

# \$1,276,213,803 Government National Mortgage Association GINNIE MAE®

# Guaranteed REMIC Pass-Through Securities and MX Securities Ginnie Mae REMIC Trust 2023-112

#### The Securities

The Trust will issue the Classes of Securities listed on the front cover of this offering circular supplement.

### The Ginnie Mae Guaranty

Ginnie Mae will guarantee the timely payment of principal and interest on the securities. The Ginnie Mae Guaranty is backed by the full faith and credit of the United States of America.

#### The Trust and its Assets

The Trust will own Ginnie Mae Certificates.

The securities may not be suitable investments for you. You should consider carefully the risks of investing in them.

# See "Risk Factors" beginning on page S-10 which highlights some of these risks.

The Sponsor and the Co-Sponsor will offer the securities from time to time in negotiated transactions at varying prices. We expect the closing date to be August 30, 2023.

You should read the Base Offering Circular as well as this Supplement.

The securities are exempt from registration under the Securities Act of 1933 and are "exempted securities" under the Securities Exchange Act of 1934.

nie mae kemi	C Trust 2	2023-	112			
Class of REMIC Securities	Original Principal Balance(2)	Interest Rate	Principal Type(3)	Interest Type(3)	CUSIP Number	Final Distribution Date(4)
Security Group 1						
AS(1)	\$150,000,000	(5)	NTL(PT)	INV/IO	38384CT90	August 2053
В	30,000,000	6.00%	PT	FIX	38384CU23	August 2053
BS(1)	50,000,000	(5)	NTL(PT)	INV/IO	38384CU31	August 2053
FA(1)	150,000,000	(5)	PT	FLT	38384CU49	August 2053
FB(1)	50,000,000	(5)	PT	FLT	38384CU56	August 2053
IA(1)	150,000,000	(5)	NTL(PT)	INV/IO	38384CU64	August 2053
IB(1)	50,000,000	(5)	NTL(PT)	INV/IO	38384CU72	August 2053
LB(1)	67,613,232	5.50	SEQ	FIX	38384CU80	February 2051
LV(1)	7,818,828	5.50	SEQ/AD	FIX	38384CU98	July 2034
LZ(1)	9,567,940	5.50	SEO	FIX/Z	38384CV22	August 2053
	7,701,710	7.74				1108001-000
Security Group 2 BA	24,000,000	6.50	SEO/AD	FIX	38384CV30	Dagamban 2062
	24,000,000 111,574	6.50	SEQ/AD SEQ	FIX/Z	38384CV48	December 2062 August 2063
BZ	111,5/4	0.50	SEQ	IIA/Z	30304C V 40	August 2003
Security Group 3						
FC	100,000,000	(5)	PT	FLT	38384CV55	August 2053
SC	100,000,000	(5)	NTL(PT)	INV/IO	38384CV63	August 2053
Security Group 4						
AC	10,000,000	6.70	SEQ/AD	FIX	38384CV71	June 2050
AI	428,571	7.00	NTL(SEQ/AD)	FIX/IO	38384CV89	June 2050
CZ	411,078	7.00	SEQ	FIX/Z	38384CV97	August 2053
Security Group 5	,					
ET	34,002,526	7.00	PT	FIX	38384CW21	August 2063
	34,002,320	7.00	11	1174	303040 11 21	August 2005
Security Group 6			~~~			
A	6,867,649	6.00	SEQ	FIX	38384CW39	April 2049
AV	1,491,719	6.00	SEQ/AD	FIX	38384CW47	June 2034
AZ(1)	1,640,632	6.00	SEQ	FIX/Z	38384CW54	August 2053
DA	75,000,000	6.00	SEQ	FIX	38384CW62	October 2050
EA	30,000,000	6.00	SEQ	FIX	38384CW70	June 2049
NA	10,000,000	6.00	SEQ/AD	FIX	38384CW88	November 2052
NZ(1)	117,908	6.00	SEQ	FIX/Z	38384CW96	August 2053
VA	9,135,965	5.50	AD/SEQ	FIX	38384CX20	November 2028
VI	761,330	6.00	NTL(AD/SEQ)	FIX/IO	38384CX38	November 2028
Z	25,000,000	6.00	SEQ	FIX/Z	38384CX46	August 2053
Security Group 7						
CT	10,000,000	6.50	PT	FIX	38384CX53	August 2053
Security Group 8	, ,					
FD	80,558,285	(5)	PT	FLT	38384CX61	August 2053
	80,558,285	(5)	NTL(PT)	INV/IO	38384CX79	August 2053 August 2053
	00,770,407	0)	11111(11)	114 1/10	30304CA19	rugust 2000
Security Group 9	20.000.000	(5)	Dec	FT 75	2020467705	
FT(1)	30,000,000	(5)	PT	FLT	38384CX87	August 2053
PS(1)	30,000,000	(5)	NTL(PT)	INV/IO	38384CX95	August 2053
TA	20,000,000	5.75	PT	FIX	38384CY29	August 2053
<u>TI(1)</u>	461,538	(5)	NTL(PT)	INV/IO	38384CY37	August 2053
Security Group 10						
FY(1)	50,000,000	(5)	PT	FLT	38384CY45	August 2053
PO(1)	3,846,154	0.00	PT	PO	38384CY52	August 2053
WS(1)	50,000,000	(5)	NTL(PT)	INV/IO	38384CY60	August 2053
<u>YI(1)</u>	50,000,000	(5)	NTL(PT)	INV/IO	38384CY78	August 2053
Security Group 11						
GM(1)	139,710,000	4.00	SEQ	FIX	38384CY86	July 2046
GN(1)	12,274,000	4.00	SEQ	FIX	38384CY94	August 2047
GP(1)	11,671,000	4.00	SEO	FIX	38384CZ28	August 2048
GQ(1)	11,083,000	4.00	SEQ	FIX	38384CZ36	July 2049
GT(1)	10,510,000	4.00	SEO	FIX	38384CZ44	May 2050
GU(1)	9,951,000	4.00	SEQ	FIX	38384CZ51	February 2051
GW(1)	37,850,124	4.00	SEQ	FIX	38384CZ69	August 2053
						and our mount trans)

(Cover continued on next page)

# Citigroup

# Roberts & Ryan Investments Inc.

The date of this Offering Circular Supplement is August 24, 2023.

Class of REMIC Securities	Original Principal Balance(2)	Interest Rate	Principal Type(3)	Interest Type(3)	CUSIP Number	Final Distribution Date(4)
Security Group 12						
KG(1)	\$120,279,000	3.50%	SEQ	FIX	38384CZ77	November 2045
KH(1)	10,669,000	3.50	SEQ	FIX	38384CZ85	January 2047
KJ(1)	10,166,000	3.50	SEQ	FIX	38384CZ93	January 2048
KL(1)	9,675,000	3.50	SEQ	FIX	38384C2A6	December 2048
KM(1)	9,196,000	3.50	SEQ	FIX	38384C2B4	November 2049
KN(1)	8,726,000	3.50	SEQ	FIX	38384C2C2	August 2050
KP(1)	37,270,189	3.50	SEQ	FIX	38384C2D0	August 2053
Residuals						
R3	0	0.00	NPR	NPR	38384C2E8	August 2053
R5	0	0.00	NPR	NPR	38384C2F5	August 2063
R7	0	0.00	NPR	NPR	38384C2G3	August 2053
R8	0	0.00	NPR	NPR	38384C2H1	August 2053
R11	0	0.00	NPR	NPR	38384C2J7	August 2053
R12	0	0.00	NPR	NPR	38384C2K4	August 2053
RR	0	0.00	NPR	NPR	38384C2L2	August 2063

- (1) These Securities may be exchanged for MX Securities described in Schedule I to this Supplement.
- (2) Subject to increase as described under "Increase in Size" in this Supplement. The amount shown for each Notional Class (indicated by "NTL" under Principal Type) is its original Class Notional Balance and does not represent principal that will be paid.
- (3) As defined under "Class Types" in Appendix I to the Base Offering Circular. The Class Notional Balance of each Notional Class will be reduced as shown under "Terms Sheet Notional Classes" in this Supplement.
- (4) See "Yield, Maturity and Prepayment Considerations Final Distribution Date" in this Supplement.
- (5) See "Terms Sheet Interest Rates" in this Supplement.

# **AVAILABLE INFORMATION**

You should purchase the securities only if you have read and understood the following documents:

- this Offering Circular Supplement (this "Supplement") and
- the Base Offering Circular.

The Base Offering Circular is available on Ginnie Mae's website located at http://www.ginniemae.gov ("ginniemae.gov").

If you do not have access to the internet, call BNY Mellon, which will act as information agent for the Trust, at (800) 234-GNMA, to order copies of the Base Offering Circular.

Please consult the standard abbreviations of Class Types included in the Base Offering Circular as Appendix I and the glossary included in the Base Offering Circular as Appendix II for definitions of capitalized terms.

#### TABLE OF CONTENTS

Page		Page
S-3	ERISA Matters	S-48
S-10	Legal Investment Considerations	S-49
S-13	Plan of Distribution	S-49
S-14	Increase in Size	S-49
S-15	Legal Matters	S-49
	Schedule I: Available Combinations	S-I-1
S-20		
S-46		
	S-3 S-10 S-13 S-14 S-15 S-20	S-3 ERISA Matters S-10 Legal Investment Considerations S-13 Plan of Distribution S-14 Increase in Size S-15 Legal Matters Schedule I: Available Combinations S-20

#### **TERMS SHEET**

This terms sheet contains selected information for quick reference only. You should read this Supplement, particularly "Risk Factors," and each of the other documents listed under "Available Information."

**Sponsor:** Citigroup Global Markets Inc.

**Co-Sponsor:** Roberts & Ryan Investments Inc.

Trustee: U.S. Bank National Association

**Tax Administrator:** The Trustee **Closing Date:** August 30, 2023

**Distribution Date:** The 20th day of each month or, if the 20th day is not a Business Day, the first Business Day thereafter, commencing in September 2023.

# **Trust Assets:**

Trust Asset Group or Subgroup <sup>(1)</sup>	Trust Asset Type	Certificate Rate	Original Term To Maturity (in years)
1A	Ginnie Mae II	6.500%	30
1B	Ginnie Mae II	6.500%	30
2	Ginnie Mae II	6.500%	40
3	Ginnie Mae II	6.500%	30
4	Ginnie Mae II	7.000%	30
5	Ginnie Mae II	7.000%	40
6A	Ginnie Mae II	6.000%	30
6B	Ginnie Mae II	6.000%	30
6C	Ginnie Mae II	6.000%	30
6D	Ginnie Mae II	6.000%	30
7	Ginnie Mae II	6.500%	30
8	Ginnie Mae II	7.000%	30
9	Ginnie Mae II	6.500%	30
10	Ginnie Mae II	6.500%	30
11	Ginnie Mae II	4.000%	30
12	Ginnie Mae II	3.500%	30

<sup>(1)</sup> The Group 1 and 6 Trust Assets consist of the enumerated subgroups (each, a "Subgroup").

**Security Groups:** This series of Securities consists of multiple Security Groups (each, a "Group"), as shown on the front cover of this Supplement and on Schedule I to this Supplement. Payments on each Group will be based solely on payments on the Trust Asset Group with the same numerical designation.

# Assumed Characteristics of the Mortgage Loans Underlying the Trust Assets(1):

Weighted Average Remaining Term to Maturity (in months)	Weighted Average Loan Age (in months)	Weighted Average Mortgage Rate <sup>(2)</sup>
357	2	7.003%
357	2	7.078%
465	8	6.998%
358	2	7.134%
344	7	7.466%
471	6	7.360%
351	5	6.564%
353	2	6.567%
359	0	6.604%
359	0	6.604%
350	1	6.883%
358	1	7.407%
359	1	7.038%
359	1	7.050%
302	56	4.450%
311	45	3.938%
	357 357 465 358 344 471 351 353 359 359 359 359 359 359 359 359 359	Remaining Term to Maturity (in months)         Weighted Average Ioan Age (in months)           357         2           357         2           465         8           358         2           344         7           471         6           351         5           353         2           359         0           359         0           358         1           359         1           359         1           359         1           359         1           302         56

<sup>(1)</sup> As of August 1, 2023.

<sup>&</sup>lt;sup>(2)</sup> The Mortgage Loans underlying the Trust Assets may bear interest at rates ranging from 0.25% to 1.50% per annum above the related Certificate Rate.

<sup>(3)</sup> More than 10% of the Mortgage Loans underlying the Group 4 and 7 and Subgroup 6B and 6D Trust Assets may be higher balance Mortgage Loans. See "Risk Factors" in this Supplement.

- <sup>(4)</sup> The Mortgage Loans underlying the Group 11 and 12 Trust Assets may be reperforming Mortgage Loans that were previously repurchased from one or more pools of Mortgage Loans underlying one or more Ginnie Mae MBS Certificates.
- <sup>(5)</sup> The Mortgage Loans underlying the Group 2 and 5 Trust Assets are modified loans with terms greater than or equal to 361 but not more than 480 months from the pool issuance date.

The actual remaining terms to maturity, loan ages and Mortgage Rates of many of the Mortgage Loans will differ from the weighted averages shown above, perhaps significantly. See "The Trust Assets — The Mortgage Loans" in this Supplement.

**Issuance of Securities:** The Securities, other than the Residual Securities, will initially be issued in book-entry form through the book-entry system of the U.S. Federal Reserve Banks (the "Fedwire Book-Entry System"). The Residual Securities will be issued in fully registered, certificated form. *See "Description of the Securities— Form of Securities" in this Supplement.* 

**Modification and Exchange:** If you own exchangeable Securities you will be able, upon notice and payment of an exchange fee, to exchange them for a proportionate interest in the related Securities shown on Schedule I to this Supplement. See "Description of the Securities — Modification and Exchange" in this Supplement.

**Increased Minimum Denomination Classes:** Each Class that constitutes a Principal Only, Interest Only or Inverse Floating Rate Class. *See "Description of the Securities — Form of Securities" in this Supplement.* 

**Interest Rates:** The Interest Rates for the Fixed Rate Classes are shown on the front cover of this Supplement or on Schedule I to this Supplement.

The Floating Rate and Inverse Floating Rate Classes will bear interest at per annum rates based on a 30-day compounded average of the Secured Overnight Financing Rate ("SOFR") (hereinafter referred to as "30-day Average SOFR") as follows:

Class	Interest Rate Formula(1)	Initial Interest Rate(2)	Minimum Rate	Maximum Rate	Delay (in days)	30-day Average SOFR for Minimum Interest Rate
Security Group 1						
AF	30-day Average SOFR + 1.05%	6.10859%	1.05%	7.00%	0	0.0000%
AS	5.95% – 30-day Average SOFR	0.89141%	0.00%	5.95%	0	5.9500%
BF	30-day Average SOFR + 1.05%	6.10859%	1.05%	7.00%	0	0.0000%
BS	5.95% – 30-day Average SOFR	0.89141%	0.00%	5.95%	0	5.9500%
FA	30-day Average SOFR + 0.90%	5.95859%	0.90%	7.00%	0	0.0000%
FB	30-day Average SOFR + 0.90%	5.95859%	0.90%	7.00%	0	0.0000%
IA	6.10% – 30-day Average SOFR	0.15000%	0.00%	0.15%	0	6.1000%
IB	6.10% – 30-day Average SOFR	0.15000%	0.00%	0.15%	0	6.1000%
SL	5.95% – 30-day Average SOFR	0.89141%	0.00%	5.95%	0	5.9500%
Security Group 3						
FC	30-day Average SOFR + 1.25%	6.35884%	1.25%	6.50%	0	0.0000%
SC	5.25% – 30-day Average SOFR	0.14116%	0.00%	5.25%	0	5.2500%
Security Group 8	,					
FD	30-day Average SOFR + 1.30%	6.52165%	1.30%	7.00%	0	0.0000%
	5.70% - 30-day Average SOFR			5.70%	0	5.7000%

Class	Interest Rate Formula(1)	Initial Interest Rate(2)	Minimum Rate	Maximum Rate	Delay (in days)	30-day Average SOFR for Minimum Interest Rate
Security Group 9						
FT	30-day Average SOFR + 1.20%	6.57350%	1.20%	7.00%	0	0.0000%
PS	5.70% – 30-day Average SOFR	0.32650%	0.00%	5.70%	0	5.7000%
SP	5.80% - 30-day Average SOFR	0.42650%	0.00%	5.80%	0	5.8000%
TF	30-day Average SOFR + 1.30%	6.67350%	1.30%	7.00%	0	0.0000%
TI	377.00% – (30-day Average SOFR X 65)	6.50000%	0.00%	6.50%	0	5.8000%
Security Group 10	, -					
FW	30-day Average SOFR + 1.05%	6.10000%	1.05%	7.00%	0	0.0000%
FY	30-day Average SOFR + 0.80%	5.85000%	0.80%	7.00%	0	0.0000%
ST	11.90% – (30-day Average SOFR X 2)	1.80000%	0.00%	11.90%	0	5.9500%
TS	23.80% - (30-day Average SOFR X 4)	3.60000%	0.00%	23.80%	0	5.9500%
WS	5.95% - 30-day Average SOFR	0.90000%	0.00%	5.95%	0	5.9500%
YI	6.20% - 30-day Average SOFR	0.25000%	0.00%	0.25%	0	6.2000%

<sup>(1) 30-</sup>day Average SOFR will be established as described under "Description of the Securities — Interest Distributions — Floating Rate and Inverse Floating Rate Classes" in this Supplement.

**Allocation of Principal:** On each Distribution Date for a Security Group, the following distributions will be made to the related Securities:

#### **SECURITY GROUP 1**

The Subgroup 1A Principal Distribution Amount, the Subgroup 1B Principal Distribution Amount and the LZ Accrual Amount will be allocated as follows:

- The LZ Accrual Amount, sequentially, to LV and LZ, in that order, until retired
- The Subgroup 1A Principal Distribution Amount, concurrently, as follows:
  - 1. 65.9340659341% to FA, until retired
  - 2. 31.8681318681%, sequentially, to LB, LV and LZ, in that order, until retired
  - 3. 2.1978021978% to B, until retired
- The Subgroup 1B Principal Distribution Amount, concurrently, as follows:
  - 1. 57.1428571429% to FB, until retired
  - 2. 14.2857142857%, sequentially, to LB, LV and LZ, in that order, until retired
  - 3. 28.5714285714% to B, until retired

#### **SECURITY GROUP 2**

The Group 2 Principal Distribution Amount and the BZ Accrual Amount will be allocated, sequentially, to BA and BZ, in that order, until retired

#### **SECURITY GROUP 3**

The Group 3 Principal Distribution Amount will be allocated to FC, until retired

<sup>(2)</sup> The initial Interest Rate will be in effect during the first Accrual Period; the Interest Rate will adjust monthly thereafter.

#### **SECURITY GROUP 4**

The Group 4 Principal Distribution Amount and the CZ Accrual Amount will be allocated, sequentially, to AC and CZ, in that order, until retired

#### **SECURITY GROUP 5**

The Group 5 Principal Distribution Amount will be allocated to ET, until retired

#### **SECURITY GROUP 6**

The Subgroup 6A Principal Distribution Amount, the Subgroup 6B Principal Distribution Amount, the Subgroup 6C Principal Distribution Amount, the Subgroup 6D Principal Distribution Amount, the AZ Accrual Amount, the NZ Accrual Amount and the Z Accrual Amount will be allocated as follows:

- The AZ Accrual Amount, sequentially, to AV and AZ, in that order, until retired
- The Z Accrual Amount, sequentially, to VA and Z, in that order, until retired
- The Subgroup 6A Principal Distribution Amount, sequentially, to DA, VA and Z, in that order, until retired
- The Subgroup 6B Principal Distribution Amount, sequentially, to EA, VA and Z, in that order, until retired
- The Subgroup 6C Principal Distribution Amount and the NZ Accrual Amount, sequentially, to NA and NZ, in that order, until retired
- The Subgroup 6D Principal Distribution Amount, sequentially, to A, AV and AZ, in that order, until retired

# **SECURITY GROUP 7**

The Group 7 Principal Distribution Amount will be allocated to CT, until retired

# **SECURITY GROUP 8**

The Group 8 Principal Distribution Amount will be allocated to FD, until retired

# **SECURITY GROUP 9**

The Group 9 Principal Distribution Amount will be allocated, concurrently, to FT and TA, pro rata, until retired

#### **SECURITY GROUP 10**

The Group 10 Principal Distribution Amount will be allocated, concurrently, to FY and PO, pro rata, until retired

#### **SECURITY GROUP 11**

The Group 11 Principal Distribution Amount will be allocated, sequentially, to GM, GN, GP, GQ, GT, GU and GW, in that order, until retired

#### **SECURITY GROUP 12**

The Group 12 Principal Distribution Amount will be allocated, sequentially, to KG, KH, KJ, KL, KM, KN and KP, in that order, until retired

**Accrual Classes:** Interest will accrue on each Accrual Class identified on the front cover of this Supplement at the per annum rate set forth on that page. However, no interest will be distributed to the Accrual Classes as interest. Interest so accrued on each Accrual Class on each Distribution Date will constitute an Accrual Amount, which will be added to the Class Principal Balance of that Class on each Distribution Date and will be distributable as principal as set forth in this Terms Sheet under "Allocation of Principal."

