



BUILDING COMPONENT ENGINEERING
EVALUATION • DESIGN • INNOVATION

METHODS OF SIGNING & SEALING

How Engineered Documents Are Signed & Sealed — Physical, Electronic & Digital Seals
Per Florida Building & Administrative Codes

WHY WE SIGN & SEAL

An Engineer's Seal Is A Legal Act

A Professional Engineer who signs, dates & seals a document:

- Verifies the authenticity of the document
- Accepts responsibility for its accuracy & legitimacy

It tells the Authority Having Jurisdiction:

- who prepared the plans or report
- who to contact with questions
- that the document is final engineering work

Historically, the seal proved authenticity to the recipient.
Today it also places full responsibility for the content on the PE who sealed it.

WHAT NEEDS TO BE SIGNED & SEALED?

Plans or Prints

Engineering Letters
or Reports

Engineering Calculations
or Specifications

Anything Providing
Engineering Direction

Seals must be verifiable signatures — NOT copies!

Emails from engineers are not binding. Don't accept an email as the binding document — request the sealed letter.

Important Notes on When Documents Need to be Sealed:

Sealed documents must be final.

Don't seal non-final work unless it is clearly marked “preliminary,” “for review only,” or “not for construction.”

An engineer may only seal work they were in responsible charge of preparing (Rule 61G15-18.011) — so the sealing PE on the title block should be the one who prepared or supervised that work.

THREE WAYS TO CERTIFY PLANS

Every method below is a separate rule — don't mix them

1

PHYSICAL

Wet or embossed seal on a printed
hard copy

FAC 61G15-23.003

2

ELECTRONIC

Self-signed hash + a hand-sealed
affidavit

FAC 61G15-23.005

3

DIGITAL

Third-party certificate authority
verifies the engineer

FAC 61G15-23.004

DIGITAL vs. ELECTRONIC, THE SHORT VERSION

DIGITAL SIGNATURE

A third party — a certificate authority — has verified the engineer's identity, and you can check the signature electronically in the file

Trusted through third party verification

ELECTRONIC SIGNATURE

Self-signed in the engineer's PDF software. Nothing external proves who signed it — so it must be backed by a hand-signed, sealed affidavit you'll receive alongside the file.

Trust added personally, verified after the fact.

Same job — prove the document is authentic and unchanged. The difference is WHO vouches for it.

PART 1

Physical Signing & Sealing

Wet & embossed seals on printed hard copies

PHYSICALLY SIGNING & SEALING

a.k.a. printed hard copies



What a valid physical seal must show (61G15-23.001 / .002 / .003):

- Wet, embossed, or digital-image seal — at least **1-7/8" diameter**
- Seal partially overlaps but must not obscure the signature
- The signature must be an **original hand signature** — a scanned, facsimile, or digitally-created image is NOT allowed
- Date that the document was signed & sealed, next to the signature
- Title block on each sheet: engineer's printed name, address & license # — plus the qualified business's name & address, if practicing through one

Photocopies of physically sealed files are NOT acceptable — you take the risk! “Once physical, always physical.” The Building Department is the gatekeeper of the source file.

PHYSICAL SEALS — WHAT TO WATCH FOR

Embossed (crimp)

Raised, bumpy impression. A rubbed-pencil “shadow” or photocopy of a seal is a forgery.

Wet (ink)

Look closely and check the back of the paper. Not very secure on its own.

The tell

Original signature + original date. Look hard for photocopied signatures and seals.

NOT VERY SECURE — HIGH MARGIN FOR MISUSE

PART 2

Electronic & Digital Seals Encryption & Trust

What makes an electronic or digital seal trustworthy

FIRST — WHY IS AN E-SIGNATURE EVEN VALID?

ESIGN Act (federal, 2000)

A record or signature can't be denied legal effect just because it's electronic.

UETA (state — 49 states + DC)

The state-level twin of ESIGN. Both are technology-neutral — they don't name a vendor or algorithm.

