



# Department of Building & Fire Prevention

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## NOTICE TO INDUSTRY

### **Subject: Engineer & Land Surveyor Digital Signatures**

The Board of Engineers & Land Surveyors recently published an Electronic Submittal Digital Signature Guide (Guide), dated October 2020. A copy of the guide is attached.

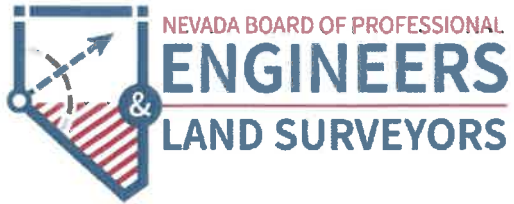
Effective March 8, 2021 the Clark County Department of Building and Fire Prevention will only be accepting digital signatures on engineered plans and documents in accordance with this Guide. Scanned copies of wet sealed paper documents will no longer be accepted.

Sincerely,

Jerome A. Stueve, P.E.  
Director / Building & Fire Official

JAS/ta

Attachment



# **Electronic Submittal Digital Signature Guide**

October 2020

## About This Guide

Nevada Board of Professional Engineers and Land Surveyors drafted this guide in collaboration with agencies and professionals. In moving to paperless submittals, agencies and professionals experienced various challenges with different approaches to resolving those challenges. Rather than professionals individually doing what they thought was best to comply with agency requirements and Nevada regulations and each agency developing its own guide to meet its unique submittal processes, it was agreed the board would facilitate the development of a guide that could be adopted by agencies and provide uniform guidance to professionals.

This guide is intended to be software agnostic. References to Adobe or Bluebeam are solely due to common familiarity with the software. The concepts illustrated within this guide described for Adobe and Bluebeam should be helpful when using other PDF software.

The purpose of this guide is to:

- Establish uniform guidelines for electronic submittals and digital signatures
- Enable consistency amongst public agency requirements for electronic submittals
- Guide professionals in preparing and submitting electronic submittals that conform to Nevada regulatory and agency requirements
- Serve as a resource for public agencies and professionals

## Conventions Used in this Guide

Terminology in this manual include the following:

- Electronic Submittal—submittal transmitted electronically
- Stamp Image—an image of a professional stamp, jpeg, tif, electronically created
- Electronic Signature—an image of a signature, jpeg, tif, or electronically created
- Digital Signature—certificate based encrypted signature that includes meta-data to identify the signer
- PDF—Portable Document Format
- Flatten—Conversion of a multi-layered document to a single layer, secures and locks all the elements of the document
- Slip Sheeting—replacing individual sheets of an original document with a new sheet, resulting in invalidating digital signatures of the original document
- PDF Package or Portfolio—a PDF package/portfolio is when multiple documents are packaged together into one PDF file without invalidating digital signatures

## Contents of this Guide

Included in this guide are the following:

- Electronic Submittals— Guidelines for preparing and submitting electronic plan sheets/documents
- Digital Signing of Documents—Guidelines on how to digitally sign electronic plan sheets/documents
- How to create a digital signature in Adobe Acrobat
- How to use a digital signature in Adobe Acrobat
- How to create a digital signature in BlueBeam Revu
- How to use a digital signature in BlueBeam Revu

## Electronic Submittals

Guidelines for preparing and submitting electronic plan sheets:

- Plans are **submitted electronically as a PDF file and remain electronic** throughout the submittal process. Documents are exported/saved to PDF, not printed and then scanned.
- **Use the combine file option** when combining PDF's to maintain smaller file sizes. Zip files, PDF packages and PDF portfolios can result in files too large to transmit electronically and are often not compatible with review software such as Bluebeam.
- PDF documents need to be **flattened prior to digitally signing** and transmitting electronically.
- Security settings for the document should be the lowest setting allowed by the software. **No password protected or locked documents.** Files must be protected to a level that allows mark-ups and corrections by reviewers.
- For plans that include multiple disciplines—architectural, landscape, civil, structural, plumbing, mechanical, electrical, etc—check with the agency for specific submittal requirements. Agencies may require:
  - The prime professional to submit separate files for each discipline
  - Each discipline to submit their plans individually to the agency
  - The prime professional to combine files into a single file by “stapling” (BlueBeam), or “combining” into a single document (Adobe)
- Each discipline/design professional adds their stamp image and signature image to each of their plan sheets, and then adds their digital signature to their cover/title/first page. Then the professional's plans are transmitted to the prime professional who will submit the plans or staple/combine each professional's plans and submit to the public agency. **Combining will invalidate the digital signatures** so each professional will need to reapply their digital signature after the document is combined. Alternatively, all digital signatures can be applied to the appropriate discipline cover sheet after all sets have been combined.
- The **first page of each PDF file for each discipline** including plan sheets, structural calculations, geotechnical reports, drainage reports, etc, require a digital signature.
- Each plan sheet of the submittal needs to include an image of the professional's stamp along with an image of the professional's signature. The **digital signature is applied only to the cover/title/first page** of each professional's submittal for a project.
- Engineer and Land Surveyor professionals must use **digital signatures per NAC 625.610** in combination with a stamp, expiration date, and date of signature.
- A software certified document is not a digital signature, sign the document with a digital signature, do not use the certify document function in the software or lock the document in a manner that prevents review comments/changes.
- Professionals must take adequate protections to prevent fraud or misuse of their digital signature.
- To address review comments, each discipline must resubmit separate files similar to the initial submittal. **Each discipline submits their entire file with the updated/corrected sheets**, each sheet has an image of the professional's stamp with the image of the professional's signature, and the cover/title/first page includes the stamp image, signature image, and a new digital signature corresponding to the new resubmittal date—the new digital signature will include a new embedded date stamp.
- **Slip sheeting by professionals during the submittal process is not allowed** due to digital signature invalidation or software limitations.

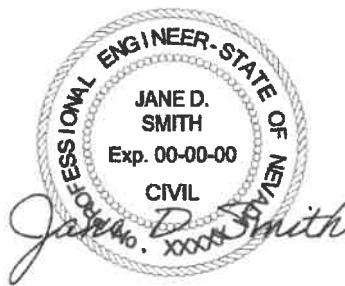
## Digital Signing of Documents

Electronic documents must be digitally signed, but not certified. As with paper plans, apply your stamp electronically to each sheet, this can be an image of your stamp or a stamp created electronically. Compile sheets into a single file with the image of your stamp and image of your signature on each page, and then apply your digital signature to the cover/title/first sheet.

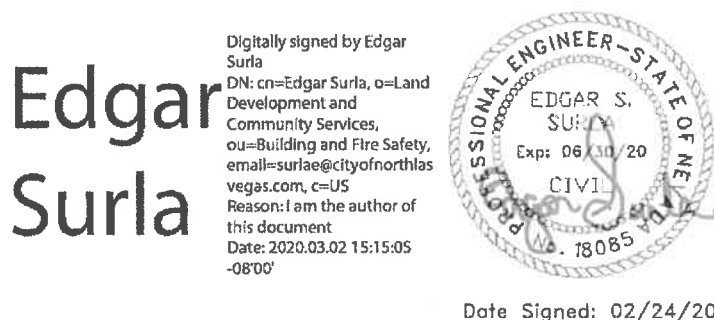
If there are multiple disciplines and the discipline files need to be compiled into a single file for submitting to an agency, compiling will invalidate the digital signature and the compiled document will need to be circulated to each of the professionals for reapplication of their digital signature.

If combining/compiling documents, combine the document with the stamp images and signature images for each design professional on the cover/title/first sheet of each discipline. Then have each design professional add their digital signature to the cover/title/first sheet for their discipline, being careful not to make changes to the document that would invalidate previous signatures.