**Notional Classes:** The Notional Classes will not receive distributions of principal but have Class Notional Balances for convenience in describing their entitlements to interest. The Class Notional Balance of each Notional Class represents the percentage indicated below of, and reduces to that extent with, the Class Principal Balances indicated:

Class	Original Class Notional Balance	Represents Approximately
Security Group 1		
AS	\$150,000,000	100% of FA (PT Class)
BS	50,000,000	100% of FB (PT Class)
IA	150,000,000	100% of FA (PT Class)
IB	50,000,000	100% of FB (PT Class)
SL	200,000,000	100% of FA and FB (in the aggregate) (PT Classes)
Security Group 3		
SC	\$100,000,000	100% of FC (PT Class)
Security Group 4		
AI	\$ 428,571	4.2857142857% of AC (SEQ/AD Class)
Security Group 6		
VI	\$ 761,330	8.3333333333% of VA (AD/SEQ Class)
Security Group 8		
SD	\$ 80,558,285	100% of FD (PT Class)
Security Group 9		
PS	\$ 30,000,000	100% of FT (PT Class)
SP	30,000,000	100% of FT (PT Class)
TI	461,538	1.5384615385% of FT (PT Class)
Security Group 10		
WS	\$ 50,000,000	100% of FY (PT Class)
YI	50,000,000	100% of FY (PT Class)
Security Group 11		
GI	\$ 17,463,750	12.5% of GM (SEQ Class)
HI	20,456,875	12.5% of GM, GN and GP (in the aggregate) (SEQ Classes)
IG	18,998,000	12.5% of GM and GN (in the aggregate) (SEQ Classes)
IH	21,842,250	12.5% of GM, GN, GP and GQ (in the aggregate) (SEQ Classes)
IJ	24,399,875	12.5% of GM, GN, GP, GQ, GT and GU (in the aggregate) (SEQ Classes)
Л	23,156,000	12.5% of GM, GN, GP, GQ and GT (in the aggregate) (SEQ Classes)
KI	29,131,140	12.5% of GM, GN, GP, GQ, GT, GU and GW (in the aggregate) (SEQ Classes)
Security Group 12		
IL	\$ 18,706,857	14.2857142857% of KG and KH (in the aggregate) (SEQ Classes)
IM	21,541,285	14.2857142857% of KG, KH, KJ and KL (in the aggregate) (SEQ Classes)
IN	24,101,571	14.2857142857% of KG, KH, KJ, KL, KM and KN (in the aggregate) (SEQ Classes)
LI	17,182,714	14.2857142857% of KG (SEQ Class)
MI	20,159,142	14.2857142857% of KG, KH and KJ (in the aggregate) (SEQ Classes)
NI	22,855,000	14.2857142857% of KG, KH, KJ, KL and KM (in the aggregate) (SEQ Classes)
PI	29,425,884	14.2857142857% of KG, KH, KJ, KL, KM, KN and KP (in the aggregate) (SEQ Classes)

**Tax Status:** Single REMIC Series as to each of the following Groups of Trust Assets and related Trust REMIC:

Trust Assets	Trust REMIC
Group 3 Trust Assets	Group 3 REMIC
Group 5 Trust Assets	Group 5 REMIC
Group 7 Trust Assets	Group 7 REMIC
Group 8 Trust Assets	Group 8 REMIC
Group 11 Trust Assets	Group 11 REMIC
Group 12 Trust Assets	Group 12 REMIC

Double REMIC Series as to each of the following Groups of Trust Assets and related Trust REMICs:

Trust Assets	Trust REMIC
Group 1, 2, 4, 6, 9 and 10 Trust Assets	Group 1, 2, 4, 6, 9 and 10 Pooling REMIC and
	Group 1, 2, 4, 6, 9 and 10 Issuing REMIC

Separate REMIC elections will be made as to each of the Trust REMICs identified above. See "Certain United States Federal Income Tax Consequences" in this Supplement and in the Base Offering Circular.

**Regular and Residual Classes:** Classes R3, R5, R7, R8, R11, R12 and RR are Residual Classes and represent the Residual Interest of the related Trust REMIC or Trust REMICs, as applicable, as described under "Certain United States Federal Income Taxes — Residual Securities" in this Supplement. All other Classes of REMIC Securities are Regular Classes.

#### **RISK FACTORS**

You should purchase securities only if you understand and are able to bear the associated risks. The risks applicable to your investment depend on the principal and interest type of your securities. This section highlights certain of these risks.

The rate of principal payments on the underlying mortgage loans will affect the rate of principal payments on your securities. The rate at which you will receive principal payments will depend largely on the payments, principal prepayments, on the mortgage loans underlying the related trust assets. Any historical data regarding mortgage loan prepayment rates may not be indicative of the rate of future prepayments on the underlying mortgage loans, and no assurances can be given about the rates at which the underlying mortgage loans will prepay. We expect the rate of principal payments on the underlying mortgage loans to vary. Borrowers generally may prepay their mortgage loans at any time without penalty.

The terms of the mortgage loans may be modified to permit, among other things, a partial release of security, which releases a portion of the mortgaged property from the lien securing the related mortgage loan. Partial releases of security may reduce the value of the remaining security and also allow the related borrower to sell the released property and generate proceeds that may be used to prepay the related mortgage loan in whole or in part.

In addition to voluntary prepayments, mortgage loans can be prepaid as a result of governmental mortgage insurance claim payments, mitigation arrangements, repurchases liquidations of defaulted mortgage loans. Although under certain circumstances Ginnie Mae issuers have the option to repurchase defaulted mortgage loans from the related pool underlying a Ginnie Mae MBS certificate, they are not obligated to do so. Defaulted mortgage loans that remain in pools backing Ginnie Mae MBS certificates may be subject to governmental mortgage insurance claim payments, loss mitigation arrangements or foreclosure, which could have the same effect as voluntary prepayments on the cash flow available to pay the securities.

A catastrophic weather event, pandemic or other natural disaster may affect the rate of principal payments, including prepayments, on the underlying mortgage loans. Any such event may damage the related mortgaged properties that secure the mortgage loans or may lead to a general economic downturn in the affected regions, including job losses and declines in real estate values. A general economic downturn may increase the rate of defaults on the mortgage loans in such areas resulting in prepayments on the related securities due to governmental mortgage insurance claim payments, mitigation arrangements, repurchases liquidations of defaulted mortgage loans. Insurance payments on damaged or destroyed homes may also lead to prepayments on the loans. underlying mortgage Further, connection with presidentially declared major disasters, Ginnie Mae may authorize optional special assistance to issuers, including expanded buyout authority which allows issuers, upon receiving written approval from Ginnie Mae, to repurchase eligible loans from the related pool underlying a Ginnie Mae MBS certificate, even if such loans are not delinquent or do not otherwise meet the standard conditions for removal or repurchase.

No assurances can be given as to the timing or frequency of any governmental mortgage insurance claim payments, issuer repurchases, loss mitigation arrangements or foreclosure proceedings with respect to defaulted mortgage loans and the resulting effect on the timing or rate of principal payments on your securities.

Rates of principal payments can reduce your yield. The yield on your securities probably will be lower than you expect if:

- you bought your securities at a premium (interest only securities, for example) and principal payments are faster than you expected, or
- you bought your securities at a discount (principal only securities, for example) and

principal payments are slower than you expected.

In addition, if your securities are interest only securities or securities purchased at a significant premium, you could lose money on your investment if prepayments occur at a rapid rate.

Under certain circumstances, a Ginnie Mae issuer has the right to repurchase a defaulted mortgage loan from the related pool of mortgage loans underlying a particular Ginnie Mae MBS certificate, the effect of which would be comparable to a prepayment of such mortgage loan. At its option and without Ginnie Mae's prior consent, a Ginnie Mae issuer may repurchase any mortgage loan at an amount equal to par less any amounts previously advanced by such issuer connection with its responsibilities as servicer of such mortgage loan to the extent that (i) in the case of a mortgage loan included in a pool of mortgage loans underlying a Ginnie Mae MBS certificate issued on or before December 1, 2002, such mortgage loan has been delinquent for four consecutive months, and at least one delinquent payment remains uncured or (ii) in the case of a mortgage loan included in a pool of mortgage loans underlying a Ginnie Mae MBS certificate issued on or after January 1, 2003, no payment has been made on such mortgage loan for three consecutive months. Any such repurchase will result in prepayment of the principal balance or reduction in the notional balance of the securities ultimately backed by such mortgage loan. No assurances can be given as to the timing or frequency of any such repurchases.

The levels of 30-day Average SOFR will affect the yields on the floating rate and inverse floating rate securities. If 30-day Average SOFR performs differently from what you expect, the yield on the floating rate and inverse floating rate securities may be lower than you expect. Lower levels of such index will generally reduce the yield on the floating rate securities; higher levels of such index will generally reduce the yield on the inverse floating rate securities. You should bear in mind that the timing of changes in the level of such index may affect your yield:

generally, the earlier a change, the greater the effect on your yield. It is doubtful that such index will remain constant.

An investment in the securities is subject to significant reinvestment risk. The rate of principal payments on your securities is uncertain. You may be unable to reinvest the payments on your securities at the same returns provided by the securities. Lower prevailing interest rates may result in an unexpected return of principal. In that interest rate climate, higher yielding reinvestment opportunities may be limited. Conversely, higher prevailing interest rates may result in slower returns of principal, and you may not be able to take advantage of higher yielding investment opportunities. The final payment on your security may occur much earlier than the final distribution date.

Up to 10% of the mortgage loans underlying the group 1, 2, 3, 5, 8, 9, 10, 11 and 12 and subgroup 6A and 6C trust assets and up to 100% of the mortgage loans underlying the group 4 and 7 and subgroup 6B and 6D trust assets may be bigber balance mortgage loans. Subject to special pooling parameters set forth in the Ginnie Mae Mortgage-Backed Securities Guide, qualifying federallyinsured or guaranteed mortgage loans that exceed certain balance thresholds established by Ginnie Mae ("higher balance mortgage loans") may be included in Ginnie Mae guaranteed pools. There are no historical performance data regarding the prepayment rates for higher balance mortgage loans. If the higher balance mortgage loans prepay faster or slower than expected, the weighted average lives and yields of the related securities are likely to be affected, significantly. Furthermore, balance mortgage loans tend to be concentrated in certain geographic areas, which may experience relatively higher rates of defaults in the event of adverse economic conditions. No assurances can be given about the prepayment experience or performance of the higher balance mortgage loans.

An investment in the floating rate and inverse floating rate securities entails risks

# not associated with an investment in conventional fixed rate securities or securities linked to established market indices.

The Federal Reserve Bank of New York began to publish SOFR in April 2018 and compounded averages of SOFR in March 2020. Although the Federal Reserve Bank of New York has also published historical indicative SOFR from August 2014 to March 2018, such pre-publication data necessarily involves assumptions, estimates and approximations. You should not rely on any historical changes or trends in SOFR as an indicator of future changes in SOFR. Daily shifts in SOFR have been, and may in the future be, greater than those in comparable market indices. Because the interest rate applicable to any accrual period for securities with an interest rate based on SOFR will be calculated by reference to the daily rates of SOFR during an approximate 30-day period commencing and ending before the related accrual period as described under "Description of the Securities - Interest Distributions - Floating Rate and Inverse Floating Rate Classes" in this supplement, the return on and value of the floating rate and inverse floating rate securities may fluctuate more than debt securities linked to less volatile indices.

30-day Average SOFR is a relatively new market index, and the floating rate and inverse floating rate securities will likely have no established trading market when issued, and an established trading market may never develop or, if developed, may not be liquid. Market terms for securities indexed to 30-day Average SOFR may evolve over time, and trading prices of some securities indexed to 30-day Average SOFR may be lower than those of later-issued securities as a result. Similarly, if 30-day Average SOFR does not prove to be widely used in similar securities, the trading price of related SOFR-Based Classes may be lower than those of securities linked to indices that are more widely used. Investors in SOFR-Based Classes may not be able to sell their securities at all or may not be able to sell their securities at prices that will provide them with a yield comparable to similar investments that have a developed secondary market, and may consequently suffer from increased pricing volatility and market risk.

You should consult your own financial and legal advisors about the risks associated with an investment in the floating rate and inverse floating rate securities and the suitability of investing in the floating rate and inverse floating rate securities in light of your particular circumstances.

Interest on the floating rate and inverse floating rate securities will be determined using a replacement rate if 30-day Average SOFR is no longer available, which could adversely affect the value of your investment in the floating rate and inverse floating rate **securities**. 30-day Average SOFR is published by the Federal Reserve Bank of New York based on data received from other sources, and neither Ginnie Mae nor the trustee has any control over its determination, calculation or publication. The activities of the Federal Reserve Bank of New York may directly affect prevailing 30-day Average SOFR in unpredictable ways. There can be no guarantee that 30-day Average SOFR will not be discontinued or fundamentally altered a manner that is materially adverse to the interests of holders of securities indexed to 30-day Average SOFR. If the manner in which 30-day Average SOFR is calculated is changed or if 30-day Average SOFR is discontinued, that change or discontinuance may result in a reduction of the amount of interest payable on applicable SOFR-Based Classes and the trading prices of such Classes.

The Federal Reserve Bank of New York has noted that it may alter the methods of calculation, publication schedule, rate revision practices or availability of 30-day Average SOFR at any time without notice. There can be no assurance that 30-day Average SOFR will not be discontinued or fundamentally altered in a manner that is materially adverse to the interests of investors in the floating rate and inverse floating rate securities.

If 30-day Average SOFR is no longer published or cannot be used, the amount of interest payable on the floating rate and inverse floating rate securities will be determined using a replacement rate, as described under "Description of the Securities — Interest Rate Indices — Benchmark

Replacement" in the base offering circular. Ginnie Mae will have the sole discretion to make conforming changes in connection with any replacement rate without the consent of security holders or any other party, as described under "Description of the Securities - Interest Rate Indices — Benchmark Replacement" in the base offering circular. This could reduce the amount of interest payable on the floating rate and inverse floating rate securities, which could adversely affect the return on, value of, and market for, the floating rate and inverse floating rate securities. Furthermore, there can be no assurance that the characteristics of any replacement rate will be similar to 30-day Average SOFR or that any replacement rate will produce the economic equivalent of 30-day Average SOFR.

**The securities may not be a suitable investment for you.** The securities, in particular, the interest only, principal only, inverse floating rate, accrual and residual classes, are not suitable investments for all investors.

In addition, although the sponsor intends to make a market for the purchase and sale of the securities after their initial issuance, it has no obligation to do so. There is no assurance that a secondary market will develop, that any secondary market will continue, or that the price at which you can sell an investment in any class will enable you to realize a desired yield on that investment.

You will bear the market risks of your investment. The market values of the classes are likely to fluctuate. These fluctuations may be significant and could result in significant losses to you.

The secondary markets for mortgage-related securities have experienced periods of illiquidity and can be expected to do so in the future. Illiquidity can have a severely adverse effect on the prices of classes that are especially sensitive to prepayment or interest rate risk or that have been structured to meet the investment requirements of limited categories of investors.

The residual securities may experience significant adverse tax timing consequences. Accordingly, you are urged to consult tax advisors and to consider the after-tax effect of ownership of a residual security and the suitability of the residual securities to your investment objectives. See "Certain United States Federal Income Tax Consequences" in this supplement and in the base offering circular.

You are encouraged to consult advisors regarding the financial, legal, tax and other aspects of an investment in the securities. You should not purchase the securities of any class unless you understand and are able to bear the prepayment, yield, liquidity and market risks associated with that class.

# The actual characteristics of the underlying mortgage loans will affect the weighted average lives and yields of your securities.

The yield and decrement tables in this supplement are based on assumed characteristics which are likely to be different from the actual characteristics. As a result, the yields on your securities could be lower than you expected, even if the mortgage loans prepay at the constant prepayment rates set forth in the applicable table.

It is highly unlikely that the underlying mortgage loans will prepay at any of the prepayment rates assumed in this supplement, or at any constant prepayment rate.

#### THE TRUST ASSETS

#### General

The Sponsor intends to acquire the Trust Assets in privately negotiated transactions prior to the Closing Date and to sell them to the Trust according to the terms of a Trust Agreement between the Sponsor and the Trustee. The Sponsor will make certain representations and warranties with respect to the Trust Assets. All Trust Assets will evidence, directly or indirectly, Ginnie Mae Certificates.

#### The Trust MBS

The Trust Assets are either:

- 1. Ginnie Mae II MBS Certificates guaranteed by Ginnie Mae, or
- 2. Ginnie Mae Platinum Certificates backed by Ginnie Mae II MBS Certificates and guaranteed by Ginnie Mae.

Each Mortgage Loan underlying a Ginnie Mae II MBS Certificate issued prior to July 1, 2003 bears interest at a Mortgage Rate 0.50% to 1.50% per annum greater than the related Certificate Rate. Each Mortgage Loan underlying a Ginnie Mae II MBS Certificate issued on or after July 1, 2003 bears interest at a Mortgage Rate 0.25% to 0.75% per annum greater than the related Certificate Rate. Ginnie Mae receives a fee (the "Ginnie Mae Certificate Guaranty Fee") for its guaranty of each Ginnie Mae II MBS Certificate of 0.06% per annum of the outstanding principal balance of each related Mortgage Loan. The difference between (a) the Mortgage Rate and (b) the sum of the Certificate Rate and the rate of the Ginnie Mae Certificate Guaranty Fee is used to pay the related servicers of the Mortgage Loans a monthly servicing fee

# The Mortgage Loans

The Mortgage Loans underlying the Trust Assets are expected to have, on a weighted average basis, the characteristics set forth in the Terms Sheet under "Assumed Characteristics of the Mortgage Loans Underlying the Trust Assets" and the general characteristics described in the Base Offering Circular. The Mortgage Loans will consist of first lien, single-family, fixed rate, residential mortgage loans that are insured or guaranteed by the Federal Housing Administration, the United States Department of Veterans Affairs, Rural Development (formerly the Rural Housing Service) or the United States Department of Housing and Urban Development ("HUD"). See "The Ginnie Mae Certificates — General" in the Base Offering Circular.

Specific information regarding the characteristics of the Mortgage Loans underlying the Trust MBS is not available. For purposes of this Supplement, certain assumptions have been made regarding the remaining terms to maturity, loan ages and Mortgage Rates of the Mortgage Loans underlying the Trust MBS. However, the actual remaining terms to maturity, loan ages and Mortgage Rates of many of the Mortgage Loans will differ from the characteristics assumed, perhaps significantly. This will be the case even if the weighted average characteristics of the Mortgage Loans are the same as the assumed characteristics. Small differences in the characteristics of the Mortgage Loans can have a significant effect on the Weighted Average Lives and yields of the Securities. See "Risk Factors" and "Yield, Maturity and Prepayment Considerations" in this Supplement.

#### The Trustee Fee

The Sponsor will contribute certain Ginnie Mae Certificates in respect of the Trustee Fee. On each Distribution Date, the Trustee will retain all principal and interest distributions received on such Ginnie Mae Certificates in payment of the Trustee Fee.

#### **GINNIE MAE GUARANTY**

The Government National Mortgage Association ("Ginnie Mae"), a wholly-owned corporate instrumentality of the United States of America within HUD, guarantees the timely payment of principal and interest on the Securities. The General Counsel of HUD has provided an opinion to the effect that Ginnie Mae has the authority to guarantee multiclass securities and that Ginnie Mae guaranties will constitute general obligations of the United States, for which the full faith and credit of the United States is pledged. See "Ginnie Mae Guaranty" in the Base Offering Circular.

#### **DESCRIPTION OF THE SECURITIES**

#### General

The description of the Securities contained in this Supplement is not complete and is subject to, and is qualified in its entirety by reference to, all of the provisions of the Trust Agreement. See "Description of the Securities" in the Base Offering Circular.

#### Form of Securities

Each Class of Securities other than the Residual Securities initially will be issued and maintained, and may be transferred only on the Fedwire Book-Entry System. Beneficial Owners of Book-Entry Securities will ordinarily hold these Securities through one or more financial intermediaries, such as banks, brokerage firms and securities clearing organizations that are eligible to maintain book-entry accounts on the Fedwire Book-Entry System. By request accompanied by the payment of a transfer fee of \$25,000 per Certificated Security to be issued, a Beneficial Owner may receive a Regular Security in certificated form.

The Residual Securities will not be issued in book-entry form but will be issued in fully registered, certificated form and may be transferred or exchanged, subject to the transfer restrictions applicable to Residual Securities set forth in the Trust Agreement, at the Corporate Trust Office of the Trustee. See "Description of the Securities — Forms of Securities; Book-Entry Procedures" in the Base Offering Circular.

Each Regular and MX Class (other than the Increased Minimum Denomination Classes) will be issued in minimum dollar denominations of initial principal balance of \$1,000 and integral multiples of \$1 in excess of \$1,000. The Increased Minimum Denomination Classes will be issued in minimum denominations that equal \$100,000 in initial principal or notional balance.

#### Distributions

Distributions on the Securities will be made on each Distribution Date as specified under "Terms Sheet — Distribution Date" in this Supplement. On each Distribution Date for a Security, or in the case of the Certificated Securities, on the first Business Day after the related Distribution Date, the Distribution Amount will be distributed to the Holders of record as of the related Record Date. Beneficial Owners of Book-Entry Securities will receive distributions through credits to accounts maintained for their benefit on the books and records of the appropriate financial intermediaries. Holders of Certificated Securities will receive distributions by check or, subject to the restrictions set forth in the Base Offering Circular, by wire transfer. See "Description of the Securities — Distributions" and "— Method of Distributions" in the Base Offering Circular.

#### **Interest Distributions**

The Interest Distribution Amount will be distributed on each Distribution Date to the Holders of all Classes of Securities entitled to distributions of interest.

- Interest will be calculated on the basis of a 360-day year consisting of twelve 30-day months.
- Interest distributable (or accrued in the case of an Accrual Class) on any Class for any Distribution Date will consist of 30 days' interest on its Class Principal Balance (or Class Notional Balance) as of the related Record Date.
- Investors can calculate the amount of interest to be distributed (or accrued in the case of an Accrual Class) on each Class of Securities for any Distribution Date by using the Class Factors published in the preceding month. See "— Class Factors" below.

#### Categories of Classes

For purposes of interest distributions, the Classes will be categorized as shown under "Interest Type" on the front cover of this Supplement and on Schedule I to this Supplement. The abbreviations used in this Supplement to describe the interest entitlements of the Classes are explained under "Class Types" in Appendix I to the Base Offering Circular.