Four things make an e-signature binding:

- intent to sign
- consent to sign electronically
- the signature is tied to that exact document
- the record can be retained & reproduced

Florida requires that Electronic and digital sealing methods should be **tamper-evident**

Both methods must be tamper-evident: an electronic seal's SHA code no longer matches if the file is altered (61G15-23.005); a digital signature is invalidated if the file changes (61G15-23.004(2)(d)).

Because the law is technology-neutral, the engineering boards add the stricter rules — that's where digital vs. electronic comes from.

HOW A DIGITAL SEAL PROTECTS THE FILE

What to verify — in plain terms

The fingerprint (hash)

A hash function reads the whole file and produces one fixed-length fingerprint (SHA-256). Change a single byte, pixel, or comma and the fingerprint changes completely — that's how any edit to a signed plan is caught instantly.

The keys & certificate

The engineer signs with a private key only they hold; the matching public key rides in their X.509 certificate, which travels with the PDF. Your software checks it automatically — the department never handles keys.

The trust layer (CA + timestamp)

A certificate authority vets the engineer's identity — the online equivalent of a notary — and the certificate chains back to a trusted root, so you can trust a seal from an engineer you've never met. A timestamp captured at signing keeps it verifiable even after the certificate expires — which is why digital seals may "expire" yet old permits still validate.

The building department holds no keys. Open the signed file in Adobe Acrobat or Bluebeam, make sure it trusts the right certificate roots (e.g., the Adobe Approved Trust List / Federal Bridge), and read the signature panel — the software does the verification for you.

PART 3

The Electronic Method

FAC 61G15-23.005 — self-signed hash + affidavit

ELECTRONIC SIGNING – THE RULE

FAC 61G15-23.005

BUILDING DEPARTMENT				Claudio Grande Chief Building Official / Director	
Nothing within this provision is intended to waive or enlarge the City's sovereign immunity, including, but not limited to the provisions of section 768.28, Florida Statutes.					
Governing Law, The Undersigned understands that the electronic signing and sealing of documents is governed by Florida law, specifically but not limited to sections 486.221 and 472.025, Florida Statutes, architects, the Electronic Signature Act of 1996 (sections 688.01-688.006, Florida Statutes) and Florida Administrative Code sections 61G1-18.005, 61G15-23.003 for engineers, and 51-17.060 through 51-17.062 for surveyors/mappers, as applicable. The City of Tamarac has attempted to create an electronic signature process in compliance with Florida law but shall not be liable in any manner for any violations of professional licensure regulations. It is the Undersigned's responsibility to ensure compliance with all laws, regulations, and ordinances that govern his/her professional license.					
By signing this document, you are not only agreeing to the foregoing but certifying that: Any willful falsification of any information contained herein is grounds for disqualification.					
					
APPLICANT NAME (Please print)		NAME OF COMPANY			
The Professional Engineer whose name & license appear herein has digitally signed this document. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED! This digital signature can be verified by instructions found online at engineeringexpress.com/Signature		Digitally signed by Frank Bennardo PE Date: 2017.08.16 12:15:50 -04'00'			
NOTE: PE REGISTRATION HAS EXPIRED. THE SIGNATURE OF THE PE # 12162 IS PRINTED IN RED IN THE ORIGINAL DOCUMENT. THE SIGNATURE OF THE PE # 12162 IS PRINTED IN RED IN THE ORIGINAL DOCUMENT.		ELECTRONIC SIGNATURE WITH CERTIFICATION NUMBER VISIBLE (PE / AA etc.) 12162 (12162) 375 1000 1000 1000 12162 375 1000 1000 1000 12162 375 1000 1000 1000			
ELECTRONIC SIGNATURE SERIAL NUMBER		CITY OF TAMARAC APPLICATION NUMBER			
Submitted to Excellence Always					
					

An “electronic signature” is self-created in your PDF software (Adobe / Bluebeam). Nothing external proves who it belongs to.

