

Digital Notes Requirements and Guidelines

FEDERAL HOME LOAN BANK OF DES MOINES



TABLE OF CONTENTS

Introduction	1
UCC Article 8	1
Origination Requirements	2
Requirements of the Securities Intermediary	3
Requirements for Pledging	4
Glossary	5

Disclaimer

The requirements and guidelines in this document are subject to change. FHLB Des Moines reserves the right to modify, update, supplement, delete, or adjust the requirements and guidelines and to discount, haircut, or reject any collateral pledged in its sole discretion.

Digital Notes Requirements and Guideline

INTRODUCTION

Federal Home Loan Bank of Des Moines (FHLB Des Moines or the Bank) began accepting Residential 1-4 family 1st Mortgage¹ and amortizing 2nd Mortgage eNotes (Resi eNotes) as pledged collateral in 2020. The requirements for Resi eNotes are unchanged and you should refer to the [Residential eNote Requirements and Guidelines](#) dated August 11, 2020, for pledging Resi eNotes.

The requirements and guidelines in this document are for eligible Digital Notes² secured by real estate and evidenced by Electronic Records³ that are executed using Electronic Signatures⁴ for the following loan categories:

- Commercial Real Estate (CRE)
- Multifamily Real Estate (MF)
- Agricultural Real Estate (Ag)
- Home Equity Lines of Credit (HELOCs)

Eligible Digital Notes collateral may be pledged by members who have an executed Blanket Advance, Pledge and Security Agreement (Blanket APSA). Digital notes may only be pledged using a tri-party digital collateral control agreement or equivalent and a Digital Custodian,⁵ also referred to as a “Securities Intermediary,”⁶ to maintain Authoritative Copies⁷ of the Digital Notes. Only loans originated after the executed tri-party agreement will be eligible. The Digital Custodian also must meet specific record management requirements, outlined below, to ensure the integrity, reliability and authenticity of the Digital Notes pledged to FHLB Des Moines.

Electronic modifications, extensions and change in terms will be accepted if they are signed electronically and are associated and stored with the Digital Note. The Digital Note needs to be de-pledged and moved from the tri-party Securities Account during the execution of the modification, extension and change in terms. Once executed and associated with the Digital Note, it can be pledged again as a package. Digital Notes with wet-signed paper modifications, extensions and change in terms associated with a Digital Note will be ineligible. New York Consolidation, Extension and Modification Agreements (CEMAs) will not be accepted as eligible collateral.

UCC ARTICLE 8

FHLB Des Moines accepts Digital Note collateral under a legal framework based on Article 8 of the Universal Commercial Code (“UCC”). Article 8 provides a legal framework that allows FHLB Des Moines to perfect and control collateral in digital form. This pledging structure involves using one or more Securities Accounts with a third-party Securities Intermediary and is distinct from the way the Bank accepts non-digital collateral and Resi eNotes.

Why Article 8?

FHLB Des Moines requires the ability to perfect and control any electronic collateral pledged to it to secure advances. UCC Article 9 only has a framework for controlling pledged collateral that qualify as transferable records, the equivalent of a negotiable instrument under UCC Article 3, such as eNotes. Digital Notes, which, by definition, are not transferable records, are not eligible to be pledged under Article 9 in a manner that would allow FHLB Des Moines to achieve control. Alternatively, Article 8 has an acceptable framework that can be used for Digital Notes and still allow FHLB Des Moines to establish control of the electronic collateral, if necessary.