#### Accrual Periods

The Accrual Period for each Regular and MX Class is set forth in the table below:

Class	Accrual Period
Fixed Rate Classes	The calendar month preceding the related Distribution Date
Floating Rate and Inverse	From the 20th day of the month preceding the month of the related
Floating Rate Classes	Distribution Date through the 19th day of the month of that
	Distribution Date

#### **Trading**

For the sole purpose of facilitating trading and settlement, the Principal Only Class will be treated as a non-delay class.

#### Fixed Rate Classes

Each Fixed Rate Class will bear interest at the per annum Interest Rate shown on the front cover of this Supplement or on Schedule I to this Supplement.

#### Floating Rate and Inverse Floating Rate Classes

The Floating Rate and Inverse Floating Rate Classes will bear interest as shown under "Terms Sheet — Interest Rates" in this Supplement. The Interest Rates for the Floating Rate and Inverse Floating Rate Classes will be based on 30-day Average SOFR as described below.

The Interest Rate for the Floating Rate and Inverse Floating Rate Classes will be based on 30-day Average SOFR. The Trustee or its agent will determine 30-day Average SOFR as described under "Description of the Securities — Interest Rate Indices — Determination of 30-day Average SOFR" in the Base Offering Circular.

If 30-day Average SOFR ceases to be available or is no longer representative, a replacement rate will be selected, as described under "Description of the Securities — Interest Rate Indices — Benchmark Replacement" in the Base Offering Circular.

The Trustee's determination of 30-day Average SOFR and its calculation of the Interest Rates will be final except in the case of clear error. Investors can obtain 30-day Average SOFR levels and Interest Rates for the current and preceding Accrual Periods on ginniemae.gov or by calling the Information Agent at (800) 234-GNMA.

#### Accrual Classes

Each of Classes AZ, BZ, CZ, LZ, NZ and Z is an Accrual Class. Interest will accrue on the Accrual Classes and be distributed as described under "Terms Sheet — Accrual Classes" in this Supplement.

# **Principal Distributions**

The Principal Distribution Amount for each Group or Subgroup, as applicable, and each Accrual Amount will be distributed to the Holders entitled thereto as described under "Terms Sheet — Allocation of Principal" in this Supplement. Investors can calculate the amount of principal to be distributed with respect to any Distribution Date by using the Class Factors published in the preceding and current months. See "— Class Factors" below.

# Categories of Classes

For purposes of principal distributions, the Classes will be categorized as shown under "Principal Type" on the front cover of this Supplement and on Schedule I to this Supplement. The abbreviations used in this Supplement to describe the principal entitlements of the Classes are explained under "Class Types" in Appendix I to the Base Offering Circular.

#### Notional Classes

The Notional Classes will not receive principal distributions. For convenience in describing interest distributions, the Notional Classes will have the original Class Notional Balances shown on the front cover of this Supplement and on Schedule I to this Supplement. The Class Notional Balances will be reduced as shown under "Terms Sheet — Notional Classes" in this Supplement.

#### **Residual Securities**

The Residual Securities will represent the beneficial ownership of the Residual Interest in the related Trust REMIC or Trust REMICs as applicable, as described in "Certain United States Federal Income Tax Consequences" in this Supplement and the Base Offering Circular. The Residual Securities have no Class Principal Balance and do not accrue interest. The Residual Securities will be entitled to receive the proceeds of the disposition of any assets remaining in the related Trust REMIC or Trust REMICs, as applicable, after the Class Principal Balance or Class Notional Balance of each Class of Regular Securities in the related Security Group or Groups has been reduced to zero. However, any remaining proceeds are not likely to be significant. The Residual Securities may not be transferred to a Plan Investor, a Non-U.S. Person or a Disqualified Organization.

#### **Class Factors**

The Trustee will calculate and make available for each Class of Securities, no later than the day preceding the Distribution Date, the factor (carried out to eight decimal places) that when multiplied by the Original Class Principal Balance (or original Class Notional Balance) of that Class, determines the Class Principal Balance (or Class Notional Balance) after giving effect to the distribution of principal to be made on the Securities (and any addition to the Class Principal Balance of an Accrual Class) or any reduction of Class Notional Balance on that Distribution Date (each, a "Class Factor").

- The Class Factor for any Class of Securities for each month following the issuance of the Securities will reflect its remaining Class Principal Balance (or Class Notional Balance) after giving effect to any principal distribution (or addition to principal) to be made or any reduction of Class Notional Balance on the Distribution Date occurring in that month.
- The Class Factor for each Class for the month of issuance is 1,00000000.
- The Class Factors for the MX Classes and the Classes of REMIC Securities that are exchangeable for the MX Classes will be calculated assuming that the maximum possible amount of each Class is outstanding at all times, regardless of any exchanges that may occur.

- Based on the Class Factors published in the preceding and current months (and Interest Rates), investors in any Class (other than an Accrual Class) can calculate the amount of principal and interest to be distributed to that Class and investors in an Accrual Class can calculate the total amount of principal to be distributed to (or interest to be added to the Class Principal Balance of) that Class on the Distribution Date in the current month.
- Investors may obtain current Class Factors on ginniemae.gov.

See "Description of the Securities — Distributions" in the Base Offering Circular.

#### **Termination**

The Trustee, at its option, may purchase or cause the sale of the Trust Assets and thereby terminate the Trust on any Distribution Date on which the aggregate of the Class Principal Balances of the Securities is less than 1% of the aggregate Original Class Principal Balances of the Securities. The exercise of this option will be influenced by a number of factors, including but not limited to, the value of the Trust Assets then remaining in the Trust and general market conditions. The Trustee will be entitled to retain sale proceeds in excess of the termination price payable to the Securities under the Trust Agreement.

On any Distribution Date upon the Trustee's determination that the REMIC status of any Trust REMIC has been lost or that a substantial risk exists that this status will be lost for the then current taxable year, the Trustee will terminate such Trust REMIC and any related Trust REMIC and retire the related Securities. For these purposes, the Trust REMICs and the Securities with corresponding numerical designations are related as follows:

Trust REMICs	Related Securities
Group 1, 2, 4, 6, 9 and 10 Issuing and Pooling REMICs	Group 1, 2, 4, 6, 9 and 10 Securities
Group 3 REMIC	Group 3 Securities
Group 5 REMIC	Group 5 Securities
Group 7 REMIC	Group 7 Securities
Group 8 REMIC	Group 8 Securities
Group 11 REMIC	Group 11 Securities
Group 12 REMIC	Group 12 Securities

Upon any termination of the Trust (or one or more related Trust REMICs), the Holder of any related outstanding Security (other than a Residual or Notional Class Security) will be entitled to receive that Holder's allocable share of the Class Principal Balance of that Class plus any accrued and unpaid interest thereon at the applicable Interest Rate, and any Holder of any related outstanding Notional Class Security will be entitled to receive that Holder's allocable share of any accrued and unpaid interest thereon at the applicable Interest Rate. The Residual Holders will be entitled to their pro rata share of any assets remaining in the related Trust REMIC or Trust REMICs, as applicable, after payment in full of the amounts described in the foregoing sentence. However, any remaining assets are not likely to be significant.

With respect to each of Security Groups 3, 5, 7, 8, 11 and 12, a Holder of all of the outstanding Regular Securities of any such Security Group and the related Class of Residual Securities will have the right to purchase the related Trust Assets upon three Business Days' notice (the "Notice Period"). The purchase will be for cash in an amount equal to (A)(i) the aggregate remaining principal balance of the assets of such Security Group, but in no event less than the aggregate outstanding principal amount of the Securities of such Security Group, plus (ii) accrued interest on the Securities of such Security Group, less (B) amounts on deposit in the related Trust REMIC, for distribution on the Securities of such Security Group, plus (C) a \$5,000 termination fee payable to the Trustee in connection with each Security

Group to be terminated. After the Notice Period, and upon such purchase, the Trustee will terminate the related Trust REMIC. Upon such termination, the Trustee will distribute the cash proceeds of the sale of the related Trust Assets to the Holder of the related Securities (which distribution may be offset against amounts due on the sale of such assets), will cancel the Securities of the related Security Group and cause the removal from the Book-Entry Depository Account of all Classes of the related Security Group, will cancel the related Class of Residual Securities, and will credit the remaining Trust Assets in the related Security Group to the account of the surrendering Holder. Notwithstanding anything to the contrary contained herein, no such termination will be allowed unless the Trustee and Ginnie Mae are provided, at no cost to either the Trustee or Ginnie Mae, an Opinion of Counsel, acceptable to the Trustee and Ginnie Mae, to the effect that such termination constitutes a "qualified liquidation" under the REMIC Provisions, including Section 860F(a)(4) of the Code, and such termination will not result in a disqualification of any Trust REMIC that is not terminated at such time or the imposition of any "prohibited transactions" or "contributions" tax under the REMIC Provisions on any Trust REMIC that is not terminated at such time.

#### **Modification and Exchange**

All or a portion of the Classes of REMIC Securities specified on the front cover may be exchanged for a proportionate interest in the related MX Class or Classes shown on Schedule I to this Supplement. Similarly, all or a portion of the related MX Class or Classes may be exchanged for proportionate interests in the related Class or Classes of REMIC Securities and, in the case of Combinations 12, 13, 14, 15, 16, 17, 18, 24, 25, 26, 27, 28, 29 and 30, other related MX Classes. This process may occur repeatedly.

Each exchange may be effected only in proportions that result in the principal and interest entitlements of the Securities received being equal to the entitlements of the Securities surrendered.

In the case of Combinations 12, 13, 14, 15, 16, 17, 18, 24, 25, 26, 27, 28, 29 and 30, the related REMIC Securities may be exchanged for proportionate interests in various subcombinations of MX Classes. Similarly, all or a portion of these MX Classes may be exchanged for proportionate interests in the related REMIC Securities or in other subcombinations of the related MX Classes. Each subcombination may be effected only in proportions that result in the principal and interest entitlements of the Securities received being equal to the entitlements of the Securities surrendered. See the example under "Description of the Securities — Modification and Exchange" in the Base Offering Circular.

A Beneficial Owner proposing to effect an exchange must notify the Trustee through the Beneficial Owner's Book-Entry Depository participant. This notice must be received by the Trustee not later than two Business Days before the proposed exchange date. The exchange date can be any Business Day other than the last Business Day of the month. The notice must contain the outstanding principal or notional balances of the Securities to be included in the exchange and the proposed exchange date. The notice is required to be delivered to the Trustee by email to USBGNMATeam@USBank.com or in writing at its Corporate Trust Office at U.S. Bank National Association, One Federal Street, 3rd Floor, Boston, MA 02110, Attention: Ginnie Mae REMIC Program Agency Group 2023-112. The Trustee may be contacted by telephone at (617) 603-6451 and by fax at (617) 603-6644.

A fee will be payable to the Trustee in connection with each exchange equal to  $V_{32}$  of 1% of the outstanding principal balance (or notional balance) of the Securities surrendered for exchange (but not less than \$2,000 or more than \$25,000); provided, however that no fee will be payable in respect of an interest only security unless all securities involved in the exchange are interest only securities. If the notional balance of the interest only securities surrendered exceeds that of the interest only securities received, the fee will be based on the latter. The fee must be paid concurrently with the exchange.

The first distribution on a REMIC Security or an MX Security received in an exchange will be made on the Distribution Date in the month following the month of the exchange. The distribution will be made to the Holder of record as of the Record Date in the month of exchange.

See "Description of the Securities — Modification and Exchange" in the Base Offering Circular.

#### YIELD. MATURITY AND PREPAYMENT CONSIDERATIONS

#### General

The prepayment experience of the Mortgage Loans will affect the Weighted Average Lives of and the yields realized by investors in the related Securities.

- The Mortgage Loans do not contain "due-on-sale" provisions, and any Mortgage Loan may be prepaid in full or in part at any time without penalty.
- The rate of payments (including prepayments and payments in respect of liquidations) on the Mortgage Loans is dependent on a variety of economic, geographic, social and other factors, including prevailing market interest rates and general economic factors.

The rate of prepayments with respect to single-family mortgage loans has fluctuated significantly in recent years. Although there is no assurance that prepayment patterns for the Mortgage Loans will conform to patterns for more traditional types of conventional fixed rate mortgage loans, generally:

- if mortgage interest rates fall materially below the Mortgage Rates on any of the Mortgage Loans (giving consideration to the cost of refinancing), the rate of prepayment of those Mortgage Loans would be expected to increase; and
- if mortgage interest rates rise materially above the Mortgage Rates on any of the Mortgage Loans, the rate of prepayment of those Mortgage Loans would be expected to decrease.

In addition, following any Mortgage Loan default and the subsequent liquidation of the underlying Mortgaged Property, the principal balance of the Mortgage Loan will be distributed through a combination of liquidation proceeds, advances from the related Ginnie Mae Issuer and, to the extent necessary, proceeds of Ginnie Mae's guaranty of the Ginnie Mae Certificates. As a result, defaults experienced on the Mortgage Loans will accelerate the distribution of principal of the Securities.

The terms of the Mortgage Loans may be modified to permit, among other things, a partial release of security, which releases a portion of the mortgaged property from the lien securing the related Mortgage Loan. Partial releases of security may allow the related borrower to sell the released property and generate proceeds that may be used to prepay the related Mortgage Loan in whole or in part.

Under certain circumstances, the Trustee has the option to purchase the Trust Assets, thereby effecting early retirement of the Securities. See "Description of the Securities — Termination" in this Supplement.

# **Accretion Directed Classes**

Classes AC, AV, BA, LV, NA and VA are Accretion Directed Classes. The related Accrual Amount will be applied to making principal distributions on those Classes as described in this Supplement. Each of Classes AI and VI is a Notional Class whose Class Notional Balance is determined by reference to the Class Principal Balance of the related Accretion Directed Class shown under "Terms Sheet — Notional Classes" in this Supplement.

Each of the Accretion Directed Classes (other than Class VA) has the AD designation in the suffix position, rather than the prefix position, in its class principal type because it does not have principal payment stability through the applicable pricing prepayment assumption. Classes AV, LV and VA will have principal payment stability only through the prepayment rate shown in the table below. The remaining Accretion Directed Classes are not listed in the table below because, although they are entitled to receive payments from the related Accrual Amounts, they do not have principal payment stability through any constant prepayment rate significantly higher than 0% PSA.

The Accretion Directed Classes are entitled to principal payments in an amount equal to interest accrued on the related Accrual Classes. With respect to the Classes listed in the table below, the Weighted Average Life of each such Class cannot exceed its Weighted Average Life as shown in the following table under any prepayment scenario, even a scenario where there are no prepayments.

- Moreover, based on the Modeling Assumptions, if the related Mortgage Loans prepay at any constant rate at or below the rate for an Accretion Directed Class shown in the table below, the Class Principal Balance of such Class would be reduced to zero on, but not before, its Final Distribution Date, and the Weighted Average Life of such Class would equal its maximum Weighted Average Life shown in the table below.
- However, the Weighted Average Lives of Classes AV, LV and VA will be reduced, at prepayment speeds higher than the constant rates shown in the table below. See "Yield, Maturity and Prepayment Considerations Decrement Tables" in this Supplement.

#### **Accretion Directed Classes**

\*\*\*\* \* 1 . 1

Security Group	Class	Average Life (in years) <sup>(1)</sup>	Final Distribution Date	Prepayment Rate at or below
1	LV	6.0	July 2034	224% PSA
6	AV	6.0	June 2034	162% PSA
6	VA	2.8	November 2028	401% PSA

<sup>(1)</sup> The maximum Weighted Average Life for each Class shown in this table is based on the Modeling Assumptions and the assumption that the related Mortgage Loans prepay at any constant rate at or below the rate shown in the table for such Class.

The Mortgage Loans will have characteristics that differ from those of the Modeling Assumptions. Therefore, even if the related Mortgage Loans prepay at a rate at or somewhat below the "at or below" rate shown for any Accretion Directed Class, the Class Principal Balance (or Class Notional Balance, in the case of VI) of such Class could be reduced to zero before its Final Distribution Date, and its Weighted Average Life could be shortened.

#### **Assumability**

Each Mortgage Loan may be assumed, subject to HUD review and approval, upon the sale of the related Mortgaged Property. See "Yield, Maturity and Prepayment Considerations — Assumability of Government Loans" in the Base Offering Circular.

#### **Final Distribution Date**

The Final Distribution Date for each Class, which is set forth on the front cover of this Supplement or on Schedule I to this Supplement, is the latest date on which the related Class Principal Balance or Class Notional Balance will be reduced to zero.

- The actual retirement of any Class may occur earlier than its Final Distribution Date.
- According to the terms of the Ginnie Mae Guaranty, Ginnie Mae will guarantee payment in full of the Class Principal Balance of each Class of Securities no later than its Final Distribution Date.

#### **Modeling Assumptions**

Unless otherwise indicated, the tables that follow have been prepared on the basis of the following assumptions (the "Modeling Assumptions"), among others:

- 1. The Mortgage Loans underlying the Trust Assets have the assumed characteristics shown under "Assumed Characteristics of the Mortgage Loans Underlying the Trust Assets" in the Terms Sheet, except in the case of information set forth under the 0% PSA Prepayment Assumption Rate, for which each Mortgage Loan underlying a Group 1, 3, 4, 6, 7, 8, 9, 10, 11 or 12 Trust Asset is assumed to have an original and a remaining term to maturity of 360 months, each Mortgage Loan underlying a Group 2 or 5 Trust Asset is assumed to have an original and a remaining term to maturity of 480 months and each Mortgage Loan is assumed to have a Mortgage Rate of 1.50% per annum higher than the related Certificate Rate.
- 2. The Mortgage Loans prepay at the constant percentages of PSA (described below) shown in the related table.
- 3. Distributions on the Securities are always received on the 20th day of the month, whether or not a Business Day, commencing in September 2023.
  - 4. A termination of the Trust or any Trust REMIC does not occur.
  - 5. The Closing Date for the Securities is August 30, 2023.
- 6. No expenses or fees are paid by the Trust other than the Trustee Fee, which is paid as described under "The Trust Assets The Trustee Fee" in this Supplement.
  - 7. Each Class is held from the Closing Date and is not exchanged in whole or in part.

When reading the tables and the related text, investors should bear in mind that the Modeling Assumptions, like any other stated assumptions, are unlikely to be entirely consistent with actual experience.

- For example, most of the Mortgage Loans will not have the characteristics assumed, many Distribution Dates will occur on a Business Day after the 20th day of the month, and the Trustee may cause a termination of the Trust as described under "Description of the Securities Termination" in this Supplement.
- In addition, distributions on the Securities are based on Certificate Factors and Calculated Certificate Factors, as applicable, which may not reflect actual receipts on the Trust Assets.

See "Description of the Securities — Distributions" in the Base Offering Circular.

#### **Decrement Tables**

Prepayments of mortgage loans are commonly measured by a prepayment standard or model. The model used in this Supplement, Prepayment Speed Assumption ("PSA"), is the standard prepayment assumption model of The Securities Industry and Financial Markets Association. PSA represents an assumed rate of prepayment each month relative to the then outstanding principal balance of the Mortgage Loans to which the model is applied. See "Yield, Maturity and Prepayment Considerations — Standard Prepayment Assumption Models" in the Base Offering Circular.

The decrement tables set forth below are based on the assumption that the Mortgage Loans prepay at the indicated percentages of PSA (the "PSA Prepayment Assumption Rates"). As used in the tables, each of the PSA Prepayment Assumption Rates reflects a percentage of the 100% PSA assumed prepayment rate. The Mortgage Loans will not prepay at any of the PSA Prepayment Assumption Rates, and the timing of changes in the rate of prepayments actually experienced on the Mortgage Loans will not follow the pattern described for the PSA assumption.

The decrement tables set forth below illustrate the percentage of the Original Class Principal Balance (or, in the case of a Notional Class, the original Class Notional Balance) that would remain outstanding following the distribution made each specified month for each Regular or MX Class, based on the assumption that the related Mortgage Loans prepay at the PSA Prepayment Assumption Rates. The percentages set forth in the following decrement tables have been rounded to the nearest whole percentage (including rounding down to zero).

The decrement tables also indicate the Weighted Average Life of each Class under each PSA Prepayment Assumption Rate. The Weighted Average Life of each Class is calculated by:

- (a) multiplying the net reduction, if any, of the Class Principal Balance (or the net reduction of the Class Notional Balance, in the case of a Notional Class) from one Distribution Date to the next Distribution Date by the number of years from the date of issuance thereof to the related Distribution Date.
- (b) summing the results, and
- (c) dividing the sum by the aggregate amount of the assumed net reductions in principal balance or notional balance, as applicable, referred to in clause (a).

The information shown for each Notional Class is for illustrative purposes only, as a Notional Class is not entitled to distributions of principal and has no Weighted Average Life. The Weighted Average Life shown for each Notional Class has been calculated on the assumption that a reduction in the Class Notional Balance thereof is a distribution of principal.

The Weighted Average Lives are likely to vary, perhaps significantly, from those set forth in the tables below due to the differences between the actual characteristics of the Mortgage Loans underlying the related Trust Assets and the Modeling Assumptions.