Example of an electronic stamp with signature image:

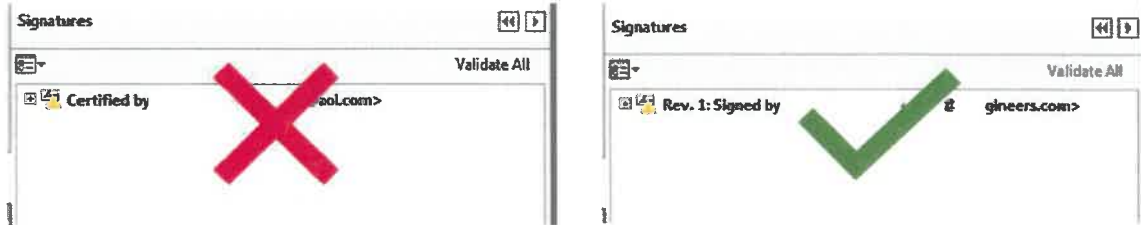


Example of an electronic stamp and signature image with the digital signature added next to the image of the stamp:



A digital signature can show the name as text, as shown, or as an image of the signature. When the digital signature is shown as an image of the signature it is not necessary to add a separate signature image.

A common error that many professionals make when preparing documents for submittal is using the CERTIFIED BY function of the software instead of digitally signing. Using the software certify function prevents plan reviewers from performing critical functions needed to complete a review.



To sign documents using Adobe Acrobat or BlueBeam Revu, the first step is to create a “self-signed digital ID.” The digital ID is password protected and contains your name, email address, organization name, a serial number, and an expiration date. It shows your identity every time you use it to sign a file.

You do not need to create a digital ID each time you need to use one. If you have already created a digital ID, then skip the following sections describing how to create a digital signature and refer to the following sections on using a digital ID.

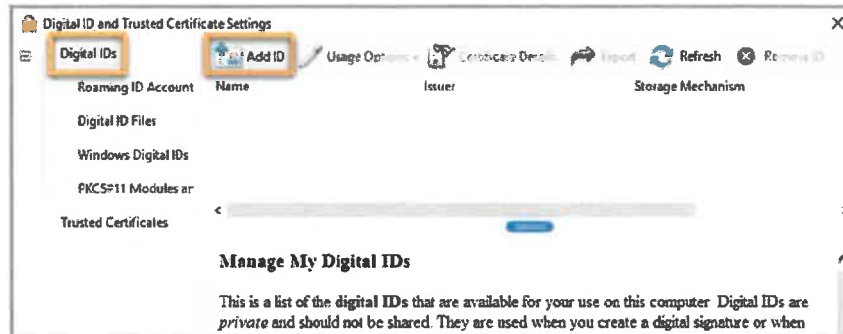
## Create a Digital ID Using Adobe Acrobat

In Acrobat, click the EDIT menu and choose PREFERENCES, then choose SIGNATURES.

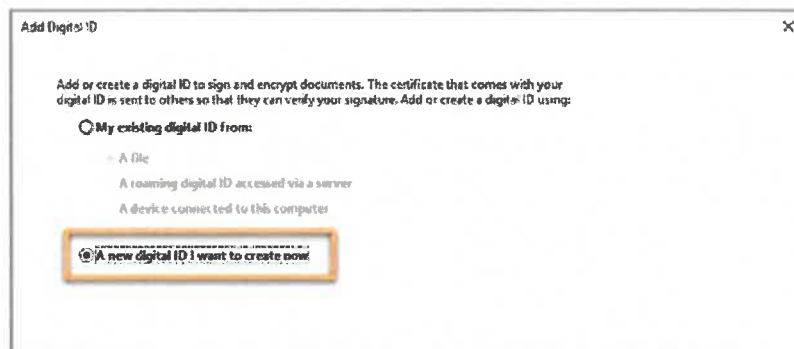
On the right, click MORE FOR CREATION & APPEARANCE, then click box to check SHOW REASONS under WHEN SIGNING, then click OK.

On the right, click MORE for IDENTITIES & TRUSTED CERTIFICATES.

Select DIGITAL IDs on the left, and then click the ADD ID button.