So Florida requires a second step: a hand-signed, sealed affidavit that affirms the file's hash — and indexes exactly what it covers.

One affidavit does not cover all seals.

Two pieces should arrive together
If either is missing, it isn't sealed:

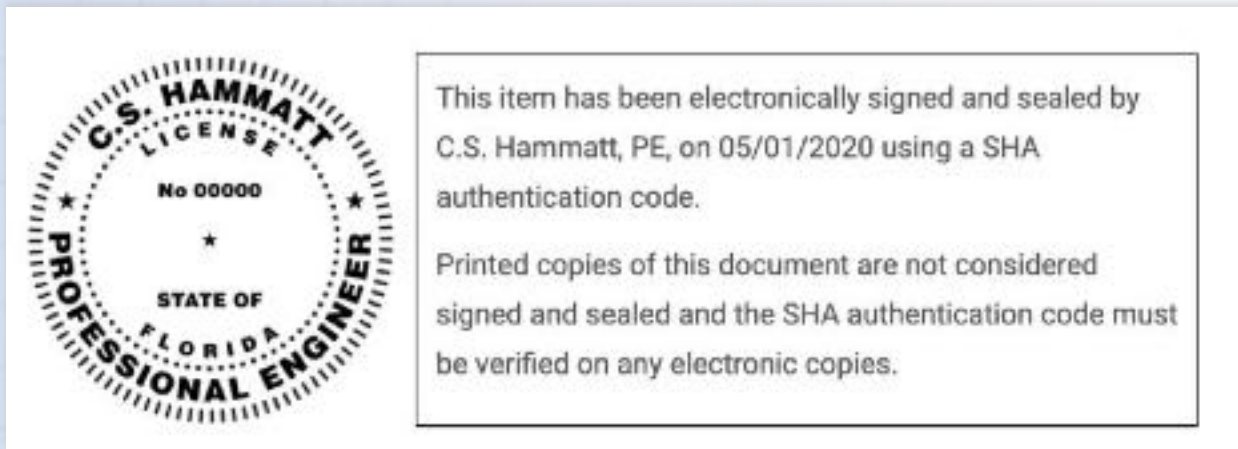
- ## 1. The electronically-signed file

(carries the SHA-256 hash)

- ## 2. The signed & sealed affidavit

(affirms that hash + lists what it covers)

ELECTRONIC — WHAT IT LOOKS LIKE ON THE FILE



Required text on the document:

- “electronically signed and sealed ... using a SHA authentication code”
- “printed copies are not signed and sealed and the SHA code must be verified on any electronic copies”

**Don't reject a file just because it has no seal image — the seal graphic is optional.
The required signature-block text is what you check for.**

REALITY CHECK — ELECTRONIC IS RARELY PREFERRED

Most departments prefer — and increasingly require — digitally signed & sealed documents.
The electronic (SHA + signed report) method is valid but rare,
and printed copies of either are never considered sealed.

Publish your format

State plainly what your portal accepts — digital signature, or the electronic method — so engineers submit it right the first time. It prevents most rejected submittals.

The electronic method comes in two parts

If you accept it, the submittal must include both the file AND a hand-signed, sealed signature report — and the file's SHA code must match the code on that report.
No match, or no report = not sealed.

A printed seal isn't electronic

A printout of a digitally or electronically sealed document is not signed and sealed. Validate the live file, not the paper.

PART 4

The Digital Method

FAC 61G15-23.004 — third-party certificate authority

DIGITAL SIGNING — THE RULE

FAC 61G15-23.004

A valid digital signature must be:

- Unique to the sealing engineer
- Capable of verification
- Under the engineer's sole control
- Linked so any change invalidates it

And certified by outside means:

- Your identity is authenticated by a **certification authority**
- A file self-signed with Adobe's built-in option alone does NOT qualify as digital — that's the electronic method. A CA-issued certificate used through Adobe/Bluebeam does qualify.

•If you see a self-signed signature with no CA behind it, treat it as electronic and require the affidavit.