ORIGINATION REQUIREMENTS

1. **Consent** – Each party to the transaction must agree to use Electronic Records and Electronic Signatures in place of written documents and manual signatures. Additionally, for consumer transactions, including HELOCs, the ESIGN Consumer Consent Process⁸ must be followed.
2. **Authority** – Transaction participants must have authority to engage in the Transaction and to make agreements. Authority may be established in accordance with current practices. Certificates or resolutions addressing authority may be executed and delivered electronically.
3. **Authentication**⁹ – The identity of the transaction participants must be established in some manner that:
 - a. Confirms a transaction participant's actual identity or status as an authorized business representative at the beginning of the transaction (“Initial Authentication”¹⁰); and
 - b. Confirms that the same person initially identified as a transaction participant continues to be the person participating in the Transaction (“Ongoing Authentication”¹¹).
4. **Presentation** – Electronic Records:
 - a. Must be presented so that they are easy to identify, navigate and read;
 - b. Must be presented at the appropriate time and sequence in the context of the transaction; and
 - c. Must NOT be presented in a manner that permits the signing parties to “jump” directly to signature lines without having to open and view the document to be signed.
5. **Electronic Signature** – All Electronic Signatures used in connection with transactions should result in a visual symbol evidencing the signer's Electronic Signature that appears on a signature line in the Electronic Record. The process through which the Electronic Signature is created must:
 - a. Establish the signer's intent to create the signature;
 - b. Attach the Electronic Signature to, or logically associate the Electronic Signature with the Electronic Record being signed; and
 - c. Establish that a previously identified transaction participant is the person accessing, reviewing and/or signing the Electronic Records (Ongoing Authentication).
6. **Attribution** – The Electronic Signature process must create and preserve evidence of the identity of the person who signed, in order for the signed Electronic Record to be enforceable against the signer.
7. **Audit Trails**¹² – Evidence of each Electronic Signature that is either incorporated into, or logically associated with, a signed Electronic Record must be captured in an Audit Trail and must include data relevant under the circumstances and appropriate to the type of Electronic Signature and the transaction. The Audit Trail(s) must cover the entire life cycle of the loan. Specifically:
 - a. Date and time the signer(s) accessed the eClosing System
 - b. Date and time the signer(s) consented to conduct the closing transaction electronically
 - c. The version or other system identifier which can be used to determine the content of the consent to conduct the closing transaction electronically that was displayed to the signer
 - d. Date and time of any alterations that were made to an Electronic Record and the user that made such alterations
 - e. Date and time that the signer successfully completed each and ultimately all factors of the applicable authentication process
 - f. Date, time, and system identifier of each Electronic Record accessed by a user
 - g. Date and time each Electronic Record is electronically signed, the type of Electronic Signature used, the attribution of the Electronic Signature to the signer and the attribution of the signer's Electronic Signature to the Electronic Record

Digital Notes Requirements and Guidelines

- h. Internet Protocol (IP) Address of the computer used by each user; and,
 - i. Tamper-Evident Seal for each electronically signed Electronic Record including the date and time the Tamper-Evident Seal was applied to the Electronic Record
 - j. Date and time of any copies created and where they have been sent or captured, as well as the authoritative copy being originated and then sent directly to the Securities Account
- 8. Integrity of the Electronic Records** – Electronic Records should be maintained in a manner that establishes that they have not been altered since they were presented or signed. The signing tool should have the ability to be integrated with the Securities Intermediary or have an Application Program Interface (API) to demonstrate the Electronic Records were not altered between execution of the note and deposit of the note in the Securities Account.
- 9. Sending/Receipt** – Sending and receiving Digital Notes must follow the requirements for sending and receiving Electronic Records under UETA.
- 10. Conversion to Paper-Based Note** – Loan documentation must include a clause indicating the borrower’s consent to each of the following:
- a. The holder of the Digital Note may convert the note to a physical paper note.
 - b. The electronic signing and delivery of the Digital Note also constitutes signing and deliver of the physical paper note, if the holder of the Digital Notes chooses to convert it to a physical paper note.
 - c. The electronic signatures associated with the Digital Note, when evidenced on a physical paper note, constitutes a legally valid and binding signature.
 - d. The borrower’s obligations will be evidenced by the physical paper note after it is converted from the Digital Note.

An example of a valid consent clause is as follows:

I expressly agree that the holder of this Digital Note and any person to whom this Digital Note is later transferred shall have the right to convert this Digital Note at any time into a physical, paper-based note (the “Paper-Based Note”). In the event this Digital Note is converted into a Paper-Based Note, I further expressly agree that the Paper-Based Note will be an effective, enforceable and valid debt obligation under the applicable law in the relevant jurisdiction; my signing of this Digital Note will be deemed execution and delivery of the Paper-Based Note; I intend that the printing of the representation of my Electronic Signature upon the Paper-Based Note from the system in which the Digital Note is stored will be my original signature on the Paper-Based Note and will serve to indicate my present intention to authenticate the Paper-Based Note; the Paper-Based Note will be a valid original writing for all legal purposes; and upon conversion to a Paper-Based Note, my obligations in the Digital Note shall automatically transfer to and be contained in the Paper-Based Note, and I intend to be bound by such obligations.

- 11. Record Retention by the Originator** – The originator must retain records and be able to produce evidence establishing the integrity and reliability of the Electronic Records have been protected since the time the Electronic Records were first presented for effect or signed, as applicable. It should be possible to logically associate material transaction data through identifiers that may be both used within the transaction system and transmitted to other systems for management and storage.
- 12. Record Retention by the Recipient/Signer** – Counterparties must have the opportunity to retain copies of the documents, including a fully executed copy that includes lender’s signature.

REQUIREMENTS AND ONGOING MANAGEMENT OF THE SECURITIES INTERMEDIARY

The Securities Intermediary must fulfill the following requirements:

- 1. Ability to either be integrated or have an API with the origination signing tool and be able to accept the electronically deposited Digital Notes immediately after signing.
- 2. Ability to transfer copies of Electronic Records to and from other systems.