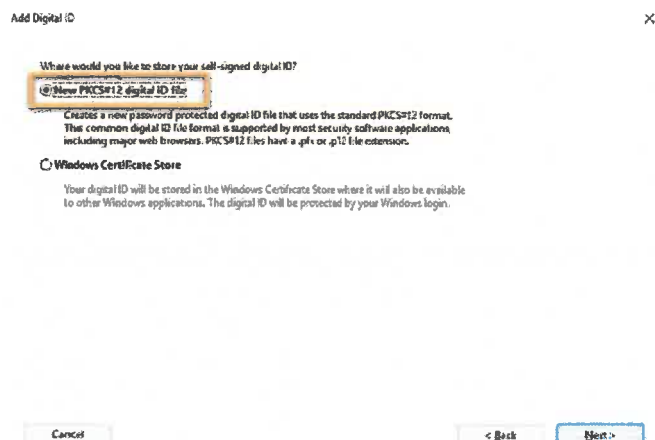


Select the option A NEW DIGITAL ID I WANT TO CREATE NOW, and click NEXT.



Specify where to store the digital ID, and click NEXT. Use the option below that best fits your needs:

- New PKCS#12 Digital ID File: Stores the digital ID in a file that can be used in both Windows and Mac OS
- Windows Certificate Store (Windows only): Stores the digital ID in a common location for Windows applications



Do the following:

Type your name, email address, and other personal information for your digital ID. When you sign a document, the name appears in the Signatures panel and in the Signature field.

Choose the 1024-bit RSA option from the Key Algorithm menu.

From the USE DIGITAL ID FOR menu, choose whether you want to use the digital ID for signatures, data encryption, or both. For signing plans/documents, choose “Digital Signatures.”

Click Next.

Enter your identity information to be used when generating the self-signed certificate.

Name (e.g. John Smith): John Doe

Organizational Unit: Building and Fire Safety

Organization Name: Land Development and Community Services

Email Address: JDoe@cityofnorthlasvegas.com

Country/Region: US - UNITED STATES

Key Algorithm: 2048-bit RSA

Use digital ID for: Digital Signatures and Data Encryption

Cancel < Back Next >

Do the following:

Type and confirm a password for the digital ID file. You will need this password each time you use your ID.

The digital ID file is stored at the default location as shown in the File Name field. If you want to save it somewhere else, click Browse and choose the location. Make a note of where your ID is stored.

Click Finish.

If a digital ID file with the same name exists, you are prompted to replace it. Click OK to replace or browse and select a different location to store the file.

Enter a file location and password for your new digital ID file. You will need the password when you use the digital ID to sign or decrypt documents. You should make a note of the file location so that you can copy this file for backup or other purposes. You can later change options for this file using the Security Settings dialog.

File Name: C:\AppData\Roaming\Adobe\Acrobat\DC\Security\JohnDoe.pfx Browse...

Password: [masked]

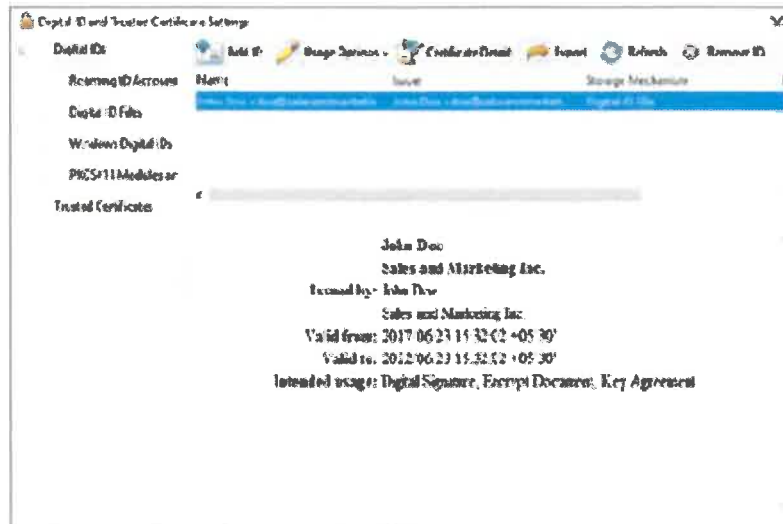
Confirm Password: [masked]

Strong

Cancel < Back Finish



Your digital ID has now been created.



NOTE: Make a backup copy of your digital ID file. If your digital ID file is lost or corrupted, or if you forget your password, you cannot use it to add signatures to files and you won't be able to unlock/edit previously signed files.