DIGITAL SIGNATURES ARE THIRD-PARTY VERIFIED

A third-party certificate authority vouches for the document's validity



Cross-certified with the Federal Bridge — widely accepted by federal, state & local agencies for sealed plans.



Major PKI provider; document-signing certificates, timestamping & long-term validation.



Established public CA issuing document-signing certificates.



Public CA / trust service provider for PKI document signing.

Each issues a vetted certificate for an annual fee (not “a SHA code”).
FBPE does not approve or list authorities — choosing a compliant CA is up to the sealing engineer.

DIGITAL SEAL NOTE: the FILE is sealed, not each page

DIGITAL — THE ON-DOCUMENT VERBIAGE



This item has been digitally signed and sealed by
C.S. Hammatt, PE, on 05/01/2020.

Printed copies of this document are not
considered signed and sealed and the signature
must be verified on any electronic copies.

Two statements are required (61G15-23.004):

1. "This item has been digitally signed and sealed by [name], PE, on [date]."
2. "Printed copies are not considered signed and sealed and the signature must be verified on any electronic copies."

**If no seal image is shown, the signature
block must contain everything that
would appear in the seal**

PART 5

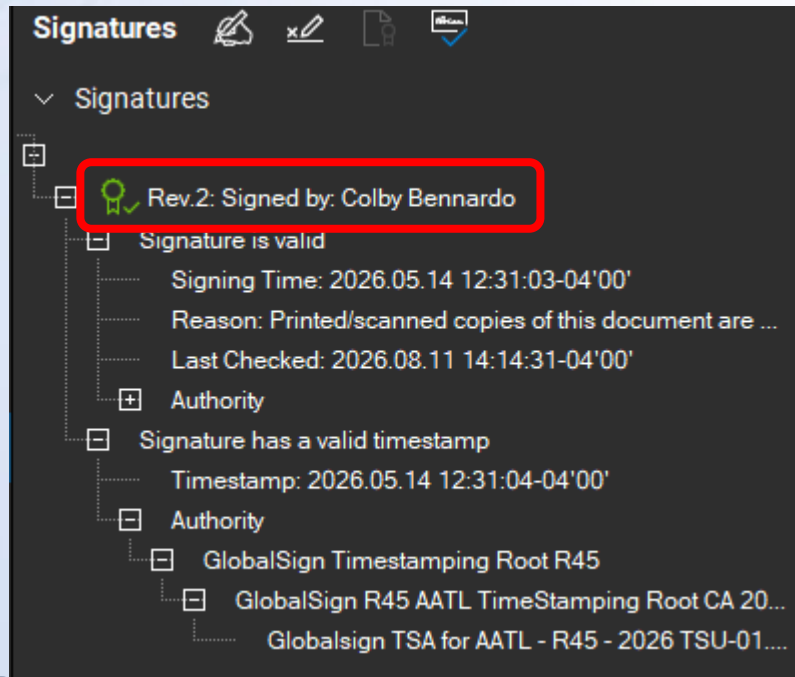
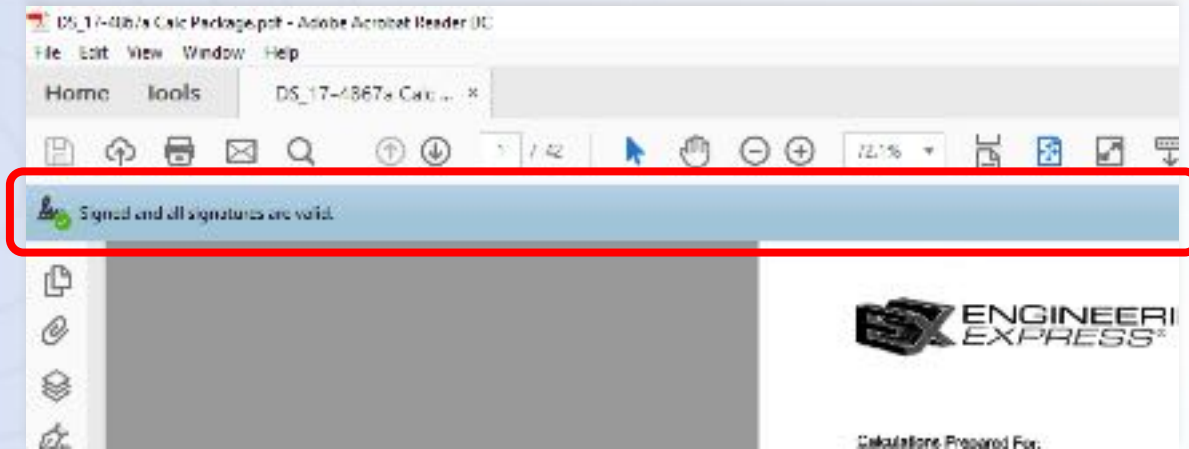
Verifying & Spotting Fraud