# Percentages of Original Class Principal (or Class Notional) Balances and Weighted Average Lives

Security Group 1 PSA Prepayment Assumption Rates

	C	lasses A	F, AS, I	A and	ΙA			Class B			С	lasses E	BF, BS, I	B and	ΙΒ		(	Class LE	3	
Distribution Date	0%	150%	300%	450%	600%	0%	150%	300%	450%	600%	0%	150%	300%	450%	600%	0%	150%	300%	450%	600%
Initial Percent	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
August 2024	99	96	94	91	89	99	96	94	91	89	99	96	94	91	89	99	96	92	89	86
August 2025	98	89	81	74	66	98	90	81	74	66	98	90	81	74	66	98	87	77	67	57
August 2026	97	81	66	53	42	97	81	66	53	42	97	81	66	53	42	97	76	57	41	27
August 2027	96	72	54	38	27	96	72	54	38	27	96	72	54	38	27	95	65	42	23	8
August 2028	95	65	43	28	17	95	65	43	28	17	95	65	43	28	17	94	56	29	9	0
August 2029	94	58	35	20	11	94	58	35	20	11	94	58	35	20	11	92	47	18	0	0
August 2030	92	52	28	14	7	92	52	28	14	7	92	52	28	14	7	91	40	10	0	0
August 2031	91	46	23	10	4	91	46	23	10	4	91	47	23	10	4	89	33	3	0	0
August 2032	89	41	18	7	3	89	41	18	7	3	89	41	18	7	3	87	26	0	0	0
August 2033	88	37	15	5	2	88	37	15	5	2	88	37	15	5	2	85	21	0	0	0
August 2034	86	33	12	4	1	86	33	12	4	1	86	33	12	4	1	82	15	0	0	0
August 2035	84	29	9	3	1	84	29	9	3	1	84	29	9	3	1	80	11	0	0	0
August 2036	82	26	7	2	0	82	26	7	2	0	82	26	7	2	0	77	6	0	0	0
August 2037	79	23	6	1	0	79	23	6	1	0	79	23	6	1	0	74	3	0	0	0
August 2038	77	20	5	1	0	77	20	5	1	0	77,	20	5	1	0	71	0	0	0	0
August 2039	74	17	4	1	0	74	17	4	1	0	74	17	4	1	0	67	0	0	0	0
August 2040	71	15	3	0	0	71	15	3	0	0	71	15	3	0	0	64	0	0	0	0
August 2041	68	13	2	0	0	68	13	2	0	0	68	13	2	0	0	60	0	0	0	0
August 2042	64	11	2	0	0	64	11	2	0	0	64	11	2	0	0	55	0	0	0	0
August 2043	60	9	1	0	0	60	10	1	0	0	60	10	1	0	0	50	0	0	0	0
August 2044	56	8	1	0	0	56	8	1	0	0	56	8	1	0	0	45	0	0	0	0
August 2045	52	7	1	0	0	52	7	1	0	0	52	7	1	0	0	40	0	0	0	0
August 2046	47	5	1	0	0	47	5	1	0	0	47	5	1	0	0	33	0	0	0	0
August 2047	42	4	0	0	0	42	4	0	0	0	42	4	0	0	0	27	0	0	0	0
August 2048	36	3	0	0	0	36	3	0	0	0	36	3	0	0	0	20	0	0	0	0
August 2049	30	3	0	0	0	30	3	0	0	0	30	3	0	0	0	12	0	0	0	0
August 2050	23	2	0	0	0	23	2	0	0	0	23	2	0	0	0	4	0	0	0	0
August 2051	16	1	0	0	0	16	1	0	0	0	16	1	0	0	0	0	0	0	0	0
August 2052	8	0	0	0	0	8	0	0	0	0	8	0	0	0	0	0	0	0	0	0
August 2053 Weighted Average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Life (years)	20.5	9.2	5.6	4.0	3.2	20.5	9.2	5.6	4.1	3.2	20.5	9.2	5.6	4.1	3.2	18.4	6.3	3.8	2.8	2.3
ine (years)	20.7	7.4	5.0	4.0	5.2	20.)	7.2	5.0	1.1	5.2	20.)	7.2	5.0	7.1	5.2	10.1	0.5	5.0	2.0	٠.٠

PSA Prepayment Assumption	Rates
---------------------------	-------

			Class L1					Class LV					Class LY		
Distribution Date	0%	150%	300%	450%	600%	0%	150%	300%	450%	600%	0%	150%	300%	450%	600%
Initial Percent	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
August 2024	99	96	94	91	89	93	93	93	93	93	100	100	100	100	100
August 2025	98	89	81	74	66	86	86	86	86	86	100	100	100	100	100
August 2026	97	81	66	53	42	78	78	78	78	78	100	100	100	100	100
August 2027	96	72	54	38	27	70	70	70	70	70	100	100	100	100	100
August 2028	95	65	43	28	17	61	61	61	61	22	100	100	100	100	82
August 2029	94	58	35	20	11	52	52	52	46	0	100	100	100	97	52
August 2030	92	52	28	14	7	43	43	43	0	0	100	100	100	70	33
August 2031	91	46	23	10	4	33	33	33	0	0	100	100	100	50	20
August 2032	89	41	18	7	3	22	22	0	0	0	100	100	89	36	13
August 2033	88	37	15	5	2	11	11	0	0	0	100	100	71	26	8
August 2034	86	33	12	4	1	0	0	0	0	0	100	100	57	18	5
August 2035	84	29	9	3	1	0	0	0	0	0	100	100	46	13	3
August 2036	82	26	7	2	0	0	0	0	0	0	100	100	36	9	2
August 2037	79	23	6	1	0	0	0	0	0	0	100	100	29	6	1
August 2038	77	20	5	1	0	0	0	0	0	0	100	97	23	5	1
August 2039	74	17	4	1	0	0	0	0	0	0	100	84	18	3	0
August 2040	71	15	3	0	0	0	0	0	0	0	100	73	14	2	0
August 2041	68	13	2	0	0	0	0	0	0	0	100	63	11	2	0
August 2042	64	11	2	0	0	0	0	0	0	0	100	54	8	1	0
August 2043	60	9	1	0	0	0	0	0	0	0	100	46	6	1	0
August 2044	56	8	1	0	0	0	0	0	0	0	100	39	5	0	0
August 2045	52	7	1	0	0	0	0	0	0	0	100	32	4	0	0
August 2046	47	5	1	0	0	0	0	0	0	0	100	27	3	0	0
August 2047	42	4	0	0	0	0	0	0	0	0	100	21	2	0	0
August 2048	36	3	0	0	0	0	0	0	0	0	100	17	1	0	0
August 2049	30	3	0	0	0	0	0	0	0	0	100	12	1	0	0
August 2050	23	2	0	0	0	0	0	0	0	0	100	8	1	0	0
August 2051	16	1	0	0	0	0	0	0	0	0	79	5	0	0	0
August 2052	8	0	0	0	0	0	0	0	0	0	41	2	0	0	0
August 2053	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Weighted Average															
Life (years)	20.5	9.2	5.6	4.1	3.2	6.0	6.0	5.7	4.8	4.0	28.8	20.3	12.8	8.9	6.7

Security Group 1 PSA Prepayment Assumption Rates

			Class LZ		1 /	1		Class SL		
Distribution Date	0%	150%	300%	450%	600%	0%	150%	300%	450%	600%
Initial Percent	100	100	100	100	100	100	100	100	100	100
August 2024	106	106	106	106	106	99	96	94	91	89
August 2025	112	112	112	112	112	98	89	81	74	66
August 2026	118	118	118	118	118	97	81	66	53	42
August 2027	125	125	125	125	125	96	72	54	38	27
August 2028	132	132	132	132	132	95	65	43	28	17
August 2029	139	139	139	139	94	94	58	35	20	11
August 2030	147	147	147	127	59	92	52	28	14	7
August 2031	155	155	155	91	37	91	46	23	10	4
August 2032	164	164	162	65	23	89	41	18	7	3
August 2033	173	173	130	46	15	88	37	15	5	2
August 2034	182	182	104	33	9	86	33	12	4	1
August 2035	182	182	83	23	6	84	29	9	3	1
August 2036	182	182	66	17	4	82	26	7	2	0
August 2037	182	182	52	12	2	79	23	6	1	0
August 2038	182	176	41	8	1	77	20	5	1	0
August 2039	182	153	33	6	1	74	17	4	1	0
August 2040	182	133	25	4	1	71	15	3	0	0
August 2041	182	115	20	3	0	68	13	2	0	0
August 2042	182	99	15	2	0	64	11	2	0	0
August 2043	182	84	12	1	0	60	9	1	0	0
August 2044	182	71	9	1	0	56	8	1	0	0
August 2045	182	59	7	1	0	52	7	1	0	0
August 2046	182	48	5	0	0	47	5	1	0	0
August 2047	182	39	4	0	0	42	4	0	0	0
August 2048	182	30	2	0	0	36	3	0	0	0
August 2049	182	22	2	0	0	30	3	0	0	0
August 2050	182	15	1	0	0	23	2	0	0	0
August 2051	144	9	1	0	0	16	1	0	0	0
August 2052	75	4	0	0	0	8	0	0	0	0
August 2053	0	0	0	0	0	0	0	0	0	0
Weighted Average										
Life (years)	28.8	20.3	13.2	9.6	7.4	20.5	9.2	5.6	4.1	3.2

Security Group 2 PSA Prepayment Assumption Rates

			Class BA		1 /			Class BZ		
Distribution Date	0%	150%	300%	450%	600%	0%	150%	300%	450%	600%
Initial Percent	100	100	100	100	100	100	100	100	100	100
August 2024	100	95	91	86	82	107	107	107	107	107
August 2025	99	87	76	65	56	114	114	114	114	114
August 2026	99	79	62	47	35	121	121	121	121	121
August 2027	98	71	50	34	22	130	130	130	130	130
August 2028	98	64	41	25	14	138	138	138	138	138
August 2029	97	58	33	18	8	148	148	148	148	148
August 2030	97	52	27	12	5	157	157	157	157	157
August 2031	96	47	21	9	3	168	168	168	168	168
August 2032	95	42	17	6	2	179	179	179	179	179
August 2033	94	38	14	4	1	191	191	191	191	191
August 2034	93	34	11	3	0	204	204	204	204	201
August 2035	93	30	9	2	0	218	218	218	218	127
August 2036	92	27	7	1	0	232	232	232	232	80
August 2037	90	24	5	0	0	248	248	248	248	51
August 2038	89	21	4	0	0	264	264	264	208	32
August 2039	88	19	3	0	0	282	282	282	149	20
August 2040	87	17	2	0	0	301	301	301	107	13
August 2041	85	15	1	0	0	321	321	321	76	8
August 2042	84	13	1	0	0	343	343	343	55	5
August 2043	82	11	0	0	0	366	366	365	39	3
August 2044	80	9	0	0	0	390	390	291	28	2
August 2045	78	8	0	0	0	416	416	232	20	1
August 2046	76	7	0	0	0	444	444	184	14	1
August 2047	73	5	0	0	0	474	474	145	10	0
August 2048	71	4	0	0	0	506	506	114	7	0
August 2049	68	3	0	0	0	539	539	90	5	0
August 2050	65	2	0	0	0	576	576	70	3	0
August 2051	62	1	0	0	0	614	614	54	2	0
August 2052	58	1	0	0	0	655	655	41	2	0
August 2053	54	0	0	0	0	699	665	31	1	0
August 2054	50	0	0	0	0	746	553	24	1	0
August 2055	46	0	0	0	0	796	453	17	0	0
August 2056	41	0	0	0	0	849	362	13	0	0
August 2057	36	0	0	0	0	906	282	9	0	0
August 2058	30	0	0	0	0	967	209	6	0	0
August 2059	24	0	0	0	0	1032	144	4	0	0
August 2060	17	0	0	0	0	1101	86	2	0	0
August 2061	10	0	0	0	0	1174	35	1	0	0
August 2062	2	0	0	0	0	1253	0	0	0	0
August 2063	0	Ő	Ő	Ő	ő	0	ő	Ő	ő	Ő
Weighted Average	~	_	-	-	-		~	_	~	
Life (years)	28.5	9.3	5.2	3.6	2.8	39.7	33.6	24.1	17.4	13.2
		7.0		3.0		57.7			,	J.=

Security Group 3 PSA Prepayment Assumption Rates

		Cla	asses FC and	SC	
Distribution Date	0%	150%	300%	450%	600%
Initial Percent	100	100	100	100	100
August 2024	99	96	94	91	89
August 2025	98	90	81	74	66
August 2026	97	81	66	53	42
August 2027	96	72	54	39	27
August 2028	95	65	43	28	17
August 2029	94	58	35	20	11
August 2030	92	52	28	14	7
August 2031	91	47	23	10	4
August 2032	89	42	18	7	3
August 2033	88	37	15	5	2
August 2034	86	33	12	4	1
August 2035	84	29	9	3	1
August 2036	82	26	7	2	0
August 2037	79	23	6	1	0
August 2038	77	20	5	1	0
August 2039	74	17	4	1	0
August 2040	71	15	3	0	0
August 2041	68	13	2	0	0
August 2042	64	11	2	0	0
August 2043	60	10	1	0	0
August 2044	56	8	1	0	0
August 2045	52	7	1	0	0
August 2046	47	6	1	0	0
August 2047	42	4	0	0	0
August 2048	36	3	0	0	0
August 2049	30	3	0	0	0
August 2050	23	2	0	0	0
August 2051	16	1	0	0	0
August 2052	8	0	0	0	0
August 2053	0	0	0	0	0
Weighted Average					
Life (years)	20.5	9.2	5.6	4.1	3.2

Security Group 4
PSA Prepayment Assumption Rates

		Clas	ses AC an	d AI				Class CZ		
Distribution Date	0%	150%	300%	450%	600%	0%	150%	300%	450%	600%
Initial Percent	100	100	100	100	100	100	100	100	100	100
August 2024	99	94	90	86	82	107	107	107	107	107
August 2025	98	86	75	64	54	115	115	115	115	115
August 2026	96	76	59	45	32	123	123	123	123	123
August 2027	95	67	47	30	18	132	132	132	132	132
August 2028	94	59	36	20	9	142	142	142	142	142
August 2029	92	52	28	12	3	152	152	152	152	152
August 2030	90	46	21	7	0	163	163	163	163	143
August 2031	88	39	15	2	0	175	175	175	175	90
August 2032	86	34	10	0	0	187	187	187	165	56
August 2033	84	29	6	0	0	201	201	201	118	35
August 2034	82	24	2	0	0	215	215	215	84	22
August 2035	79	19	0	0	0	231	231	218	59	14
August 2036	76	15	0	0	0	248	248	174	42	8
August 2037	73	11	0	0	0	266	266	137	30	5
August 2038	70	8	0	0	0	285	285	108	21	3
August 2039	66	5	0	0	0	305	305	85	14	2
August 2040	62	1	0	0	0	328	328	66	10	1
August 2041	58	0	0	0	0	351	308	51	7	1
August 2042	53	0	0	0	0	377	263	39	5	0
August 2043	48	0	0	0	0	404	222	30	3	0
August 2044	42	0	0	0	0	433	184	22	2	0
August 2045	37	0	0	0	0	464	151	17	1	0
August 2046	30	0	0	0	0	498	121	12	1	0
August 2047	23	0	0	0	0	534	94	8	1	0
August 2048	15	0	0	0	0	573	69	6	0	0
August 2049	7	0	0	0	0	614	48	3	0	0
August 2050	0	0	0	0	0	617	28	2	0	0
August 2051	Õ	0	0	0	0	428	11	1	0	0
August 2052	Ŏ	Ŏ	Ŏ	Ŏ	Ŏ	223	0	0	Ŏ	Ö
August 2053	Õ	Ö	0	0	0	0	Õ	0	0	0
Weighted Average			, ,			_				
Life (years)	17.9	7.2	4.4	3.2	2.5	28.5	22.0	15.8	11.6	8.9

Security Group 5 PSA Prepayment Assumption Rates

		толттериу	Class ET	puon nunco	
Distribution Date	0%	100%	250%	400%	500%
Initial Percent	100	100	100	100	100
August 2024	100	97	93	90	87
August 2025	99	92	81	72	65
August 2026	99	86	69	54	45
August 2027	99	80	58	41	32
August 2028	98	75	49	31	22
August 2029	98	70	42	23	15
August 2030	97	65	35	18	11
August 2031	97	61	30	13	7
August 2032	96	57	25	10	5
August 2033	95	53	21	8	4
August 2034	95	49	18	6	2
August 2035	94	46	15	4	2
August 2036	93	42	12	3	1
August 2037	92	39	10	2	1
August 2038	91	37	9	2	1
August 2039	90	34	7	1	0
August 2040	89	31	6	1	0
August 2041	87	29	5	1	0
August 2042	86	27	4	1	0
August 2043	84	24	4	0	0
August 2044	83	22	3	0	0
August 2045	81	20	2	0	0
August 2046	79	19	2	0	0
August 2047	77	17	2	0	0
August 2048	74	15	1 1	0	0
August 2049	72 69	14 12	1	0	0
August 2050			_	0	0
August 2051	66 63	11 10	1 1	0	0
August 2052	59	9	0	0	0
August 2053	55	7	0	0	0
August 2055	51	6	0	0	0
August 2056	46	5	0	0	0
August 2057	41	4	0	0	0
August 2058	36		0	0	0
August 2059	30	3 3	0	0	0
August 2060	23	2	0	0	0
August 2061	16	1	ő	0	0
August 2062	8	0	0	0	0
August 2063	0	0	0	0	0
Weighted Average	Ü	0	0	0	0
Life (years)	29.6	13.3	6.6	4.3	3.5

Security Group 6 PSA Prepayment Assumption Rates

			Class A				(	Class A	V			(	Class AZ				(	lass DA		
Distribution Date	0%	100%	225%	400%	500%	0%	100%	225%	400%	500%	0%	100%	225%	400%	500%	0%	100%	225%	400%	500%
Initial Percent	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
August 2024	99	97	94	91	89	93	93	93	93	93	106	106	106	106	106	99	96	92	87	84
August 2025	97	90	81	69	63	86	86	86	86	86	113	113	113	113	113	98	88	78	64	56
August 2026	96	80	63	42	31	78	78	78	78	78	120	120	120	120	120	96	80	62	41	30
August 2027	94	71	47	20	7	70	70	70	70	70	127	127	127	127	127	95	72	49	24	12
August 2028	92	62	33	3	0	62	62	62	62	18	135	135	135	135	135	93	64	38	11	0
August 2029	90	54	22	0	0	52	52	52	11	0	143	143	143	143	104	91	57	28	1	0
August 2030	88	47	12	0	0	43	43	43	0	0	152	152	152	114	72	90	51	19	0	0
August 2031	86	39	3	0	0	32	32	32	0	0	161	161	161	85	49	88	44	12	0	0
August 2032	83	33	0	0	0	22	22	1	0	0	171	171	171	63	34	85	39	6	0	0
August 2033	81	26	0	0	0	10	10	0	0	0	182	182	145	47	23	83	33	1	0	0
August 2034	78	20	0	0	0	0	0	0	0	0	191	191	122	35	16	81	28	0	0	0
August 2035	75	15	0	0	0	0	0	0	0	0	191	191	103	26	11	78	23	0	0	0
August 2036	72	9	0	0	0	0	0	0	0	0	191	191	86	19	7	75	18	0	0	0
August 2037	68	4	0	0	0	0	0	0	0	0	191	191	72	14	5	72	14	0	0	0
August 2038	64	0	0	0	0	0	0	0	0	0	191	189	60	10	3	69	10	0	0	0
August 2039	60	0	0	0	0	0	0	0	0	0	191	170	50	7	2	65	6	0	0	0
August 2040	56	0	0	0	0	0	0	0	0	0	191	153	41	5	1	61	2	0	0	0
August 2041	51	0	0	0	0	0	0	0	0	0	191	136	34	4	1	57	0	0	0	0
August 2042	46	0	0	0	0	0	0	0	0	0	191	121	28	3	1	52	0	0	0	0
August 2043	40	0	0	0	0	0	0	0	0	0	191	106	22	2	0	47	0	0	0	0
August 2044	34	0	0	0	0	0	0	0	0	0	191	93	18	1	0	42	0	0	0	0
August 2045	28	0	0	0	0	0	0	0	0	0	191	80	14	1	0	36	0	0	0	0
August 2046	21	0	0	0	0	0	0	0	0	0	191	67	11	1	0	30	0	0	0	0
August 2047	13	0	0	0	0	0	0	0	0	0	191	56	8	0	0	24	0	0	0	0
August 2048	5	0	0	0	0	0	0	0	0	0	191	45	6	0	0	17	0	0	0	0
August 2049	0	0	0	0	0	0	0	0	0	0	176	35	4	0	0	9	0	0	0	0
August 2050	0	0	0	0	0	0	0	0	0	0	137	25	3	0	0	1	0	0	0	0
August 2051	0	0	0	0	0	0	0	0	0	0	95	16	2	0	0	0	0	0	0	0
August 2052	0	0	0	0	0	0	0	0	0	0	49	7	1	0	0	0	0	0	0	0
August 2053	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Weighted Average																				
Life (years)	16.7	7.0	4.1	2.8	2.4	6.0	6.0	5.7	4.5	4.0	27.9	21.3	14.4	9.6	7.9	17.8	7.8	4.4	2.8	2.3

PSA	Prep	oaym	ent A	ssump	otion	Rates

						FSAI	терауш	CIII ASSU	шриоп	Rates					
			Class EA							Class NA					
Distribution Date	0%	100%	225%	400%	500%	0%	100%	225%	400%	500%	0%	100%	225%	400%	500%
Initial Percent	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
August 2024	99	96	93	89	86	106	106	106	106	106	99	98	96	94	92
August 2025	97	89	79	65	58	113	113	113	113	113	98	93	87	78	74
August 2026	96	79	61	39	27	120	120	120	120	120	97	86	74	59	51
August 2027	94	70	46	18	5	127	127	127	127	127	95	80	63	44	35
August 2028	92	61	32	2	0	135	135	135	135	135	94	73	53	32	24
August 2029	90	53	21	0	0	143	143	143	143	107	93	68	45	24	16
August 2030	88	46	11	0	0	152	152	152	117	77	91	62	38	17	10
August 2031	86	39	3	0	0	161	161	161	90	57	89	57	32	12	6
August 2032	84	32	0	0	0	171	171	171	71	43	88	52	27	9	4
August 2033	81	26	0	0	0	182	182	148	56	34	86	48	22	6	2
August 2034	78	20	0	0	0	191	191	127	45	28	84	43	18	4	0
August 2035	75	14	0	0	0	192	192	110	38	20	81	39	15	2	0
August 2036	72	9	0	0	0	193	193	95	32	14	79	36	12	1	0
August 2037	68	4	0	0	0	194	194	83	26	9	76	32	9	0	0
August 2038	65	0	0	0	0	195	193	73	19	6	73	28	7	0	0
August 2039	61	0	0	0	0	196	176	64	14	4	70	25	5	0	0
August 2040	56	0	0	0	0	197	161	57	10	3	67	22	4	0	0
August 2041	52	0	0	0	0	198	147	51	7	2	64	19	2	0	0
August 2042	46	0	0	0	0	199	134	47	5	1	60	16	1	0	0
August 2043	41	0	0	0	0	200	121	42	4	1	56	14	0	0	0
August 2044	35	0	0	0	0	202	110	34	3	1	51	11	0	0	0
August 2045	29	0	0	0	0	203	99	27	2	0	47	9	0	0	0
August 2046	22	0	0	0	0	205	89	21	1	0	41	7	0	0	0
August 2047	14	0	0	0	0	206	80	16	1	0	36	4	0	0	0
August 2048	6	0	0	0	0	208	72	12	1	0	30	2	0	0	0
August 2049	0	0	0	0	0	196	64	8	0	0	24	0	0	0	0
August 2050	0	0	0	0	0	162	47	6	0	0	17	0	0	0	0
August 2051	0	0	0	0	0	124	30	3	0	0	9	0	0	0	0
August 2052	0	0	0	0	0	84	14	1	0	0	1	0	0	0	0
August 2053	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Weighted Average															
Life (years)	16.8	6.9	4.0	2.6	2.3	28.3	22.4	15.5	10.3	8.5	19.5	10.8	6.6	4.3	3.7