## Use Your Digital ID to Sign A PDF File in Adobe Acrobat

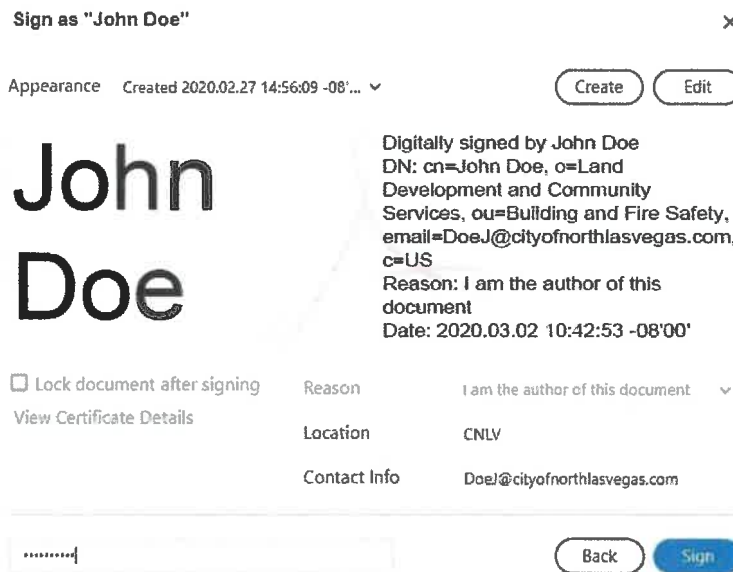
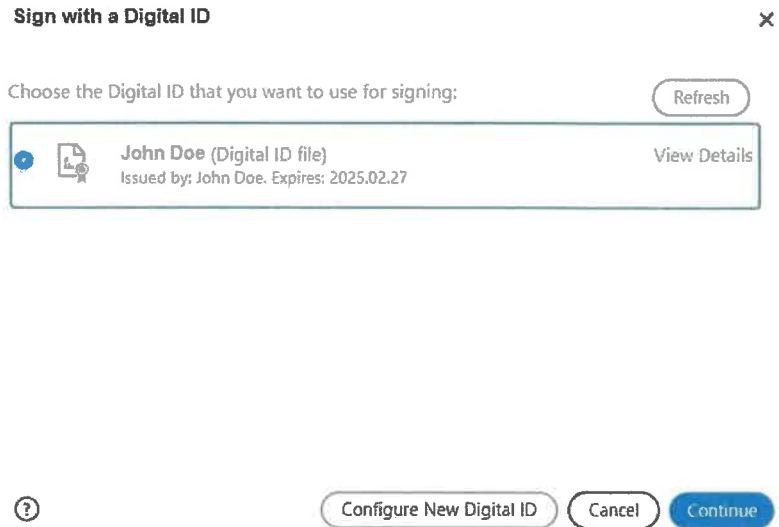
This process may vary slightly depending on which version of Adobe Acrobat you use.

Open the file to be signed.

In Acrobat, click TOOLS tab next to home then click CERTIFICATES. Click DIGITALLY SIGN and then click and hold down your mouse to draw a rectangle on the area of the document that you want to sign.