Reading the signature panel — and catching fakes

HOW TO VERIFY A DIGITAL SIGNATURE

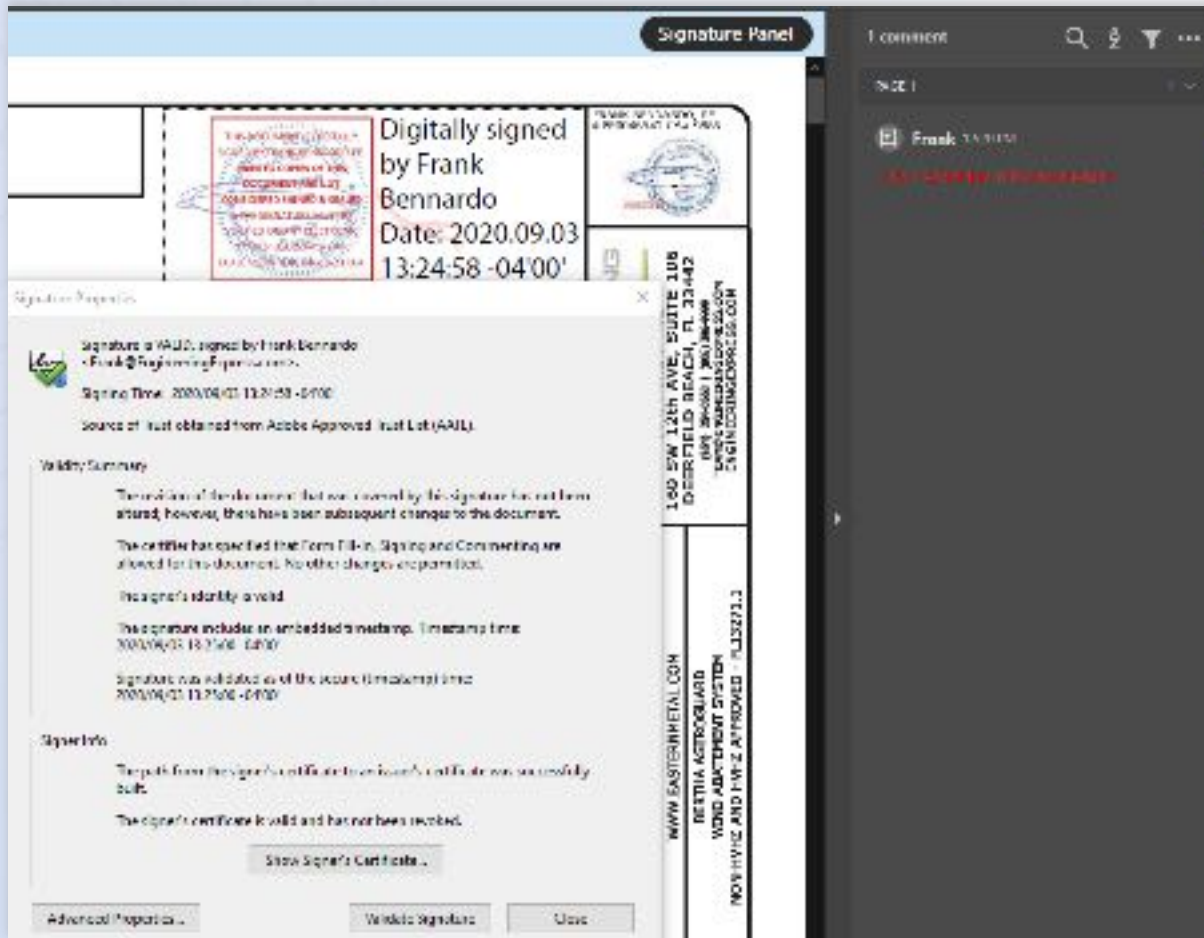
In Adobe or Bluebeam:

- A blue bar / green check = signatures valid
- Click the signature to open its Properties
- Confirm identity, integrity, timestamp & revocation



A printed copy can never be
“verified.” Validation only works
on the live electronic file.

READING THE SIGNATURE PROPERTIES



A valid panel confirms:

- The signer's identity is valid
- The document hasn't been altered since signing
- An embedded timestamp fixes the signing time
- The certificate is valid and not revoked
- The trust path builds to a trusted root

VALID vs. CHANGED vs. INVALID

Comment

Signed and all signatures are valid, but with unsigned changes after the last signature.

Signatures

Validate All

Rev. 1: Signed by Frank Bennardo <Frank@Engir>

Annotations Created

FreeText annot on page 1

I JUST MODIFIED THIS DOCUMENT

GENERAL NOTES

1. THE SYSTEM DESCRIBED HEREIN HAS BEEN DESIGNED AND TESTED IN ACCORDANCE WITH THE FLORIDA BUILDING CODE SEVENTH EDITION (2020) FOR USE WITHIN AND OUTSIDE THE HIGH VELOCITY HURRICANE ZONE PER TAS 201, 202 AND 203 TESTING STANDARDS. THE SYSTEM IS DESIGNED AS LARGE MISSILE RESISTANT.
2. NO 33-1/3% INCREASE IN ALLOWABLE STRESS HAS BEEN USED IN THE DESIGN OF THIS SYSTEM. WIND LOAD DURATION FACTOR Cd=1.6 HAS BEEN USED FOR WOOD ANCHOR DESIGN.
3. POSITIVE AND NEGATIVE DESIGN PRESSURES CALCULATED FOR USE WITH THIS SYSTEM SHALL BE DETERMINED PER SEPARATE ENGINEERING IN

At least one signature is invalid. Source of Trust obtained from AATL.

Signatures

Validate All

Rev. 1: Signed by SANCHIT KHANDWE <sanchitkhandwe@gmail.com>

Signature is invalid:

- Source of Trust obtained from Adobe Approved Trust List(AATL)
- Document has not been modified since this signature was applied
- Signer's certificate is invalid
- Signing time is from the clock on the signer's computer.

Signature Details

Last Checked: 2016.02.01 11:07:02 +01'00'

Field: first on page 1

[Click to view this version](#)

Valid, but with changes

Signed correctly, then edited afterward. The edits are flagged — treat with caution.

Invalid signature

Not from a trusted source, or altered. Do not accept.

HOW TO SPOT A FRAUDULENT SEAL

Ink seal on a plain PDF

A site-specific plan with an ink stamp and no digital signature is not valid — it's just a picture of a seal.

Rubbed-pencil emboss

A pencil-shaded seal on a scan is a forgery. Reject it.

Missing address

A site-specific plan with no project address in the title block is a red flag.

Scanned “digital” seal

Once printed and re-scanned, a digital seal is dead. “Once hard copy, always hard copy.”

Physical stays Physical – *Digital stays Digital*

SO HOW ARE PHOTOCOPIED PRODUCT APPROVALS OK?

Commonly printed and copied, but still valid!



FloridaProductApprovals.com

Because they've “passed through the gate.”