Security Group 6 PSA Prepayment Assumption Rates

			Class NZ			Classes VA and VI							Class Z		
Distribution Date	0%	100%	225%	400%	500%	0%	100%	225%	400%	500%	0%	100%	225%	400%	500%
Initial Percent	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
August 2024	106	106	106	106	106	83	83	83	83	83	106	106	106	106	106
August 2025	113	113	113	113	113	65	65	65	65	65	113	113	113	113	113
August 2026	120	120	120	120	120	46	46	46	46	46	120	120	120	120	120
August 2027	127	127	127	127	127	26	26	26	26	26	127	127	127	127	127
August 2028	135	135	135	135	135	5	5	5	5	0	135	135	135	135	123
August 2029	143	143	143	143	143	0	0	0	0	0	137	137	137	125	85
August 2030	152	152	152	152	152	0	0	0	0	0	137	137	137	95	58
August 2031	161	161	161	161	161	0	0	0	0	0	137	137	137	71	40
August 2032	171	171	171	171	171	0	0	0	0	0	137	137	131	53	27
August 2033	182	182	182	182	182	0	0	0	0	0	137	137	124	39	19
August 2034	193	193	193	193	193	0	0	0	0	0	137	137	106	29	13
August 2035	205	205	205	205	151	0	0	0	0	0	137	137	89	21	9
August 2036	218	218	218	218	103	0	0	0	0	0	137	137	74	16	6
August 2037	231	231	231	197	69	0	0	0	0	0	137	137	62	12	4
August 2038	245	245	245	144	47	0	0	0	0	0	137	136	52	8	3
August 2039	261	261	261	105	31	0	0	0	0	0	137	131	43	6	2
August 2040	277	277	277	76	21	0	0	0	0	0	137	126	35	4	1
August 2041	294	294	294	55	14	0	0	0	0	0	137	118	29	3	1
August 2042	312	312	312	39	9	0	0	0	0	0	137	105	23	2	1
August 2043	331	331	315	28	6	0	0	0	0	0	137	91	19	2	0
August 2044	351	351	252	20	4	0	0	0	0	0	137	79	15	1	0
August 2045	373	373	200	14	3	0	0	0	0	0	137	67	12	1	0
August 2046	396	396	155	9	2	0	0	0	0	0	137	56	9	1	0
August 2047	421	421	119	6	1	0	0	0	0	0	137	46	7	0	0
August 2048	446	446	88	4	1	0	0	0	0	0	137	36	5	0	0
August 2049	474	474	63	3	0	0	0	0	0	0	134	27	3	0	0
August 2050	503	354	42	1	0	0	0	0	0	0	123	18	2	0	0
August 2051	534	226	24	1	0	0	0	0	0	0	86	10	1	0	0
August 2052	567	105	10	0	0	0	0	0	0	0	45	2	0	0	0
August 2053	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Weighted Average															
Life (years)	29.6	27.9	23.4	16.7	13.9	2.8	2.8	2.8	2.8	2.7	28.4	22.2	14.7	9.1	7.5

Security Group 7 PSA Prepayment Assumption Rates

			Class CT		
Distribution Date	0%	100%	250%	400%	500%
Initial Percent	100	100	100	100	100
August 2024	99	97	95	93	91
August 2025	98	92	85	77	73
August 2026	97	86	72	59	51
August 2027	96	80	60	44	35
August 2028	95	74	50	33	24
August 2029	94	68	42	25	17
August 2030	92	63	35	18	11
August 2031	91	58	29	14	8
August 2032	89	53	24	10	5
August 2033	88	49	20	8	4
August 2034	86	45	17	6	3
August 2035	84	41	14	4	2
August 2036	82	37	11	3	1
August 2037	79	34	9	2	1
August 2038	77	30	8	2	1
August 2039	74	27	6	1	0
August 2040	71	25	5	1	0
August 2041	68	22	4	1	0
August 2042	64	19	3 3	0	0
August 2043	60	17		0	0
August 2044	56	15	2	0	0
August 2045	52	12	2	0	0
August 2046	47	10	1	0	0
August 2047	42	8	1	0	0
August 2048	36	7	1	0	0
August 2049	30	5 3	0	0	0
August 2050	23		0	0	0
August 2051	16	2	0	0	0
August 2052	8	0	0	0	0
August 2053	0	0	0	0	0
Weighted Average				, _	
Life (years)	20.5	11.3	6.5	4.5	3.8

Security Group 8 PSA Prepayment Assumption Rates

		Cla	asses FD and	SD	
Distribution Date	0%	150%	300%	450%	600%
Initial Percent	100	100	100	100	100
August 2024	99	97	95	92	90
August 2025	98	90	83	75	68
August 2026	98	81	67	55	44
August 2027	97	73	55	40	28
August 2028	95	66	44	29	17
August 2029	94	59	36	21	11
August 2030	93	53	29	15	7
August 2031	92	47	23	11	4
August 2032	90	42	19	8	3
August 2033	89	38	15	5	2
August 2034	87	33	12	4	1
August 2035	85	30	10	3	1
August 2036	83	26	8	2	0
August 2037	81	23	6	1	0
August 2038	78	20	5	1	0
August 2039	75	18	4	1	0
August 2040	72	15	3	0	0
August 2041	69	13	2	0	0
August 2042	66	11	2	0	0
August 2043	62	10	1	0	0
August 2044	58	8	1	0	0
August 2045	53	7	1	0	0
August 2046	49	6	1	0	0
August 2047	43	5	0	0	0
August 2048	37	4	0	0	0
August 2049	31	3	0	0	0
August 2050	24	2	0	0	0
August 2051	17	1	0	0	0
August 2052	9	0	0	0	0
August 2053	Ó	0	0	0	0
Weighted Average					
Life (years)	20.8	9.3	5.7	4.1	3.3

Security Group 9 PSA Prepayment Assumption Rates

		Classes F	Γ, PS, SP, TA,	TF and TI	-
Distribution Date	0%	150%	300%	450%	600%
Initial Percent	100	100	100	100	100
August 2024	99	97	95	92	90
August 2025	98	90	83	75	68
August 2026	97	81	67	55	44
August 2027	96	73	54	39	28
August 2028	95	65	44	28	17
August 2029	94	59	36	20	11
August 2030	92	52	29	15	7
August 2031	91	47	23	11	4
August 2032	89	42	19	8	3
August 2033	88	37	15	5	2
August 2034	86	33	12	$\stackrel{\checkmark}{4}$	1
August 2035	84	29	10	3	1
August 2036	82	26	8	2	0
August 2037	79	23	6	ī	Õ
August 2038	77	20	5	ī	0
August 2039	74	18	4	ī	0
August 2040	71	15	3	0	Õ
August 2041	68	13	2	Õ	0
August 2042	64	11	2	Õ	0
August 2043	60	10	- ī	ŏ	Ŏ
August 2044	56	8	ī	Õ	0
August 2045	52	7	1	ŏ	Ő
August 2046	47	6	i	ŏ	Ŏ
August 2047	42	4	0	ŏ	Ő
August 2048	36	4	ŏ	ŏ	Ő
August 2049	30	3	ŏ	ŏ	Ŏ
August 2050	23	2	ŏ	ŏ	Ő
August 2051	16	1	ő	ő	0
August 2052	8	i	ŏ	ŏ	0
August 2053	0	0	ő	ő	0
Weighted Average	0	V	V	~	· ·
Life (years)	20.5	9.3	5.7	4.1	3.3

Security Group 10 PSA Prepayment Assumption Rates

		Classes FW,	FY, PO, ST, T	S, WS and Y	I
Distribution Date	0%	150%	300%	450%	600%
Initial Percent	100	100	100	100	100
August 2024	99	97	95	92	90
August 2025	98	90	83	75	68
August 2026	97	81	67	55	44
August 2027	96	73	54	39	28
August 2028	95	65	44	28	17
August 2029	94	59	36	20	11
August 2030	92	52	29	15	7
August 2031	91	47	23	11	4
August 2032	89	42	19	8	3
August 2033	88	37	15	5	2
August 2034	86	33	12	4	1
August 2035	84	29	10	3	1
August 2036	82	26	8	2	0
August 2037	79	23	6	1	0
August 2038	77	20	5	1	0
August 2039	74	18	4	1	0
August 2040	71	15	3	0	0
August 2041	68	13	2	0	0
August 2042	64	11	2	0	0
August 2043	60	10	1	0	0
August 2044	56	8	1	0	0
August 2045	52	7	1	0	0
August 2046	47	6	1	0	0
August 2047	42	4	0	0	0
August 2048	36	4	0	0	0
August 2049	30	3	0	0	0
August 2050	23	2	0	0	0
August 2051	16	1	0	0	0
August 2052	8	1	0	0	0
August 2053	0	0	0	0	0
Weighted Average					
Life (years)	20.5	9.3	5.7	4.1	3.3

Security Group 11 PSA Prepayment Assumption Rates

	Classes GA, GB, GC, GD, GI and GM					Classes GE, GH, GJ, GK, GL and IG Class GN						Class GP								
Distribution Date	0%	100%	125%	300%	400%	0%	100%	125%	300%	400%	0%	100%	125%	300%	400%	0%	100%	125%	300%	400%
Initial Percent	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
August 2024	98	87	84	67	57	98	88	85	70	61	100	100	100	100	100	100	100	100	100	100
August 2025	95	74	69	40	25	96	76	72	45	31	100	100	100	100	100	100	100	100	100	100
August 2026	93	62	56	19	1	93	65	60	25	9	100	100	100	100	100	100	100	100	100	100
August 2027	90	51	44	17	0	91	55	48	9	0	100	100	100	100	0	100	100	100	100	9
August 2028	87	41	33	0	0	88	46	38	0	0	100	100	100	0	0	100	100	100	56	0
August 2029	84	31	22	0	0	86	37	28	0	0	100	100	100	0	0	100	100	100	0	0
August 2030	81	22	13	0	0	83	28	20	0	0	100	100	100	0	0	100	100	100	0	0
August 2031	78	14	4	0	0	80	21	12	0	0	100	100	100	0	0	100	100	100	0	0
August 2032	75	6	0	0	0	77	14	5	0	0	100	100	56	0	0	100	100	100	0	0
August 2033	71	0	0	0	0	73	7	ó	0	0	100	84	0	0	0	100	100	72	0	0
August 2034	67	0	Ő	0	ő	70	1	0	0	ő	100	7	0	0	0	100	100	0	Ő	0
August 2035	63	ő	Ő	ő	ő	66	0	Ő	0	ő	100	ó	0	0	ő	100	31	0	Ő	ő
August 2036	59	Õ	Ő	0	ő	62	0	Ő	0	ő	100	ő	0	Ő	ő	100	0	0	Ő	ő
August 2037	54	ő	ő	ő	ŏ	58	ŏ	ő	ŏ	ŏ	100	ŏ	ŏ	ő	ŏ	100	ŏ	ŏ	ő	ő
August 2038	49	ő	0	ő	ő	53	0	Ő	0	ő	100	0	0	0	ő	100	ő	0	Ő	ő
August 2039	44	ő	Ő	ő	ő	49	ő	Ő	0	ő	100	ő	0	0	ő	100	ő	0	Ő	ő
August 2040	39	ŏ	ő	ŏ	ŏ	44	ŏ	ő	ŏ	ŏ	100	ŏ	ő	ő	ŏ	100	ő	ŏ	ő	ő
August 2041	33	Ŏ	Ő	Ŏ	ő	38	Ŏ	Ő	Ŏ	ő	100	ő	Ő	ő	Ő	100	Ő	Ő	Ő	Ő
August 2042	27	Ŏ	ő	Ŏ	ő	33	Ŏ	Ő	Ŏ	ő	100	ő	Ő	ő	Ő	100	Ő	Ő	Ő	Õ
August 2043	20	Ŏ	Ŏ	Ő	Ŏ	27	Ŏ	Ŏ	Ŏ	ŏ	100	Ŏ	Ő	Ŏ	Ŏ	100	Ŏ	Ő	Ŏ	Ŏ
August 2044	14	0	0	Ő	Õ	21	Õ	0	Õ	Õ	100	Õ	0	0	Õ	100	0	0	0	0
August 2045	7	Õ	0	Ő	Õ	14	Õ	0	Õ	Õ	100	Õ	0	0	Õ	100	Ő	0	0	0
August 2046	Ó	Ö	Ö	Ő	Õ	7	Õ	Ö	Õ	Õ	90	Õ	Ö	Ö	Ö	100	Ő	Ö	Ö	Ŏ
August 2047	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	99	0	0	0	0
August 2048	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
August 2049	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
August 2050	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
August 2051	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
August 2052	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
August 2053	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Weighted Average																				
Life (years)	13.8	4.4	3.7	1.8	1.3	14.6	4.9	4.2	2.0	1.5	23.5	10.5	9.1	4.4	3.3	24.5	11.8	10.3	5.1	3.8

Security Group 11 PSA Prepayment Assumption Rates

		(	Class G(	5		Class GT					Class GU					Class GW				
Distribution Date	0%	100%	125%	300%	400%	0%	100%	125%	300%	400%	0%	100%	125%	300%	400%	0%	100%	125%	300%	400%
Initial Percent	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
August 2024	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
August 2025	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
August 2026	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
August 2027	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
August 2028	100	100	100	100	0	100	100	100	100	39	100	100	100	100	100	100	100	100	100	100
August 2029	100	100	100	18	0	100	100	100	100	0	100	100	100	100	4	100	100	100	100	100
August 2030	100	100	100	0	0	100	100	100	0	0	100	100	100	100	0	100	100	100	100	74
August 2031	100	100	100	0	0	100	100	100	0	0	100	100	100	0	0	100	100	100	100	54
August 2032	100	100	100	0	0	100	100	100	0	0	100	100	100	0	0	100	100	100	79	40
August 2033	100	100	100	0	0	100	100	100	0	0	100	100	100	0	0	100	100	100	62	29
August 2034	100	100	93	0	0	100	100	100	0	0	100	100	100	0	0	100	100	100	48	21
August 2035	100	100	17	0	0	100	100	100	0	0	100	100	100	0	0	100	100	100	37	15
August 2036	100	57	0	0	0	100	100	44	0	0	100	100	100	0	0	100	100	100	29	11
August 2037	100	0	0	0	0	100	87	0	0	0	100	100	76	0	0	100	100	100	22	8
August 2038	100	0	0	0	0	100	18	0	0	0	100	100	12	0	0	100	100	100	17	5
August 2039	100	0	0	0	0	100	0	0	0	0	100	52	0	0	0	100	100	88	13	4
August 2040	100	0	0	0	0	100	0	0	0	0	100	0	0	0	0	100	97	74	10	3
August 2041	100	0	0	0	0	100	0	0	0	0	100	0	0	0	0	100	82	61	7	2
August 2042	100	0	0	0	0	100	0	0	0	0	100	0	0	0	0	100	68	50	5	1
August 2043	100	0	0	0	0	100	0	0	0	0	100	0	0	0	0	100	54	39	4	1
August 2044	100	0	0	0	0	100	0	0	0	0	100	0	0	0	0	100	42	30	2	0
August 2045	100	0	0	0	0	100	0	0	0	0	100	0	0	0	0	100	31	22	2	0
August 2046	100	0	0	0	0	100	0	0	0	0	100	0	0	0	0	100	20	14	1	0
August 2047	100	0	0	0	0	100	0	0	0	0	100	0	0	0	0	100	10	7	0	0
August 2048	99	0	0	0	0	100	0	0	0	0	100	0	0	0	0	100	1	1	0	0
August 2049	0	0	0	0	0	87	0	0	0	0	100	0	0	0	0	100	0	0	0	0
August 2050	0	0	0	0	0	0	0	0	0	0	60	0	0	0	0	100	0	0	0	0
August 2051	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	79	0	0	0	0
August 2052	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	41	0	0	0	0
August 2053	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Weighted Average																				
Life (years)	25.5	13.1	11.6	5.8	4.3	26.3	14.6	12.9	6.6	4.9	27.1	16.1	14.4	7.5	5.7	28.8	20.6	19.4	11.9	9.2

PSA	Prepayment	Assumption	Rates

	C		IA, HB, E and F	НС, НІ П	Э,	Classes HG, HJ, HK, HL, HM and IH					Classes IJ, JG, JH, JK, JL and JM				d JM	Classes JA, JB, JC, JD, JE and JI				
Distribution Date	0%	100%	125%	300%	400%	0%	100%	125%	300%	400%	0%	100%	125%	300%	400%	0%	100%	125%	300%	400%
Initial Percent	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
August 2024	98	89	86	72	63	98	89	87	74	66	98	90	89	76	69	98	90	88	75	68
August 2025	96	78	74	49	36	96	79	76	52	40	97	81	78	57	46	97	80	77	55	44
August 2026	94	68	62	31	16	94	70	65	35	21	95	73	69	42	29	95	71	67	39	26
August 2027	92	58	52	16	1	92	61	55	21	7	93	65	60	29	17	93	63	58	26	12
August 2028	89	49	42	4	0	90	53	46	10	Ó	91	58	52	20	7	91	55	49	15	2
August 2029	87	41	34	0	0	88	45	38	1	0	89	51	44	12	0	88	48	41	7	0
August 2030	84	34	25	0	0	85	38	30	0	0	87	44	38	5	0	86	41	34	0	0
August 2031	81	26	18	0	0	82	31	23	0	0	84	38	31	Ó	0	83	35	28	0	0
August 2032	78	20	11	0	0	80	25	17	0	0	82	33	26	0	0	81	29	22	0	0
August 2033	75	13	5	0	0	77	19	11	0	0	79	27	20	0	0	78	24	16	0	0
August 2034	72	8	0	0	0	74	13	6	0	0	76	23	16	0	0	75	18	11	0	0
August 2035	68	2	0	0	0	70	8	1	0	0	73	18	11	0	0	72	14	7	0	0
August 2036	65	0	0	0	0	67	4	0	0	0	70	14	7	0	0	69	9	3	0	0
August 2037	61	0	0	0	0	63	0	0	0	0	67	10	4	0	0	65	5	0	0	0
August 2038	57	0	0	0	0	59	0	0	0	0	64	6	1	0	0	62	1	0	0	0
August 2039	52	0	0	0	0	55	0	0	0	0	60	3	0	0	0	58	0	0	0	0
August 2040	48	0	0	0	0	51	0	0	0	0	56	0	0	0	0	54	0	0	0	0
August 2041	43	0	0	0	0	46	0	0	0	0	52	0	0	0	0	49	0	0	0	0
August 2042	38	0	0	0	0	42	0	0	0	0	48	0	0	0	0	45	0	0	0	0
August 2043	32	0	0	0	0	36	0	0	0	0	43	0	0	0	0	40	0	0	0	0
August 2044	26	0	0	0	0	31	0	0	0	0	38	0	0	0	0	35	0	0	0	0
August 2045	20	0	0	0	0	25	0	0	0	0	33	0	0	0	0	30	0	0	0	0
August 2046	14	0	0	0	0	19	0	0	0	0	28 22	0	0	0	0	24	0	0	0	0
August 2047	0	0	0	0	0	13 6	0	0	0	0	16	0	0	0	0	18	0	0	0	0
August 2048	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0	12	0	0	0	0
August 2050	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	0	0	0	0
August 2050	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
August 2052	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
August 2053	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Weighted Average	0	O	U	Ü	O	Ü	O	Ü	O	O	Ü	U	O	O	O	Ü	O	O	O	Ü
Life (vears)	15.3	5.4	4.6	2.2	1.6	15.9	5.9	5.1	2.4	1.8	17.1	6.8	6.0	2.9	2.2	16.5	6.3	5.5	2.7	2.0