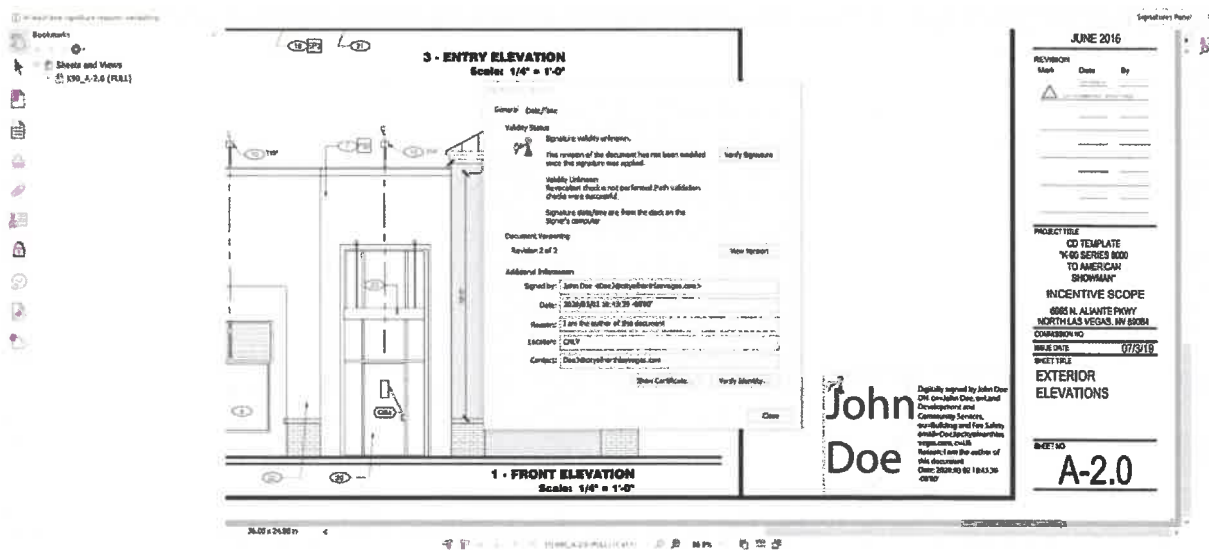
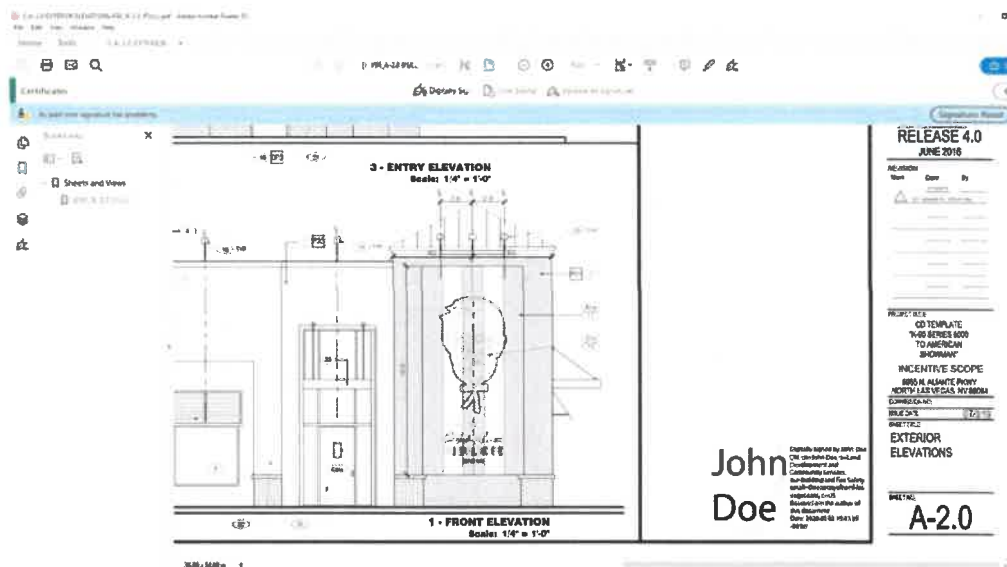
Choose the digital ID then click CONTINUE

Under REASONS, click drop down and choose I AM THE AUTHOR OF THIS DOCUMENT then enter PASSWORD, and click SIGN.



Once you click SIGN, you will be prompted to save your file.

Your document is signed and is ready to be transmitted. Your signature will appear on the document in the area where you drew the rectangle, and the file will show that the signature is valid.