A Florida Product Approval / Miami-Dade NOA has already been reviewed and accepted by an approving body. The approval number is the verifiable link — so a copy is fine.

A site-specific sealed plan has no such gate — so it must be digitally verifiable.

PART 6

Other Boards & Other States

Architects, the NCEES baseline, and multistate cautions

ARCHITECTS FOLLOW A DIFFERENT RULE



FAC 61G1-16.005 · Board of Architecture & Interior Design

Architects & interior designers may sign digitally OR electronically. Same core criteria: unique, verifiable, sole control, invalidated on change; SHA authentication under FIPS 180-4.

Architects self-certify differently than engineers — their rule (61G1-16.005) does not require a third-party certificate authority. Verify architect seals per Chapter 481, not the engineering rules.

Engineers: Ch. 471 + 61G15-23. Architects: Ch. 481 + 61G1-16. Don't cross the citations.

THE NATIONAL BASELINE — NCEES MODEL RULES

Most states track this (Model Rules, Aug 2025)

A compliant digital seal must be:

- Unique to the licensee
- Independently verifiable
- Under the licensee's sole control
- Linked so any change invalidates it

Notice anything?

These are the same four criteria as Florida's 61G15-23.004. Florida was an early leader; most boards adopted the same test. A plain image of a stamp never satisfies this.

MULTISTATE CAUTIONS

PE vs. SE stamp

Some structures (hospitals, essential facilities, tall buildings, certain bridges) require a Structural Engineer license — not just a PE. Restrictions in CA, WA, OR, NV, UT, OK, AK, IL.

License in the destination state

A seal is only valid where the engineer is licensed — check the license state matches the project's jurisdiction. An SE licensed in one state can't stamp plans bound for another without that state's license.

Retention

Retain the sealed file (or the SHA file + affidavit) in the project record — Florida's minimum is ~3 years (61G15-30.009).

Confirm format with the AHJ

The AHJ should publish which formats are accepted, and apply only the rule that matches the format submitted.

WHERE THIS IS HEADING

Advancements to keep on your radar

High powered computers & AI systems to falsify signatures

Today's RSA & ECDSA are vulnerable to quantum computers.

NIST finalized quantum-resistant standards in 2024 (FIPS 204 & 205).

Stay up to date on AI advancements and any news about identity risks

Cloud & remote signing & other practices

Tokenless, cloud-based signing and mobile identity — sign from any device while keys stay in a secure module.

Confirm which remote practices are applicable per-state & per county

Sealing 3D / BIM models & Complex Files

Florida's rule already anticipates electronic multidimensional-model deliverables (61G15-23.001(5)). Sealing moves beyond the flat PDF.

We don't need paper to verify who any file came from

TAKEAWAYS

- 1 Three separate methods — physical, electronic, digital. Physical stays physical; digital stays digital
- 2 The engineer signs the FILE, not each page — verify the file, not each sheet.
- 3 A digital signature is trusted because a third-party certificate authority verified the engineer — states don't mandate which CA to accept.
- 4 Electronic = self-signed + a hand-sealed affidavit. Most AHJs prefer digital.
- 5 The certificate authority sells vetted identity, not “a SHA code.” SHA-256 is the free math underneath.
- 6 Publish the accepted format so submittals come in right — and retain the sealed records for three years.

RESOURCES

Engineering Express

EngineeringExpress.com/DS

How to validate a digital signature • Digital vs. scanned copy • Why seals expire • When a seal is required

Official rules & standards

FBPE — Signing & Sealing Engineering Documents

FAC 61G15-23.001–.005 | 61G15-18.011 (responsible charge) | 61G15-30.009 (retention)

Architects: FAC 61G1-16.005 | National: NCEES Model Rules (Aug 2025) | Federal: E-SIGN Act & UETA

Crypto standards: NIST FIPS 186-5 (DSS), FIPS 180-4 (SHA-2), FIPS 204/205 (post-quantum)



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