Security Group 11 PSA Prepayment Assumption Rates

	Class	ses KA, K	B, KC, K	D, KE a	nd KI			Class YA					Class YB	3	
Distribution Date	0%	100%	125%	300%	400%	0%	100%	125%	300%	400%	0%	100%	125%	300%	400%
Initial Percent	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
August 2024	99	92	90	80	74	100	100	100	100	100	100	100	100	100	100
August 2025	97	84	82	64	55	100	100	100	100	100	100	100	100	100	100
August 2026	96	77	74	51	41	100	100	100	100	100	100	100	100	100	100
August 2027	94	71	66	41	30	100	100	100	100	75	100	100	100	100	87
August 2028	92	65	60	33	22	100	100	100	81	56	100	100	100	94	64
August 2029	91	59	53	26	16	100	100	100	65	41	100	100	100	74	47
August 2030	89	53	48	21	12	100	100	100	51	30	100	100	100	59	35
August 2031	87	48	42	16	9	100	100	100	40	22	100	100	100	47	25
August 2032	85	44	38	13	6	100	100	94	32	16	100	100	100	37	19
August 2033	83	39	33	10	5	100	98	83	25	12	100	100	96	29	13
August 2034	80	35	29	8	3	100	88	73	20	8	100	100	85	22	10
August 2035	78	31	26	6	2	100	78	64	15	6	100	90	74	17	7
August 2036	75	28	23	5	2	100	69	56	12	4	100	80	65	14	5
August 2037	72	24	20	4	1	100	61	49	9	3	100	70	56	10	4
August 2038	69	21	17	3	1	100	53	42	7	2	100	61	48	8	3
August 2039	66	18	14	2	1	100	46	36	5	2	100	53	41	6	2
August 2040	63	16	12	2	0	100	39	30	4	1	100	45	35	4	1
August 2041	60	13	10	1	0	100	33	25	3	1	100	38	29	3	1
August 2042	56	11	8	1	0	100	27	20	2	0	100	32	23	2	1
August 2043	52	9	6	1	0	100	22	16	1	0	100	25	18	2	0
August 2044	48	7	5	0	0	100	17	12	1	0	100	20	14	1	0
August 2045	44	5	4	0	0	100	12	9	1	0	100	14	10	1	0
August 2046	40	3	2	0	0	99	8	6	0	0	100	9	7	0	0
August 2047	35	2	1	0	0	87	4	3	0	0	100	5	3	0	0
August 2048	30	0	0	0	0	74	1	0	0	0	85	1	0	0	0
August 2049	24	0	0	0	0	61	0	0	0	0	70	0	0	0	0
August 2050	19	0	0	0	0	47	0	0	0	0	54	0	0	0	0
August 2051	13	0	0	0	0	32	0	0	0	0	37	0	0	0	0
August 2052	7	0	0	0	0	17	0	0	0	0	19	0	0	0	0
August 2053	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Weighted Average															
Life (years)	19.0	9.1	8.1	4.4	3.3	26.7	16.1	14.7	8.2	6.3	27.2	17.0	15.6	8.8	6.8

PSA	Prepayment	Assumption	Rates
- 0	- repuly mem	- LOOULING TO LO	******

			Class YC	:		Class YD				Class YE						
Distribution Date	0%	100%	125%	300%	400%	0	%	100%	125%	300%	400%	0%	100%	125%	300%	400%
Initial Percent	100	100	100	100	100		.00	100	100	100	100	100	100	100	100	100
August 2024	100	100	100	100	100		.00	100	100	100	100	100	100	100	100	100
August 2025	100	100	100	100	100		.00	100	100	100	100	100	100	100	100	100
August 2026	100	100	100	100	100	1	.00	100	100	100	100	100	100	100	100	100
August 2027	100	100	100	100	100	1	.00	100	100	100	100	100	100	100	100	100
August 2028	100	100	100	100	75	1	.00	100	100	100	89	100	100	100	100	100
August 2029	100	100	100	87	55	1	.00	100	100	100	66	100	100	100	100	80
August 2030	100	100	100	69	40	1	100	100	100	82	48	100	100	100	100	59
August 2031	100	100	100	54	30	1	.00	100	100	65	35	100	100	100	79	43
August 2032	100	100	100	43	22	1	.00	100	100	51	26	100	100	100	62	31
August 2033	100	100	100	34	16	1	.00	100	100	40	19	100	100	100	49	23
August 2034	100	100	99	26	11	1	00	100	100	31	14	100	100	100	38	17
August 2035	100	100	87	20	8	1	.00	100	100	24	10	100	100	100	30	12
August 2036	100	93	76	16	6	1	.00	100	90	19	7	100	100	100	23	9
August 2037	100	82	66	12	4	1	.00	98	78	14	5	100	100	95	18	6
August 2038	100	72	56	9	3	1	.00	85	67	11	4	100	100	82	13	4
August 2039	100	62	48	7	2	1	.00	74	57	8	2	100	90	70	10	3
August 2040	100	53	40	5	1	1	.00	63	48	6	2	100	77	59	8	2
August 2041	100	45	33	4	1	1	.00	53	40	5	1	100	65	49	6	1
August 2042	100	37	27	3	1	1	00	44	32	3	1	100	54	39	4	1
August 2043	100	30	22	2	0	1	.00	35	26	2	1	100	43	31	3	1
August 2044	100	23	16	1	0	1	00	27	20	2	0	100	33	24	2	0
August 2045	100	17	12	1	0	1	00	20	14	1	0	100	24	17	1	0
August 2046	100	11	8	0	0	1	.00	13	9	1	0	100	16	11	1	0
August 2047	100	6	4	0	0	1	.00	7	5	0	0	100	8	6	0	0
August 2048	100	1	1	0	0	1	.00	1	1	0	0	100	1	1	0	0
August 2049	82	0	0	0	0		98	0	0	0	0	100	0	0	0	0
August 2050	63	0	0	0	0		75	0	0	0	0	92	0	0	0	0
August 2051	43	0	0	0	0		51	0	0	0	0	63	0	0	0	0
August 2052	22	0	0	0	0		26	0	0	0	0	32	0	0	0	0
August 2053	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0
Weighted Average	-						-					· ·				
Life (years)	27.6	17.8	16.4	9.5	7.3	2	8.0	18.7	17.4	10.2	7.8	28.4	19.6	18.3	11.0	8.4

Security Group 12 PSA Prepayment Assumption Rates

	Classes IL, LG, LH, LJ, LK and LM					Classes IM, MG, MH, MJ, MK and ML					(	IN, NH, L and N	.,	Classes KG, IA, IC, ID, IE and II						
Distribution Date	0%	100%	125%	300%	400%	0%	100%	125%	300%	400%	0%	100%	125%	300%	400%	0%	100%	125%	300%	400%
Initial Percent	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
August 2024	98	87	85	69	60	98	89	87	73	65	98	90	88	76	69	97	86	84	66	56
August 2025	95	75	71	44	29	96	79	75	51	39	96	81	78	56	45	95	73	69	39	23
August 2026	93	64	58	23	7	94	69	64	33	19	94	72	68	40	28	92	61	55	16	0
August 2027	90	54	47	7	0	91	60	54	19	5	92	64	59	28	15	89	50	42	0	0
August 2028	87	44	36	0	0	89	51	45	8	0	90	57	50	18	5	86	39	30	0	0
August 2029	84	35	26	0	0	86	43	36	0	0	88	49	43	9	0	83	29	20	0	0
August 2030	81	26	18	0	0	84	36	28	0	0	85	43	36	3	0	79	20	10	0	0
August 2031	78	19	9	0	0	81	29	21	0	0	83	37	30	0	0	76	11	1	0	0
August 2032	74	11	2	0	0	78	23	15	0	0	80	31	24	0	0	72	3	0	0	0
August 2033	71	4	0	0	0	75	17	9	0	0	77	26	19	0	0	68	0	0	0	0
August 2034	67	0	0	0	0	71	11	4	0	0	74	21	14	0	0	64	0	0	0	0
August 2035	63	0	0	0	0	68	6	0	0	0	71	16	9	0	0	60	0	0	0	0
August 2036	59	0	0	0	0	64	1	0	0	0	68	12	6	0	0	55	0	0	0	0
August 2037	54	0	0	0	0	60	0	0	0	0	64	8	2	0	0	50	0	0	0	0
August 2038	49	0	0	0	0	56	0	0	0	0	61	4	0	0	0	45	0	0	0	0
August 2039	45	0	0	0	0	52	0	0	0	0	57	1	0	0	0	40	0	0	0	0
August 2040	39	0	0	0	0	47	0	0	0	0	53	0	0	0	0	34	0	0	0	0
August 2041	34	0	0	0	0	43	0	0	0	0	49	0	0	0	0	28	0	0	0	0
August 2042	28	0	0	0	0	38	0	0	0	0	44	0	0	0	0	22	0	0	0	0
August 2043	22	0	0	0	0	33	0	0	0	0	40	0	0	0	0	15	0	0	0	0
August 2044	16	0	0	0	0	27	0	0	0	0	35	0	0	0	0	9	0	0	0	0
August 2045	9	0	0	0	0	21	0	0	0	0	30	0	0	0	0	1	0	0	0	0
August 2046	2	0	0	0	0	15	0	0	0	0	24	0	0	0	0	0	0	0	0	0
August 2047	0	0	0	0	0	9	0	0	0	0	19	0	0	0	0	0	0	0	0	0
August 2048	0	0	0	0	0	2	0	0	0	0	13	0	0	0	0	0	0	0	0	0
August 2049	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0
August 2050	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
August 2051	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
August 2052	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
August 2053	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Weighted Average																				
Life (years)	13.9	4.7	4.0	1.9	1.4	15.3	5.7	4.9	2.3	1.7	16.4	6.6	5.7	2.8	2.1	13.1	4.2	3.6	1.7	1.3

PSA Prepayment Assumption Rates	PSA :	A Prepayment	Assumption	Rates
---------------------------------	-------	--------------	------------	-------

	F3A F1CPayment Assumption rates																			
	Class KH					Class KJ								Class KM						
Distribution Date	0%	100%	125%	300%	400%	0%	100%	125%	300%	400%	0%	100%	125%	300%	400%	0%	100%	125%	300%	400%
Initial Percent	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
August 2024	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
August 2025	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
August 2026	100	100	100	100	84	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
August 2027	100	100	100	86	0	100	100	100	100	0	100	100	100	100	71	100	100	100	100	100
August 2028	100	100	100	0	0	100	100	100	21	0	100	100	100	100	0	100	100	100	100	0
August 2029	100	100	100	0	0	100	100	100	0	0	100	100	100	0	0	100	100	100	78	0
August 2030	100	100	100	0	0	100	100	100	0	0	100	100	100	0	0	100	100	100	0	0
August 2031	100	100	100	0	0	100	100	100	0	0	100	100	100	0	0	100	100	100	0	0
August 2032	100	100	24	0	0	100	100	100	0	0	100	100	100	0	0	100	100	100	0	0
August 2033	100	54	0	0	0	100	100	38	0	0	100	100	100	0	0	100	100	100	0	0
August 2034	100	0	0	0	0	100	74	0	0	0	100	100	57	0	0	100	100	100	0	0
August 2035	100	0	0	0	0	100	0	0	0	0	100	98	0	0	0	100	100	79	0	0
August 2036	100	0	0	0	0	100	0	0	0	0	100	23	0	0	0	100	100	6	0	0
August 2037	100	0	0	0	0	100	0	0	0	0	100	0	0	0	0	100	51	0	0	0
August 2038	100	0	0	0	0	100	0	0	0	0	100	0	0	0	0	100	0	0	0	0
August 2039	100	0	0	0	0	100	0	0	0	0	100	0	0	0	0	100	0	0	0	0
August 2040	100	0	0	0	0	100	0	0	0	0	100	0	0	0	0	100	0	0	0	0
August 2041	100	0	0	0	0	100	0	0	0	0	100	0	0	0	0	100	0	0	0	0
August 2042	100	0	0	0	0	100	0	0	0	0	100	0	0	0	0	100	0	0	0	0
August 2043	100	0	0	0	0	100	0	0	0	0	100	0	0	0	0	100	0	0	0	0
August 2044	100	0	0	0	0	100	0	0	0	0	100	0	0	0	0	100	0	0	0	0
August 2045	100	0	0	0	0	100	0	0	0	0	100	0	0	0	0	100	0	0	0	0
August 2046	30	0	0	0	0	100	0	0	0	0	100	0	0	0	0	100	0	0	0	0
August 2047	0	0	0	0	0	37	0	0	0	0	100	0	0	0	0	100	0	0	0	0
August 2048	0	0	0	0	0	0	0	0	0	0	35	0	0	0	0	100	0	0	0	0
August 2049	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22	0	0	0	0
August 2050	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
August 2051	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
August 2052	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
August 2053	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Weighted Average																				
Life (years)	22.8	10.1	8.7	4.2	3.2	23.9	11.3	9.9	4.8	3.6	24.9	12.6	11.1	5.5	4.1	25.8	14.0	12.4	6.2	4.7

Security Group 12 PSA Prepayment Assumption Rates

		(	Class KI	N			(	Class Kl	P		C	lasses M M	IA, MB, E and M		D,	C	lasses N	NB, NC, G and N		i,
Distribution Date	0%	100%	125%	300%	400%	0%	100%	125%	300%	400%	0%	100%	125%	300%	400%	0%	100%	125%	300%	400%
Initial Percent	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
August 2024	100	100	100	100	100	100	100	100	100	100	98	88	86	71	62	98	90	88	74	67
August 2025	100	100	100	100	100	100	100	100	100	100	96	77	73	48	34	96	80	76	54	42
August 2026	100	100	100	100	100	100	100	100	100	100	93	67	61	29	14	94	71	66	37	24
August 2027	100	100	100	100	100	100	100	100	100	100	91	57	51	14	0	92	62	56	24	10
August 2028	100	100	100	100	98	100	100	100	100	100	88	48	41	2	0	89	54	48	13	0
August 2029	100	100	100	100	0	100	100	100	100	90	85	40	32	0	0	87	47	40	5	0
August 2030	100	100	100	56	0	100	100	100	100	66	82	32	23	0	0	84	40	32	0	0
August 2031	100	100	100	0	0	100	100	100	89	49	79	24	16	0	0	82	33	26	0	0
August 2032	100	100	100	0	0	100	100	100	70	36	76	18	9	0	0	79	27	20	0	0
August 2033	100	100	100	0	0	100	100	100	55	26	73	11	3	0	0	76	22	14	0	0
August 2034	100	100	100	0	0	100	100	100	43	19	69	5	0	0	0	73	17	9	0	0
August 2035	100	100	100	0	0	100	100	100	34	14	65	0	0	0	0	70	12	5	0	0
August 2036	100	100	100	0	0	100	100	100	26	10	62	0	0	0	0	66	7	0	0	0
August 2037	100	100	37	0	0	100	100	100	20	7	57	0	0	0	0	62	3	0	0	0
August 2038	100	82	0	0	0	100	100	94	15	5	53	0	0	0	0	59	0	0	0	0
August 2039	100	16	0	0	0	100	100	80	12	3	49	0	0	0	0	55	0	0	0	0
August 2040	100	0	0	0	0	100	89	68	9	2	44	0	0	0	0	50	0	0	0	0
August 2041	100	0	0	0	0	100	76	57	6	2	39	0	0	0	0	46	0	0	0	0
August 2042	100	0	0	0	0	100	64	47	5	1	33	0	0	0	0	41	0	0	0	0
August 2043	100	0	0	0	0	100	52	38	3	1	28	0	0	0	0	36	0	0	0	0
August 2044	100	0	0	0	0	100	41	30	2	0	22	0	0	0	0	31	0	0	0	0
August 2045	100	0	0	0	0	100	32	22	2	0	16	0	0	0	0	26	0	0	0	0
August 2046	100	0	0	0	0	100	23	16	1	0	9	0	0	0	0	20	0	0	0	0
August 2047	100	0	0	0	0	100	14	10	1	0	5	0	0	0	0	14	0	0	0	0
August 2048	100	0	0	0	0	100	/	4	0	0	0	0	0	0	0	8	0	0	0	0
August 2049	100	0	0	0	0	100	0	0	0	0	0	0	0	0	0	1	0	0	0	0
August 2050	0	0	0	0	0	99	0	0	0	0	0	0	0	0	0	0	0	0	0	0
August 2051	0	0	0	0	0	68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
August 2052	0	0	0	0	0	35 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
August 2053	U	0	0	0	0	0	0	0	0	U	0	0	0	0	U	0	U	U	0	U
Weighted Average Life (years)	26.6	15.5	13.8	7.1	5.3	28.5	20.5	19.2	11.5	8.8	14.6	5.2	4.4	2.1	1.6	15.9	6.1	5.3	2.6	1.9

	PSA Prepayment Assumption Rates														
	Clas	ses PA, I	PB, PC, P	D, PE an	d PI	Class YG						,	Class YH	[	
Distribution Date	0%	100%	125%	300%	400%	0%	100%	125%	300%	400%	0%	100%	125%	300%	400%
Initial Percent	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
August 2024	99	92	90	80	74	100	100	100	100	100	100	100	100	100	100
August 2025	97	84	82	64	55	100	100	100	100	100	100	100	100	100	100
August 2026	95	77	74	51	41	100	100	100	100	98	100	100	100	100	100
August 2027	94	71	66	41	30	100	100	100	98	72	100	100	100	100	83
August 2028	92	64	59	33	22	100	100	100	78	53	100	100	100	89	61
August 2029	90	59	53	26	16	100	100	100	62	39	100	100	100	71	45
August 2030	88	53	48	20	12	100	100	100	49	29	100	100	100	56	33
August 2031	86	48	42	16	9	100	100	100	39	21	100	100	100	44	24
August 2032	84	44	38	13	6	100	100	91	31	15	100	100	100	35	18
August 2033	81	39	33	10	5	100	94	80	24	11	100	100	92	27	13
August 2034	79	35	29	8	3	100	84	71	19	8	100	97	81	21	9
August 2035	76	31	26	6	2	100	75	62	15	6	100	86	71	17	Ź
August 2036	74	28	23	5	2	100	67	54	11	4	100	77	62	13	5
August 2037	71	25	20	4	1	100	59	47	9	3	100	68	54	10	3
August 2038	68	22	17	3	1	100	52	41	7	2	100	59	47	8	2
August 2039	65	19	15	2	1	100	45	35	5	2	100	52	40	6	2
August 2040	61	16	12	2	0	100	39	30	4	1	100	44	34	4	1
August 2041	58	14	10	1	0	100	33	25	3	1	100	38	28	3	1
August 2042	54	11	8	1	0	100	28	20	2	0	100	32	23	2	1
August 2043	51	9	7	1	Ŏ	100	23	16	ī	Ŏ	100	26	19	2	0
August 2044	47	8	5	0	0	100	18	13	1	Õ	100	21	15	1	Õ
August 2045	42	6	4	0	0	100	14	10	1	Õ	100	16	11	1	Õ
August 2046	38	4	3	Õ	Õ	91	10	7	0	Ŏ	100	11	8	0	Õ
August 2047	33	3	2	0	0	80	6	4	0	0	92	7	5	0	0
August 2048	28	ĭ	1	0	0	68	3	2	0	0	78	3	2	Õ	Õ
August 2049	23	0	0	0	0	56	ŏ	0	Õ	Ŏ	64	Ő	0	Õ	Õ
August 2050	18	0	0	0	0	43	0	0	0	Õ	49	0	0	Õ	Õ
August 2051	12	Õ	Õ	Õ	Õ	29	Õ	Õ	Õ	Õ	34	Õ	Õ	Õ	0
August 2052	6	Ŏ	Ŏ	Ŏ	Ŏ	15	Ŏ	Ŏ	Ŏ	Ŏ	17	Ŏ	Ŏ	Ŏ	Ŏ
August 2053	Ő	Õ	Õ	Õ	ő	0	Ő	Õ	ő	ő	0	Ő	Ő	ő	Ő
Weighted Average	9	~	~	~	~	· ·	9	~	9	~	Ü	,	9		
Life (years)	18.6	9.1	8.2	4.4	3.3	26.4	16.0	14.6	8.1	6.2	26.9	16.9	15.4	8.6	6.6

Security Group 12 PSA Prepayment Assumption Rates

			Class YJ					Class YK	:				Class YI		
Distribution Date	0%	100%	125%	300%	400%	0%	100%	125%	300%	400%	0%	100%	125%	300%	400%
Initial Percent	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
August 2024	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
August 2025	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
August 2026	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
August 2027	100	100	100	100	96	100	100	100	100	100	100	100	100	100	100
August 2028	100	100	100	100	71	100	100	100	100	83	100	100	100	100	100
August 2029	100	100	100	82	52	100	100	100	96	61	100	100	100	100	73
August 2030	100	100	100	65	38	100	100	100	76	45	100	100	100	92	54
August 2031	100	100	100	51	28	100	100	100	60	33	100	100	100	72	39
August 2032	100	100	100	40	20	100	100	100	48	24	100	100	100	57	29
August 2033	100	100	100	32	15	100	100	100	37	17	100	100	100	45	21
August 2034	100	100	94	25	11	100	100	100	29	13	100	100	100	35	15
August 2035	100	100	82	19	8	100	100	97	23	9	100	100	100	27	11
August 2036	100	89	72	15	6	100	100	84	18	7	100	100	100	21	8
August 2037	100	78	62	12	4	100	92	73	14	5	100	100	88	16	6
August 2038	100	69	54	9	3	100	81	63	10	3	100	97	76	12	4
August 2039	100	60	46	7	2	100	70	54	8	2	100	84	65	9	3
August 2040	100	51	39	5	1	100	60	46	6	2	100	72	55	7	2
August 2041	100	44	33	4	1	100	51	38	4	1	100	62	46	5	1
August 2042	100	37	27	3	1	100	43	32	3	1	100	51	38	4	1
August 2043	100	30	22	2	0	100	35	25	2	1	100	42	31	3	1
August 2044	100	24	17	1	0	100	28	20	2	0	100	34	24	2	0
August 2045	100	18	13	1	0	100	21	15	1	0	100	26	18	1	0
August 2046	100	13	9	1	0	100	15	11	1	0	100	18	13	1	0
August 2047	100	8	6	0	0	100	10	7	0	0	100	12	8	0	0
August 2048	90	4	3	0	0	100	4	3	0	0	100	5	4	0	0
August 2049	74	0	0	0	0	87	0	0	0	0	100	0	0	0	0
August 2050	57	0	0	0	0	67	0	0	0	0	80	0	0	0	0
August 2051	39	0	0	0	0	46	0	0	0	0	55	0	0	0	0
August 2052	20	0	0	0	0	23	0	0	0	0	28	0	0	0	0
August 2053	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Weighted Average															
Life (years)	27.3	17.7	16.3	9.2	7.1	27.8	18.6	17.2	9.9	7.6	28.2	19.5	18.2	10.6	8.2

#### **Yield Considerations**

An investor seeking to maximize yield should make a decision whether to invest in any Regular or MX Class based on:

- the anticipated yield of that Class resulting from its purchase price,
- the investor's own projection of Mortgage Loan prepayment rates under a variety of scenarios and
- in the case of a Floating Rate or an Inverse Floating Rate Class, the investor's own projection of levels of 30-day Average SOFR under a variety of scenarios.