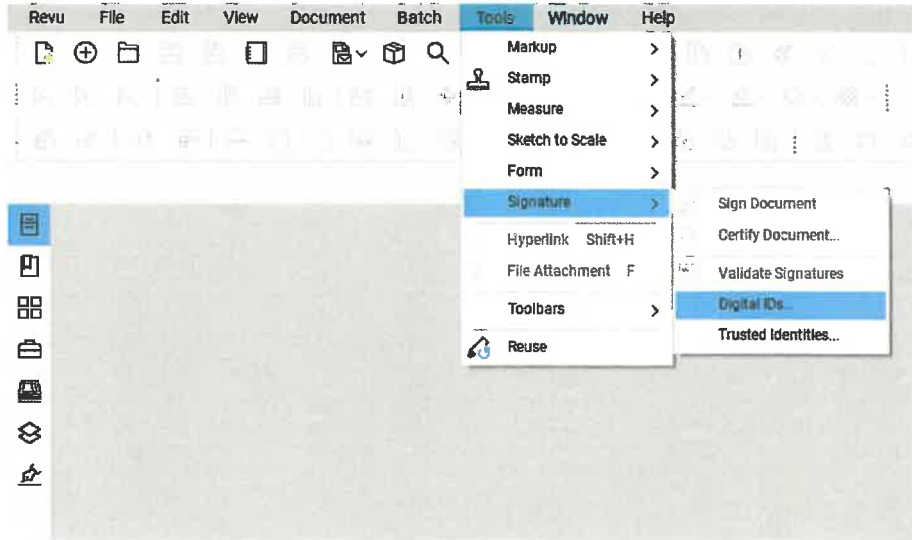
Any changes made to the file from this point on will invalidate the signature.

For additional help, consult the Adobe Acrobat User Guide available at <https://helpx.adobe.com/acrobat/user-guide.html>. You can also use Adobe's digital ID resources available at <https://helpx.adobe.com/acrobat/using/digital-ids.html>.

## Create a Digital ID Using BlueBeam Revu 2019

In BlueBeam, click the TOOLS menu and select the SIGNATURES icon. Then choose DIGITAL IDs...

On the window that appears, click the GREEN PLUS SIGN to add a new signature.



Select CREATE DIGITAL ID FILE and in the USAGE field, choose DIGITAL SIGNATURES AND DATA ENCRYPTION. Then fill in your personal information, enter a password for the ID file, and click OK.

New Digital ID

Browse for existing Digital ID file

**Create Digital ID file**

Create a password-protected Digital ID file using the PKCS#12 format. This file format is accepted by most security applications and web browsers. These files will have a .pfx file extension.

Create Digital ID in Windows Certificate Store

Create a Digital ID in the Windows Certificate Store where it is available to other Windows Applications. This Digital ID is protected by your Windows login.

Identity

Name: John Doe

Organizational Unit: Development Services

Organization Name: City and County of Denver

E-mail Address: john.doe@denvergov.org

Country / Region: US - UNITED STATES

**Usage: Digital Signatures and Data Encryption**

Key Algorithm: 1024-bit RSA

PKCS#12 Options

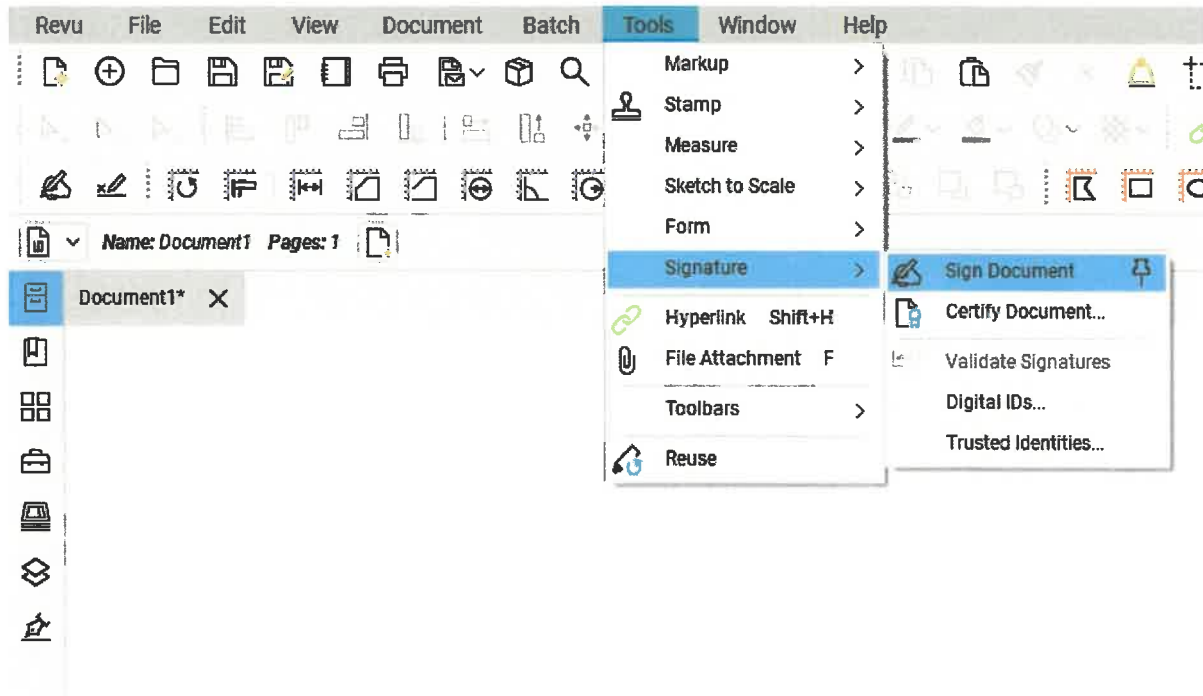
File: <file location on your computer where you want the ID stored>

