or series of algorithms which provide a secure key pair.

- (4) "Electronic signature" means any letters, characters, or symbols, manifested by electronic or similar means, executed or adopted by a party with an intent to authenticate a writing. A writing is electronically signed if an electronic signature is logically

associated with such writing

Reference: <http://www.flsenate.gov/Laws/Statutes/2015/471.025>

Reference(2): <http://www.flsenate.gov/Laws/Statutes/2015/668.003>

**Florida Administrative Code 61G15-23.003** - <https://www.flrules.org/gateway/reference.asp?No=Ref-00790>

**61G15-23.003 Procedures for Signing and Sealing Electronically Transmitted Plans, Specifications, Reports or Other Documents.**

(1) Engineering work which must be sealed under the provisions of Section 471.025, F.S., may be signed electronically or digitally as provided herein by the professional engineer in responsible charge. As used herein, the terms “certification authority,” “digital signature” and “electronic signature” shall have the meanings ascribed to them in Sections 668.003(2), (3) and (4), F.S. The affixing of a digital or electronic signature to engineering work as provided herein shall constitute the sealing of such work.

(a) A scanned image of an original signature shall not be used in lieu of a digital or electronic signature.

(b) The date that the electronic signature file was created or the digital signature was placed into the document must appear on the document in the same manner as date is required to be applied when a licensee uses the manual sealing procedure set out in Rule 61G15-23.002, F.A.C.

(2) A professional engineer utilizing a digital signature to seal engineering work shall have their identity authenticated by a certification authority and shall assure that the digital signature is:

(a) Unique to the person using it;

(b) Capable of verification;

(c) Under the sole control of the person using it;

(d) Linked to a document in such a manner that the electronic signature is invalidated if any data in the document are changed

**Secure Hash Standard** - <https://www.flrules.org/gateway/reference.asp?No=Ref-00790>

# THE DIGITAL SEAL AND SIGNATURE

An Engineer, Architect, and Surveyor's Digital Signature must be in compliance with the latest State Statute requirements **471.025 & Florida Administrative Code 61G15-23.003**. The digital signature will include a Certificate Authority and the NEW additional two sentences added by FBPE.

JOHN DOE  
2016.05.16  
17:04:02  
'00'04-



This item has been electronically signed and sealed by John Doe PE using a Digital Signature and date. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

## A Digital Signature

The online equivalent of a notarized signature, in this case the Certificate Authority (CA) serves as the notary in terms of verifying your identity while a trusted timestamp verifies the date and time the signature was applied. Digital signatures allow users to keep their entire workflow online. Individuals can certify and sign documents as needed right from the comfort of their computers.

A Digital Signature is made up of several components:

- 1) Digital Certificate** - a way of proving your identity in online transactions and is unique to you when signing a document. The typical digital certificate includes your full name, email address and your professional qualifications for signing.
- 2) Certificate Authority (CA)** - a third party verification entity that certifies your identity with a digital certificate, software or a Token Key on a Smart Card or USB drive. Some companies require background checks or other various ways to verify your identity. The verification process can take up to two weeks.
- 3) Secure Hash** - when the Engineer clicks "sign" in Adobe Acrobat Professional or Reader, a unique digital fingerprint (called a hash) of the document is created using a mathematical algorithm. This hash is specific to this particular document; even the slightest change would result in breaking the hash. The hash is encrypted using the Engineer's private key from the digital certificate. The encrypted hash and public key are combined into a digital signature, which is applied to the document for security.
- 4) Professional's Seal** - scan a wet stamp of the professional's seal into a 2" square j-png or pdf file and save on the computer hard drive.

Note: Per Florida Administrative Code 61G15-23, if plans and documents are being digitally signed and sealed by a Florida license professional engineer, the following verbiage must be present either a) next to your professional seal and saved as the PE Seal graphic about 2"h x 4.5"w or b) added anywhere on each drawing or legal document page:

(1) This item has been electronically signed and sealed by [LICENSEE NAME] using a Digital Signature and date. (2) Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

## How does it Work?

When you apply a digital signature on a drawing, a cryptographic operation binds the digital certificate and the data being signed such as a PDF or other drawing file into one unique descriptor. Any change to the drawing will remove your unique descriptor or break the hash and will be indicated when opened in Adobe, stating the Signature is Invalid “This Document has been modified”.

**Authentication** – since a third-party validated certificate is used to apply the signature, recipients can easily verify the validity of the drawing. A right click on the digital signature displays a pop up screen to validate the Public Key, Summary, Certificate Authority, Revocation, Trust, Date/Time, Signature Properties and Policies. When the drawing is opened in Adobe it will automatically try to verify the signature.

**Data integrity** – during the signature verification, Adobe checks to see if the data in the document has been changed since the signature was applied. Any change to the original document will result in the validation failing.

You can no longer Self-Sign your own Digital Signature. The new requirement involves having your identity, digital seal and signature validated by a 3<sup>rd</sup> party Certificate Authority. Local Engineers, Architects and Surveyors are using Entrust, IdenTrust, and GlobalSign most frequently. These companies validate your identity then have you download a new digital certificate to your computer, use software or they will send you a USB drive with a token key or serial number.

**Any other Certificate Authorities that are certified by either GSA's FPKI and/or the Web Consortium will be acceptable to Manatee County.**