# No representation is made regarding Mortgage Loan prepayment rates, 30-day Average SOFR levels or the yield of any Class.

Prepayments: Effect on Yields

The yields to investors will be sensitive in varying degrees to the rate of prepayments on the related Mortgage Loans.

- In the case of Regular Securities or MX Securities purchased at a premium (especially the Interest Only Classes), faster than anticipated rates of principal payments could result in actual yields to investors that are lower than the anticipated yields.
- Investors in the Interest Only Classes should also consider the risk that rapid rates of principal payments could result in the failure of investors to recover fully their investments.
- In the case of Regular Securities or MX Securities purchased at a discount (especially the Principal Only Class), slower than anticipated rates of principal payments could result in actual yields to investors that are lower than the anticipated yields.

See "Risk Factors — Rates of principal payments can reduce your yield" in this Supplement.

Rapid rates of prepayments on the Mortgage Loans are likely to coincide with periods of low prevailing interest rates.

During periods of low prevailing interest rates, the yields at which an investor may be able to reinvest amounts received as principal payments on the investor's Class of Securities may be lower than the yield on that Class.

Slow rates of prepayments on the Mortgage Loans are likely to coincide with periods of high prevailing interest rates.

During periods of high prevailing interest rates, the amount of principal payments available to an investor for reinvestment at those high rates may be relatively low.

The Mortgage Loans will not prepay at any constant rate until maturity, nor will all of the Mortgage Loans underlying any Trust Asset Group prepay at the same rate at any one time. The timing of changes in the rate of prepayments may affect the actual yield to an investor, even if the average rate of principal prepayments is consistent with the investor's expectation. In general, the earlier a prepayment of principal on the Mortgage Loans, the greater the effect on an investor's yield. As a result, the effect on an investor's yield of principal prepayments occurring at a rate higher (or lower) than the rate anticipated by the investor during the period immediately following the Closing Date is not likely to be offset by a later equivalent reduction (or increase) in the rate of principal prepayments.

30-day Average SOFR: Effect on Yields of the Floating Rate and Inverse Floating Rate Classes

Low levels of 30-day Average SOFR can reduce the yield of the Floating Rate Classes. High levels of 30-day Average SOFR can significantly reduce the yield of the Inverse Floating Rate Classes. In addition, the Floating Rate Classes will not benefit from a higher yield at high levels of 30-day Average SOFR and certain Inverse Floating Rate Classes may not benefit from particularly low levels of 30-day Average SOFR because the rate on such Classes is capped at a maximum rate described under "Terms Sheet — Interest Rates."

Payment Delay: Effect on Yields of the Fixed Rate Classes

The effective yield on any Fixed Rate Class will be less than the yield otherwise produced by its Interest Rate and purchase price because, on each Distribution Date, 30 days' interest will be payable on (or added to the principal amount of) that Class even though interest began to accrue approximately 50 days earlier.

#### **Yield Tables**

The following tables show the pre-tax yields to maturity on a corporate bond equivalent basis of specified Classes at various constant percentages of PSA and, in the case of the Inverse Floating Rate Classes, at various constant levels of 30-day Average SOFR.

The Mortgage Loans will not prepay at any constant rate until maturity and it is unlikely that 30-day Average SOFR will remain constant. Moreover, it is likely that the Mortgage Loans will experience actual prepayment rates that differ from those of the Modeling Assumptions. Therefore, the actual pre-tax yield of any Class may differ from those shown in the applicable table below for that Class even if the Class is purchased at the assumed price shown.

The yields were calculated by

- 1. determining the monthly discount rates that, when applied to the applicable assumed streams of cash flows to be paid on the applicable Class, would cause the discounted present value of the assumed streams of cash flows to equal the assumed purchase price of that Class plus accrued interest (in the case of interest-bearing Classes), and
- 2. converting the monthly rates to corporate bond equivalent rates.

These calculations do not take into account variations that may occur in the interest rates at which investors may be able to reinvest funds received by them as distributions on their Securities and consequently do not purport to reflect the return on any investment in any Class when those reinvestment rates are considered.

The information set forth in the following tables was prepared on the basis of the Modeling Assumptions and the assumptions that (1) the Interest Rate applicable to each Inverse Floating Rate Class for each Accrual Period following the first Accrual Period will be based on the indicated level of 30-day Average SOFR and (2) the purchase price of each Class (expressed as a percentage of Original Class Principal Balance or original Class Notional Balance) plus accrued interest (in the case of interest-bearing Classes) is as indicated in the related table. **The assumed purchase price is not necessarily that at which actual sales will occur.** 

# Sensitivity of Class AS to Prepayments Assumed Price 5.5%\*

	PSA Prepayment Assumption Rates								
30-day Average SOFR	150%	300%	450%	600%					
4.05859%	27.5%	19.7%	11.8%	3.6%					
5.05859%	6.5%	(1.9)%	(10.7)%	(19.8)%					
5.50430%	(3.6)%	(12.3)%	(21.5)%	(31.0)%					
5.95000% and above	**	**	**	**					

# Sensitivity of Class BS to Prepayments Assumed Price 5.5%\*

	PSA Prepayment Assumption Rates								
30-day Average SOFR	150%	300%	450%	600%					
4.05859%	27.5%	19.7%	11.8%	3.6%					
5.05859%	6.5%	(1.9)%	(10.7)%	(19.8)%					
5.50430%	(3.6)%	(12.3)%	(21.4)%	(31.0)%					
5.95000% and above	**	**	**	**					

# Sensitivity of Class IA to Prepayments Assumed Price 0.5%\*

	PS.	A Prepaymen	t Assumption	Rates
30-day Average SOFR	150%	300%	450%	600%
5.950% and below	22.7%	14.8%	6.7%	(1.7)%
6.025%	5.2%	(3.3)%	(12.1)%	(21.2)%
6.100% and above	**	**	**	**

# Sensitivity of Class IB to Prepayments Assumed Price 0.5%\*

	PSA Prepayment Assumption Rates							
30-day Average SOFR	150%	300%	450%	600%				
5.950% and below	22.7%	14.8%	6.7%	(1.6)%				
6.025%	5.2%	(3.2)%	(12.1)%	(21.2)%				
6.100% and above	**	**	***	**				

<sup>\*</sup> The price does not include accrued interest. Accrued interest has been added to the price in calculating the yields set forth in the table.

<sup>\*\*</sup> Indicates that investors will suffer a loss of virtually all of their investment.

# Sensitivity of Class SL to Prepayments Assumed Price 5.5%\*

	PSA Prepayment Assumption Rates								
30-day Average SOFR	150%	300%	450%	600%					
4.05859%	27.5%	19.7%	11.8%	3.6%					
5.05859%	6.5%	(1.9)%	(10.7)%	(19.8)%					
5.50430%	(3.6)%	(12.3)%	(21.4)%	(31.0)%					
5.95000% and above	**	3[43]4	1/4:1/4	**					

#### **SECURITY GROUP 3**

#### Sensitivity of Class SC to Prepayments Assumed Price 2.5%\*

	PSA Prepayment Assumption Rates								
30-day Average SOFR	150%	300%	450%	600%					
4.10884%	40.4%	33.0%	25.4%	17.7%					
5.10884%	(7.3)%	(16.1)%	(25.2)%	(34.9)%					
5.17942%	(12.8)%	(21.5)%	(30.7)%	(40.5)%					
5.25000% and above	**	**	***	**					

#### **SECURITY GROUP 4**

# Sensitivity of Class AI to Prepayments Assumed Price 14.0%\*

#### **PSA Prepayment Assumption Rates**

150%	300%	450%	600%	755%
42.9%	33.3%	22.9%	11.9%	0.1%

#### **SECURITY GROUP 6**

# Sensitivity of Class VI to Prepayments Assumed Price 13.5%\*

#### **PSA Prepayment Assumption Rates**

100%	225%	400%	500%	797%
10.4%	10.4%	10.4%	9.3%	0.0%

<sup>\*</sup> The price does not include accrued interest. Accrued interest has been added to the price in calculating the yields set forth in the table.

<sup>\*\*</sup> Indicates that investors will suffer a loss of virtually all of their investment.

# Sensitivity of Class SD to Prepayments Assumed Price 4.5%\*

	PSA Prepayment Assumption Rates								
30-day Average SOFR	150%	300%	450%	600%					
4.22165%	25.9%	18.3%	10.5%	2.6%					
5.22165%	(0.1)%	(8.7)%	(17.6)%	(26.9)%					
5.46083%	(7.7)%	(16.4)%	(25.5)%	(35.1)%					
5.70000% and above	**	**	**	**					

#### **SECURITY GROUP 9**

# Sensitivity of Class PS to Prepayments Assumed Price 5.0%\*

	PSA Prepayment Assumption Rates				
30-day Average SOFR	150%	300%	450%	600%	
4.37350%	18.5%	10.6%	2.5%	(5.7)%	
5.37350%	(5.9)%	(14.5)%	(23.6)%	(33.2)%	
5.53675%	(11.7)%	(20.4)%	(29.5)%	(39.2)%	
5.70000% and above	**	**	**	**	

# Sensitivity of Class SP to Prepayments Assumed Price 5.5%\*

	PSA Prepayment Assumption Rates				
30-day Average SOFR	150%	300%	450%	600%	
4.37350%	17.8%	9.9%	1.8%	(6.5)%	
5.37350%	(4.1)%	(12.7)%	(21.7)%	(31.2)%	
5.58675%	(10.4)%	(19.1)%	(28.2)%	(37.9)%	
5.80000% and above	**	**	**	**	

# Sensitivity of Class TI to Prepayments Assumed Price 15.0%\*

	<b>PSA Prepayment Assumption Rates</b>				
30-day Average SOFR	150%	300%	450%	600%	
5.70% and below	38.9%	31.8%	24.5%	17.0%	
5.75%	13.4%	5.4%	(2.9)%	(11.5)%	
5.80% and above	**	水水	**	**	

<sup>\*</sup> The price does not include accrued interest. Accrued interest has been added to the price in calculating the yields set forth in the table.

<sup>\*\*</sup> Indicates that investors will suffer a loss of virtually all of their investment.

# Sensitivity of Class PO to Prepayments Assumed Price 90.5%

**PSA Prepayment Assumption Rates** 

150%	300%	450%	600%
1.1%	1.8%	2.5%	3.1%

# Sensitivity of Class ST to Prepayments Assumed Price 92.5%\*

	PSA Prepayment Assumption Rates			
30-day Average SOFR	150%	300%	450%	600%
4.05%	4.9%	5.5%	6.0%	6.5%
5.05%	2.8%	3.3%	3.9%	4.4%
5.50%	1.8%	2.4%	2.9%	3.4%
5.95% and above	0.9%	1.4%	2.0%	2.5%

# Sensitivity of Class TS to Prepayments Assumed Price 94.5%\*

	PSA Prepayment Assumption Rates			
30-day Average SOFR	150%	300%	450%	600%
4.05%	8.7%	9.1%	9.5%	9.8%
5.05%	4.4%	4.8%	5.2%	5.6%
5.50%	2.5%	2.9%	3.3%	3.7%
5.95% and above	0.6%	1.1%	1.5%	1.8%

# Sensitivity of Class WS to Prepayments Assumed Price 5.5%\*

	PSA Prepayment Assumption Rates				
30-day Average SOFR	150%	300%	450%	600%	
4.05%	27.9%	20.4%	12.7%	4.8%	
5.05%	6.8%	(1.5)%	(10.0)%	(19.0)%	
5.50%	(3.4)%	(12.0)%	(21.0)%	(30.5)%	
5.95% and above	**	**	**	**	

# Sensitivity of Class YI to Prepayments Assumed Price 1.0%\*

	PSA Prepayment Assumption Rates				
30-day Average SOFR	150%	300%	450%	600%	
5.950% and below	17.0%	9.1%	1.0%	(7.4)%	
6.075%	2.3%	(6.2)%	(15.0)%	(24.2)%	
6.200% and above	**	**	**	**	

<sup>\*</sup> The price does not include accrued interest. Accrued interest has been added to the price in calculating the yields set forth in the table.

<sup>\*\*</sup> Indicates that investors will suffer a loss of virtually all of their investment.

# Sensitivity of Class GI to Prepayments Assumed Price 11.25%\*

**PSA Prepayment Assumption Rates** 

100%	125%	175%	300%	400%
15.9%	11.0%	0.1%	(30.6)%	(56.5)%

#### Sensitivity of Class HI to Prepayments Assumed Price 13.25%\*

**PSA Prepayment Assumption Rates** 

100%	125%	187%	300%	400%
14.3%	10.5%	0.1%	(21.9)%	(43.1)%

#### Sensitivity of Class IG to Prepayments Assumed Price 12.25%\*

**PSA Prepayment Assumption Rates** 

100%	125%	181%	300%	400%
15.1%	10.8%	0.2%	(25.8)%	(49.2)%

#### Sensitivity of Class IH to Prepayments Assumed Price 14.25%\*

**PSA Prepayment Assumption Rates** 

		. •		
100%	125%	192%	300%	400%
13.5%	10.2%	0.1%	(18.6)%	(37.8)%

#### Sensitivity of Class IJ to Prepayments Assumed Price 16.0%\*

**PSA Prepayment Assumption Rates** 

100%	125%	207%	300%	400%
12.6%	9.9%	0.1%	(12.9)%	(28.4)%

# Sensitivity of Class JI to Prepayments Assumed Price 15.25%\*

**PSA Prepayment Assumption Rates** 

100%	125%	198%	300%	400%
12.8%	9.8%	0.1%	(15.8)%	(33.1)%

<sup>\*</sup> The price does not include accrued interest. Accrued interest has been added to the price in calculating the yields set forth in the table.

#### Sensitivity of Class KI to Prepayments Assumed Price 19.25%\*

**PSA Prepayment Assumption Rates** 

		•	*	
100%	125%	264%	300%	400%
11.3%	9.6%	0.0%	(2.5)%	(9.8)%

#### **SECURITY GROUP 12**

#### Sensitivity of Class IL to Prepayments Assumed Price 11.25%\*

**PSA Prepayment Assumption Rates** 

100%	125%	163%	300%	400%
12.3%	7.7%	0.2%	(30.9)%	(55.2)%

#### Sensitivity of Class IM to Prepayments Assumed Price 13.0%\*

**PSA Prepayment Assumption Rates** 

100%	125%	175%	300%	400%
11.5%	7.9%	0.1%	(22.7)%	(42.7)%

#### Sensitivity of Class IN to Prepayments Assumed Price 14.75%\*

**PSA Prepayment Assumption Rates** 

100%	125%	186%	300%	400%
10.5%	7.7%	0.0%	(16.7)%	(33.2)%

#### Sensitivity of Class II to Prepayments Assumed Price 10.25%\*

**PSA Prepayment Assumption Rates** 

100%	125%	159%	300%	400%
13.2%	7.9%	0.2%	(35.7)%	(62.5)%

# Sensitivity of Class MI to Prepayments Assumed Price 12.25%\*

**PSA Prepayment Assumption Rates** 

100%	125%	167%	300%	400%
11.5%	7.5%	0.1%	(26.8)%	(48.9)%

<sup>\*</sup> The price does not include accrued interest. Accrued interest has been added to the price in calculating the yields set forth in the table.

#### Sensitivity of Class NI to Prepayments Assumed Price 13.75%\*

#### **PSA Prepayment Assumption Rates**

			*	
100%	125%	182%	300%	400%
11.3%	8.1%	0.1%	(19.1)%	(37.3)%

# Sensitivity of Class PI to Prepayments Assumed Price 18.5%\*

#### **PSA Prepayment Assumption Rates**

100%	125%	236%	300%	400%
9.2%	7.6%	0.0%	(4.4)%	(11.6)%

<sup>\*</sup> The price does not include accrued interest. Accrued interest has been added to the price in calculating the yields set forth in the table.

#### CERTAIN UNITED STATES FEDERAL INCOME TAX CONSEQUENCES

The following tax discussion, when read in conjunction with the discussion of "Certain United States Federal Income Tax Consequences" in the Base Offering Circular, describes the material United States federal income tax considerations for investors in the Securities. However, these two tax discussions do not purport to deal with all United States federal tax consequences applicable to all categories of investors, some of which may be subject to special rules.

#### **REMIC Elections**

In the opinion of Cleary Gottlieb Steen & Hamilton LLP, the Trust will constitute a Double REMIC Series as to the Group 1, 2, 4, 6, 9 and 10 Trust Assets and a Single REMIC Series as to the Group 3 Trust Assets, the Group 5 Trust Assets, the Group 7 Trust Assets, the Group 8 Trust Assets, the Group 11 Trust Assets and the Group 12 Trust Assets, each for United States federal income tax purposes. Separate REMIC elections will be made for the Group 1, 2, 4, 6, 9 and 10 Pooling REMIC, the Group 1, 2, 4, 6, 9 and 10 Issuing REMIC, the Group 3 REMIC, the Group 5 REMIC, the Group 7 REMIC, the Group 8 REMIC, the Group 11 REMIC and the Group 12 REMIC.

#### **Regular Securities**

The Regular Securities will be treated as debt instruments issued by the Group 1, 2, 4, 6, 9 and 10 Issuing REMIC, the Group 3 REMIC, the Group 5 REMIC, the Group 7 REMIC, the Group 8 REMIC, the Group 11 REMIC or the Group 12 REMIC, as applicable, for United States federal income tax purposes. Income on the Regular Securities must be reported under an accrual method of accounting.

The Principal Only, Notional and Accrual Classes of Regular Securities will be issued with original issue discount ("OID"), and certain other Classes of Regular Securities may be issued with OID. See "Certain United States Federal Income Tax Consequences — Tax Treatment of Regular Securities — Original Issue Discount," "— Variable Rate Securities" and "— Interest Weighted Securities and Non-VRDI Securities" in the Base Offering Circular.

The prepayment assumption that should be used in determining the rates of accrual of OID, if any, on the Regular Securities (as described in "Yield, Maturity and Prepayment Considerations" in this Supplement) is as follows:

Group(s)	<u>PSA</u>
1, 2, 3, 4, 8, 9 and 10	300%
5 and 7	250%
6	225%
11 and 12	125%

In the case of the Floating Rate Classes, the interest rate values to be used for these determinations are the initial Interest Rates as set forth in the Terms Sheet under "Interest Rates." No representation is made, however, about the rate at which prepayments on the Mortgage Loans underlying any Group of Trust Assets actually will occur or the level of 30-day Average SOFR at any time after the date of this Supplement. See "Certain United States Federal Income Tax Consequences" in the Base Offering Circular.

The Regular Securities generally will be treated as "regular interests" in a REMIC for domestic building and loan associations and "real estate assets" for real estate investment trusts ("REITs") as described in "Certain United States Federal Income Tax Consequences" in the Base Offering Circular. Similarly, interest on the Regular Securities will be considered "interest on obligations secured by mortgages on real property" for REITs as described in "Certain United States Federal Income Tax Consequences" in the Base Offering Circular.

#### **Residual Securities**

Each Class of Residual Securities will represent the beneficial ownership of the Residual Interest in the related Trust REMIC or Trust REMICs, as shown below:

Residual Securities	<b>Trust REMIC</b>
Class RR Securities	Group 1, 2, 4, 6, 9 and 10 Pooling REMIC and
	Group 1, 2, 4, 6, 9 and 10 Issuing REMIC
Class R3 Securities	Group 3 REMIC
Class R5 Securities	Group 5 REMIC
Class R7 Securities	Group 7 REMIC
Class R8 Securities	Group 8 REMIC
Class R11 Securities	Group 11 REMIC
Class R12 Securities	Group 12 REMIC

The Residual Securities generally will be treated as "residual interests" in a REMIC for domestic building and loan associations and as "real estate assets" for REITs, as described in "Certain United States Federal Income Tax Consequences" in the Base Offering Circular, but will not be treated as debt for United States federal income tax purposes. Instead, the Holders of the Residual Securities will be required to report, and will be taxed on, their pro rata shares of the taxable income or loss of the related Trust REMIC or Trust REMICs, as applicable, and these requirements will continue until there are no outstanding regular interests in the respective Trust REMIC or Trust REMICs, as applicable. Thus, Residual Holders will have taxable income attributable to the Residual Securities even though they will not receive principal or interest distributions with respect to the Residual Securities, which could result in a negative after-tax return for the Residual Holders. Even though the Holders of the Residual Securities are not entitled to any stated principal or interest payments on the Residual Securities, the related Trust REMIC or Trust REMICs, as applicable, may have substantial taxable income in certain periods,

and offsetting tax losses may not occur until much later periods. Accordingly, the Holders of the Residual Securities may experience substantial adverse tax timing consequences. Prospective investors are urged to consult their own tax advisors and consider the after-tax effect of ownership of the Residual Securities and the suitability of the Residual Securities to their investment objectives.

Prospective Holders of Residual Securities should be aware that, at issuance, based on the expected prices of the Regular and Residual Securities and the prepayment assumption described above, the residual interests represented by the Residual Securities will be treated as "noneconomic residual interests" as that term is defined in Treasury regulations.

#### **MX Securities**

For a discussion of certain United States federal income tax consequences applicable to the MX Classes, see "Certain United States Federal Income Tax Consequences — Tax Treatment of MX Securities", "— Exchanges of MX Classes and Regular Classes" and "— Taxation of Foreign Holders of REMIC Securities and MX Securities" in the Base Offering Circular.

Investors should consult their own tax advisors in determining the United States federal, state, local, foreign and any other tax consequences to them of the purchase, ownership and disposition of the Securities.