Digital Notes Requirements and Guidelines

3. Management of all copies of Electronic Records, including:
 - a. Ability to logically associate with specific transactions, clients, products and lines of business
 - b. Validation of digital certificates
 - c. Support for application and testing of digital signatures and certificates
 - d. Verification of Electronic Record integrity at time of transfer to the record management system
 - e. Detection of post-deposit alterations to record
 - f. Detection of post-signature alterations for signed records
 - g. Protection of all records from undetected alteration while in the record management system using tamper-evident technology
 - h. Ability to add custom metadata elements to be associated with records
 - i. Ability to associate customized metadata elements with stored documents
 - j. Encryption of Electronic Records for storage
 - k. Ability to retrieve metadata
 - l. Search functions using metadata
 - m. Updates to metadata when permitted without impairing document integrity
 - n. Support for record retention/destruction processes
4. Access Security - Ability to capture Audit Trail and other audit data for major user functions and events for:
 - a. Administrators
 - b. Employees with access by role
 - c. Others with access
 - d. Backup and restore functions
5. Administration, including:
 - a. Printable Audit Trail reports and report formats for all vaulting functions/interactions
 - b. Audit Trails protected from undetected alteration, replacement (except from backup) or deletion after creation
 - c. User interface for the record management system functions and Audit Trail management
 - d. Hierarchical Credential¹³ structure that permits users with access limited based on role
 - e. Backup and restore functionality for Electronic Records, Audit Trails and all associated metadata

REQUIREMENTS FOR PLEDGING

1. Member establishes a Securities Account with a third-party custodian that meets the requirements of the Securities Intermediary outlined above.
2. A tri-party digital collateral control agreement, or equivalent, is executed between the Member, FHLB Des Moines and the Securities Intermediary.
3. Member and Securities Intermediary administer implementation and conduct testing, including testing by FHLB Des Moines.
4. After successful testing, FHLB Des Moines turns on the collateral type codes specific to Digital Notes.
5. Member originates Digital Notes as Electronic Records which meet all the requirements outlined in the "Origination Requirements" section above.
6. Member pledges the Digital Notes as collateral by depositing them into the triparty Securities Account.
7. Once the Digital Notes are in the Securities Account, they can be pledged to FHLB Des Moines in the normal course of business using the same reporting method the member uses pledging paper loans.

GLOSSARY

1. **Mortgage.** A mortgage, deed of trust or security deed evidencing a lien on real property securing a debt obligation.
2. **Digital Notes.** A debt obligation evidenced by Electronic Records and executed using Electronic Signatures and stored with a Digital Custodian. A Digital Note is not a transferable record under the federal ESIGN Act or the Uniform Electronic Transactions Act, such as an eNote, and does not include debt obligations evidenced by a physical record and executed with physical, wet-ink signatures that have been converted to an Electronic Record after execution.
3. **Electronic Record.** A record created, generated, sent, communicated, received, or stored by electronic means.
4. **Electronic Signature.** An electronic sound, symbol or process attached to or logically associated with a record and executed or adopted by a person with the intent to sign the Record.
5. **Digital Custodian.** The administrator of the platform and the account where Digital Notes are stored as financial assets in accordance with UCC Article 8.
6. **Securities Intermediary.** A person who agrees to hold Security Entitlements in a Securities Account for an Entitlement Holder.
7. **Authoritative Copy.** An accurate, true, and complete copy of a fully executed Electronic Record or group of Electronic Records evidencing a Digital Note.
8. **ESIGN Consumer Consent Process.** The procedure for obtaining consumer consent to electronically deliver information otherwise required by law to be in writing, as provided under the federal ESIGN Act.
9. **Authentication.** Authentication refers to the process of identifying a transaction participant. There are two types of Authentication: Initial Authentication and Ongoing Authentication.
10. **Initial Authentication.** Initial Authentication is generally performed in connection with the creation of a relationship and can refer to the Authentication of a Transaction Participant's actual identity as an individual, and/or, in the context of a commercial transaction, the transaction participant's business title or role and authority to act as the representative of a legal entity created by law.
11. **Ongoing Authentication.** Ongoing Authentication is generally performed in connection with the transaction participant's participation in a transaction and can be used to confirm a transaction participant's identity as established during the Initial Authentication.
12. **Audit Trail.** Documentation and Electronic Records generated by a technology platform or system which evidence the delivery of, display of, presentation of, access to, consent to, and/or signing of, and ongoing integrity and accuracy of, Electronic Records.
13. **Credential.** A token, device or process provided to a transaction participant for Authentication of his/her identity in connection with a transaction or series of transactions. Examples include PINs, passwords, digital certificates, stored biometric measurements, and random-number generators.