Password: ●●●● Confirm: ●●●●

OK Cancel

## Use Your Digital ID to Sign A File Using Bluebeam Revu 2019

In BlueBeam, click the TOOLS menu and select the SIGNATURES icon. Then choose SIGN Document.

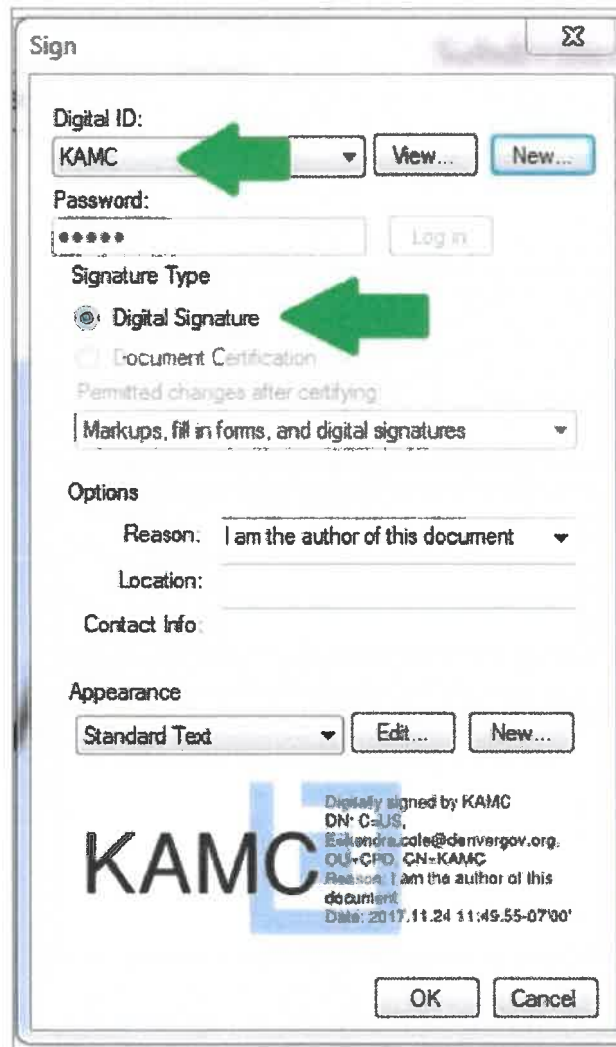


Click and hold down your mouse to draw a rectangle in the area of the document where you want to sign.

Using the DIGITAL ID: drop-down arrow, select the digital ID file you want to use. Then, enter your password.

Under SIGNATURE TYPE, select DIGITAL SIGNATURE.

After you click OK, you will be prompted to save your file.



Any changes made to the file from this point on will invalidate the signature. For additional help, consult <https://support.bluebeam.com/online-help/revu2019/Content/RevuHelp/Tutorials/Digital-Signatures.htm>