#### **ERISA MATTERS**

Ginnie Mae guarantees distributions of principal and interest with respect to the Securities. The Ginnie Mae Guaranty is supported by the full faith and credit of the United States of America. The Regular and MX Securities will qualify as "guaranteed governmental mortgage pool certificates" within the meaning of a Department of Labor regulation, the effect of which is to provide that mortgage loans and participations therein underlying a "guaranteed governmental mortgage pool certificate" will not be considered assets of an employee benefit plan subject to the Employee Retirement Income Security Act of 1974, as amended ("ERISA"), or subject to Section 4975 of the Code (each, a "Plan"), solely by reason of the Plan's purchase and holding of that certificate.

Prospective Plan Investors should consult with their advisors to determine whether the purchase, holding or resale of a Security could give rise to a transaction that is prohibited or is not otherwise permissible under either ERISA or the Code.

Governmental plans and certain church plans, while not subject to the fiduciary responsibility provisions of ERISA or the prohibited transaction provisions of ERISA and the Code, may nevertheless be subject to local, state or other federal laws that are substantially similar to the foregoing provisions of ERISA and the Code ("Similar Law").

Fiduciaries of any such Plans or governmental or church plans subject to Similar Law should consult with their counsel before purchasing any of the Securities.

See "ERISA Considerations" in the Base Offering Circular.

The Residual Securities are not offered to, and may not be transferred to, a Plan Investor.

#### LEGAL INVESTMENT CONSIDERATIONS

Institutions whose investment activities are subject to legal investment laws and regulations or to review by certain regulatory authorities may be subject to restrictions on investment in the Securities. No representation is made about the proper characterization of any Class for legal investment or other purposes, or about the permissibility of the purchase by particular investors of any Class under applicable legal investment restrictions.

Investors should consult their own legal advisors regarding applicable investment restrictions and the effect of any restrictions on the liquidity of the Securities prior to investing in the Securities.

See "Legal Investment Considerations" in the Base Offering Circular.

#### PLAN OF DISTRIBUTION

Subject to the terms and conditions of the Sponsor Agreement, the Sponsor has agreed to purchase all of the Securities if any are sold and purchased. The Sponsor proposes to offer the Regular and MX Classes to the public from time to time for sale in negotiated transactions at varying prices to be determined at the time of sale, plus accrued interest, if any, from (1) August 1, 2023 on the Fixed Rate Classes and (2) August 20, 2023 on the Floating Rate and Inverse Floating Rate Classes. The Sponsor may effect these transactions by sales to or through certain securities dealers. These dealers may receive compensation in the form of discounts, concessions or commissions from the Sponsor and/or commissions from any purchasers for which they act as agents. Some of the Securities may be sold through dealers in relatively small sales. In the usual case, the commission charged on a relatively small sale of securities will be a higher percentage of the sales price than that charged on a large sale of securities.

#### **INCREASE IN SIZE**

Before the Closing Date, Ginnie Mae, the Trustee and the Sponsor may agree to increase the size of this offering. In that event, the Securities will have the same characteristics as described in this Supplement, except that the Original Class Principal Balance (or original Class Notional Balance) of each Class receiving principal distributions or interest distributions based upon a notional balance from the same Trust Asset Group will increase by the same proportion. The Trust Agreement, the Final Data Statement, and the Supplemental Statement, if any, will reflect any increase in the size of the transaction.

#### **LEGAL MATTERS**

Certain legal matters will be passed upon for Ginnie Mae by Hunton Andrews Kurth LLP, for the Trust by Cleary Gottlieb Steen & Hamilton LLP and Marcell Solomon & Associates, P.C., and for the Trustee by Faegre Drinker Biddle & Reath LLP.

# Available Combinations(1)

REMIC Securities				Z	MX Securities	φ		
Class	Original Class Principal Balance or Class Notional Balance	Related MX Class	Maximum Original Class Principal Balance or Class Notional Balance(2)	Principal Type(3)	Interest Rate	Interest Type(3)	CUSIP	Final Distribution Date(4)
Security Group 1								
Combination 1 FA	\$150,000,000	AF	\$150,000,000	PT	(9)	FLT	38384C2M0	August 2053
IA	150,000,000				)		2	2
Combination 2								
FB	\$ 50,000,000	BF	\$ 50,000,000	PT	9	FLT	38384C2N8	August 2053
IB	50,000,000							
Combination 3								
AS	\$150,000,000	SL	\$200,000,000	NTL(PT)	9	OI/ANI	38384C2P3	August 2053
BS	50,000,000							
Combination 4								
LB	\$ 67,613,232	LT	\$ 85,000,000	PT	5.50%	FIX	38384C2Q1	August 2053
LV	7,818,828							
TZ	9,567,940							
Combination 5								
IV	\$ 7,818,828	$\Gamma X$	\$ 17,386,768	SEQ	5.50%	FIX	38384C2R9	August 2053
TZ	9,567,940							
Security Group 6								
Combination 6								
AZ	\$ 1,640,632	MZ	\$ 1,758,540	SEQ	%00.9	FIX/Z	38384C2S7	August 2053
NZ	117,908							
Security Group 9								
Combination 7								
FT	\$ 30,000,000	TF	\$ 30,000,000	PT	9	FLT	38384C2T5	August 2053
TI	461,538							
Combination 8								
PS	\$ 30,000,000	SP	\$ 30,000,000	NTL(PT)	9	OI/ANI	38384C2U2	August 2053
II	401,538							

REMIC Securities				W	MX Securities	•		
	Original Class Principal Balance or Class Notional	Related	Maximum Original Class Principal Balance or Class Notional	Principal	Interest	Interest	CUSIP	Final Distribution
Class	Balance	MX Class	Balance(2)	Type(3)	Rate	Type(3)	Number	Date(4)
Security Group 10								
Combination 9								
FY	\$ 50,000,000	FW	\$ 50,000,000	PT	9	FLT	38384C2V0	August 2053
YI	50,000,000							
Combination 10								
PO	\$ 3,846,154	ST	\$ 3,846,154	PT	(9)	INV	38384C2W8	August 2053
WS	7,692,308							)
Combination 11								
PO	\$ 3,846,154	TS	\$ 3,846,154	PT	9	INV	38384C2X6	August 2053
WS	15,384,616							)
Security Group 11								
Combination 12(5)								
GM	\$139,710,000	GA	\$ 69,855,000	SEQ	4.50%	FIX	38384C2Y4	July 2046
		GB	93,140,000	SEQ	4.25	FIX	38384C2Z1	July 2046
		CC	139,710,000	SEQ	3.75	FIX	38384C3A5	July 2046
		GD	139,710,000	SEQ	3.50	FIX	38384C3B3	July 2046
		E	17,463,750	NTL(SEQ)	4.00	FIX/IO	38384C3C1	July 2046
Combination 13(5)								
GM	\$139,710,000	GE	\$ 75,992,000	SEQ	4.50%	FIX	38384C3D9	August 2047
GN	12,274,000	CH	101,322,666	SEQ	4.25	FIX	38384C3E7	August 2047
		Ģ	151,984,000	SEQ	4.00	FIX	38384C3F4	August 2047
		GK	151,984,000	SEQ	3.75	FIX	38384C3G2	August 2047
		GL	151,984,000	SEQ	3.50	FIX	38384C3H0	August 2047
		IG	18,998,000	NTL(SEQ)	4.00	FIX/IO	38384C3J6	August 2047
Combination 14(5)								
GM	\$139,710,000	HA	\$ 81,827,500	SEQ	4.50%	FIX	38384C3K3	August 2048
GN	12,274,000	HB	109,103,333	SEQ	4.25	FIX	38384C3L1	August 2048
GP	11,671,000	HC	163,655,000	SEQ	4.00	FIX	38384C3M9	August 2048
		HD	163,655,000	SEQ	3.75	FIX	38384C3N7	August 2048
		HE	163,655,000	SEQ	3.50	FIX	38384C3P2	August 2048
		H	20,456,875	NTL(SEQ)	4.00	FIX/IO	38384C3Q0	August 2048

REMIC Securities				N	MX Securities	ş		
	Original Class Principal Balance or Class Notional	Related	Maximum Original Class Principal Balance or Class Notional	Principal	Interest	Interest	CUSIP	Final Distribution
Class	Balance	MX Class	Balance(2)	Type(3)	Rate	Type(3)	Number	Date(4)
Combination 15(5)								
GM	\$139,710,000	HG	\$ 87,369,000	SEQ	4.50%	FIX	38384C3R8	July 2049
GN	12,274,000	HĴ	116,492,000	SEQ	4.25	FIX	38384C3S6	July 2049
GP	11,671,000	HK	174,738,000	SEQ	4.00	FIX	38384C3T4	July 2049
ÇÓ	11,083,000	HL	174,738,000	SEQ	3.75	FIX	38384C3U1	July 2049
)		HM	174,738,000	SEQ	3.50	FIX	38384C3V9	July 2049
		HI	21,842,250	NTL(SEQ)	4.00	FIX/IO	38384C3W7	July 2049
Combination 16(5)								
GM	\$139,710,000	JA	\$ 92,624,000	SEQ	4.50%	FIX	38384C3X5	May 2050
GN	12,274,000	JB	123,498,666	SEQ	4.25	FIX	38384C3Y3	May 2050
GP	11,671,000	ЭС	185,248,000	SEQ	4.00	FIX	38384C3Z0	May 2050
ÒS	11,083,000	<u>A</u>	185,248,000	SEQ	3.75	FIX	38384C4A4	May 2050
GT	10,510,000	Æ	185,248,000	SEQ	3.50	FIX	38384C4B2	May 2050
		Ц	23,156,000	NTL(SEQ)	4.00	FIX/IO	38384C4C0	May 2050
Combination 17(5)								
GM	\$139,710,000	IJ	\$ 24,399,875	NTL(SEQ)	4.00%	FIX/IO	38384C4D8	February 2051
GN	12,274,000	JG	97,599,500	SEQ	4.50	FIX	38384C4E6	February 2051
GP	11,671,000	Щ	130,132,666	SEQ	4.25	FIX	38384C4F3	February 2051
Q5	11,083,000	JK	195,199,000	SEQ	4.00	FIX	38384C4G1	February 2051
GT	10,510,000	JĽ	195,199,000	SEQ	3.75	FIX	38384C4H9	February 2051
GU	9,951,000	M	195,199,000	SEQ	3.50	FIX	38384C4J5	February 2051
Combination 18(5)								
GM	\$139,710,000	KA	\$116,524,562	PT	4.50%	FIX	38384C4K2	August 2053
GN	12,274,000	KB	155,366,082	PT	4.25	FIX	38384C4L0	August 2053
GP	11,671,000	KC	233,049,124	PT	4.00	FIX	38384C4M8	August 2053
<b>ඊ</b> 5	11,083,000	KD	233,049,124	PT	3.75	FIX	38384C4N6	August 2053
GT	10,510,000	KE	233,049,124	PT	3.50	FIX	38384C4P1	August 2053
GU	9,951,000	K	29,131,140	NTL(PT)	4.00	FIX/IO	38384C4Q9	August 2053
GW	37,850,124							

Name	REMIC Securities			Maximum Original Class Principal Balance		MX Securities			Final
\$ 12274,000 11,671,000 11,671,000 10,510,000 9,951,000 37,850,124 \$ 11,671,000 9,951,000 9,951,000 9,951,000 9,951,000 9,951,000 9,951,000 9,951,000 9,951,000 9,951,000 9,951,000 9,951,000 9,951,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000 10,510,000		or Class Notional Balance	Related MX Class	or Class Notional Balance(2)	Principal Type(3)	Interest Rate	Interest Type(3)	CUSIP Number	Distribution Date(4)
\$ 12,274,000 YA \$ 93,339,124 SEQ 4.00% FIX 11,671,000 10,510,000   37,850,124   \$ 11,671,000   37,850,124   \$ 11,083,000   9,951,000   37,850,124   \$ 11,083,000 YC \$ 69,394,124 SEQ 4.00% FIX 10,510,000   37,850,124   \$ 10,510,000   37,850,124   \$ 10,510,000   37,850,124   \$ 10,510,000   37,850,124   \$ 10,510,000   37,850,124   \$ 10,510,000   37,850,124   \$ 10,510,000   37,850,124   \$ 10,510,000   \$ 29,951,000   \$ 29,951,000   \$ 29,951,000   \$ 29,951,000   \$ 29,951,000   \$ 29,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,000   \$ 20,951,00	oination 19								
11,671,000 11,043,000 11,043,000 11,043,000 37,850,124  \$ 11,671,000 37,850,124  \$ 11,083,000 10,510,000 37,850,124  \$ 11,083,000 37,850,124  \$ 10,510,000 37,850,124  \$ 10,510,000 37,850,124  \$ 10,510,000 37,850,124  \$ 10,510,000 37,850,124  \$ 10,510,000 37,850,124  \$ 10,510,000 37,850,124  \$ 10,510,000 37,850,124  \$ 10,510,000 37,850,124  \$ 10,510,000 37,850,124  \$ 10,510,000 37,850,124  \$ 10,510,000 37,850,124  \$ 10,510,000 37,850,124  \$ 10,510,000 37,850,124  \$ 10,510,000 37,850,124  \$ 10,510,000 37,850,124  \$ 10,510,000 37,850,124  \$ 11,01,010,000 37,850,124  \$ 11,01,010,000 37,850,124  \$ 11,01,010,000 37,850,124  \$ 11,01,010,000 37,850,124  \$ 11,01,010,000 37,850,124  \$ 11,01,010,000 37,850,124  \$ 11,01,010,000 37,850,124  \$ 11,01,010,000 37,850,124  \$ 11,01,010,000 37,850,124  \$ 11,010,010,000 37,850,124  \$ 11,010,010,000 37,850,124  \$ 11,010,010,000 37,850,124  \$ 11,010,010,000 37,850,124  \$ 11,010,010,000 37,850,124  \$ 11,010,010,000 37,850,124  \$ 11,010,010,000 37,850,124  \$ 11,010,010,000 37,850,124  \$ 11,010,010,000 37,850,124  \$ 11,010,010,000 37,850,124  \$ 11,010,010,000 37,850,124  \$ 11,010,010,000 37,850,124  \$ 11,010,010,000 37,850,124  \$ 11,010,010,000 37,850,124  \$ 11,010,010,000 37,850,124  \$ 11,010,010,000 37,850,124  \$ 11,010,010,000 37,850,124  \$ 11,010,010,000 37,850,124  \$ 11,010,010,000 37,850,124  \$ 11,010,010,000 37,850,124  \$ 11,010,010,000 37,850,124  \$ 11,010,010,000 37,850,124  \$ 11,010,010,000 37,850,124  \$ 11,010,010,000 37,850,124  \$ 11,010,010,000 37,850,124  \$ 11,010,010,000 37,850,124  \$ 11,010,010,000 37,850,124  \$ 11,010,010,000 37,850,124  \$ 11,010,010,000 37,850,124  \$ 11,010,010,000 37,850,124  \$ 11,010,010,000 37,850,124  \$ 11,010,010,000 37,850,124  \$ 11,010,010,000 37,850,124  \$ 11,010,010,000 37,850,124  \$ 11,010,010,000 37,850,124  \$ 11,010,010,000 37,850,124  \$ 11,010,010,000 37,850,124  \$ 11,010,010,000 37,850,124  \$ 11,010,010,000 37,850,124  \$ 11,010,010,000 37,850,124  \$ 11,010,010,010 37,850,124  \$ 11,010,010,000 37,850,124  \$ 11,010,010,000 37,850,124  \$ 11,			YA	\$ 93,339,124	SEQ	4.00%	FIX	38384C4R7	August 2053
11,083,000 10,510,000 9,951,000 37,850,124 \$ 11,083,000 10,510,000 9,951,000 37,850,124 \$ 11,083,000 37,850,124 \$ 10,510,000 37,850,124 \$ 10,510,000 37,850,124 \$ 10,510,000 37,850,124 \$ 10,510,000 37,850,124 \$ 10,510,000 37,850,124 \$ 10,510,000 37,850,124 \$ 10,510,000 37,850,124 \$ 10,510,000 37,850,124 \$ 10,510,000 37,850,124 \$ 10,510,000 37,850,124 \$ 10,510,000 37,850,124 \$ 10,100,100,1124 \$ 10,510,000 1 1 120,279,000 1 1 110,279,000 1 1 110,279,000 1 1 17,182,714 1 17,182,714 1 17,182,714 1 17,182,714 1 17,182,714 1 17,182,714 1 17,182,714 1 17,182,714 1 17,182,714 1 17,182,714 1 17,182,714 1 17,182,714 1 17,182,714 1 17,182,714 1 17,182,714 1 17,182,714 1 17,182,714 1 17,182,714 1 17,182,714 1 17,182,714 1 17,182,714 1 17,182,714 1 17,182,714 1 17,182,714 1 17,182,714 1 17,182,714 1 17,182,714 1 17,182,714 1 17,182,714 1 17,182,714 1 17,182,714 1 17,182,714 1 17,182,714 1 17,182,714 1 17,182,714 1 17,182,714 1 17,182,714 1 17,182,714 1 17,182,714 1 17,182,714 1 17,182,714 1 17,182,714 1 17,182,714 1 17,182,714 1 17,182,714 1 17,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 18,182,714 1 1		11,671,000							
10,510,000 9,951,000 37,850,124 \$ 11,671,000 10,510,000 9,951,000 37,850,124 \$ 11,083,000 9,951,000 9,951,000 9,951,000 37,850,124 \$ 10,510,000 37,850,124 \$ \$ 69,394,124 \$ SEQ 4,00% FIX 10,510,000 37,850,124 \$ \$ 10,510,000 37,850,124 \$ \$ 80,180,000 \$ SEQ 4,00% FIX 10,510,000 \$ \$ 10,510,000 \$ \$ 10,510,000 \$ \$ 10,510,000 \$ \$ 10,510,000 \$ \$ 10,510,000 \$ \$ 10,510,000 \$ \$ 10,510,000 \$ \$ 10,510,000 \$ \$ 10,510,000 \$ \$ 10,510,000 \$ \$ 10,510,000 \$ \$ 10,510,000 \$ \$ 10,510,000 \$ \$ 10,510,000 \$ \$ 10,510,000 \$ \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,000 \$ 10,510,	0	11,083,000							
\$ 11,671,000 37,850,124 \$ 11,083,000 10,510,000 9,951,000 9,951,000 37,850,124 \$ 11,083,000 9,951,000 9,951,000 9,951,000 37,850,124 \$ 10,510,000 9,951,000 37,850,124 \$ \$ 10,510,000 37,850,124 \$ \$ 10,510,000 37,850,124 \$ \$ 9,951,000 37,850,124 \$ \$ 9,951,000 37,850,124 \$ \$ 9,951,000 \$ 37,850,124 \$ \$ 9,951,000 \$ 37,850,124 \$ \$ 9,951,000 \$ 37,850,124 \$ \$ 9,951,000 \$ 37,850,124 \$ \$ 9,951,000 \$ 37,850,124 \$ \$ 10,20,279,000 \$ \$ \$ \$ 10,20,279,000 \$ \$ \$ \$ 10,20,279,000 \$ \$ \$ \$ 10,20,279,000 \$ \$ \$ \$ 10,20,279,000 \$ \$ \$ \$ \$ 10,20,279,000 \$ \$ \$ \$ \$ 10,20,279,000 \$ \$ \$ \$ \$ 10,20,279,000 \$ \$ \$ \$ \$ 10,20,279,000 \$ \$ \$ \$ \$ \$ 10,20,279,000 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	lr.	10,510,000							
\$ 11,671,000 YB \$ 81,065,124 SEQ 4.00% FIX 11,083,000 10,510,000 9,951,000 37,850,124 \$ 11,083,000 YC \$ 69,394,124 SEQ 4.00% FIX 10,510,000 9,951,000 37,850,124 \$ 10,510,000 YE \$ 47,801,124 SEQ 4.00% FIX 37,850,124 \$ 9,951,000 YE \$ 47,801,124 SEQ 4.00% FIX 37,850,124 \$ 9,951,000 YE \$ 47,801,124 SEQ 4.00% FIX 37,850,124 \$ 10,20,279,000 SEQ 3.75 FIX 11 17,182,714 NITICSEQ) 3.50 FIX 11 17,182,714 NITICSEQ) 3.50 FIX 11 17,182,714 NITICSEQ) 3.50 FIXIO	J	9,951,000							
\$ 11,671,000  \$ 11,083,000  10,510,000  \$ 3,580,124  \$ 11,083,000  \$ 37,850,124  \$ 10,510,000  \$ 37,850,124  \$ 10,510,000  \$ 37,850,124  \$ 10,510,000  \$ 37,850,124  \$ \$ 9,951,000  \$ 37,850,124  \$ \$ 9,951,000  \$ 37,850,124  \$ \$ 9,951,000  \$ 37,850,124  \$ \$ 9,951,000  \$ 37,850,124  \$ \$ 9,951,000  \$ 37,850,124  \$ \$ 120,279,000  \$ \$ \$ 60,139,500  \$ \$ \$ 60,139,500  \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	<i>x</i>	37,850,124							
\$ 11,671,000 10,510,000 9,951,000 37,880,124  \$ 11,083,000 10,510,000 9,951,000 37,880,124  \$ 10,510,000 37,880,124  \$ 10,510,000 37,880,124  \$ 10,510,000 37,880,124  \$ 9,951,000 37,880,124  \$ 9,951,000 37,880,124  \$ 9,951,000 37,880,124  \$ 1120,279,000 1	oination 20								
11,083,000 10,510,000 3,951,000 3,7,850,124  \$ 11,083,000 2,951,000 3,951,000 3,7,850,124  \$ 10,510,000 3,7,850,124  \$ 10,510,000 3,7,850,124  \$ 10,510,000 3,7,850,124  \$ 9,951,000 3,7,850,124  \$ 9,951,000 3,7,850,124  \$ 9,951,000 3,7,850,124  \$ 10,510,000 3,7,850,124  \$ 10,510,000 3,7,850,124  \$ 10,510,000 3,7,850,124  \$ 10,510,000 3,7,850,124  \$ 10,510,000 3,7,850,124  \$ 10,510,000 3,7,850,124  \$ 10,510,000 3,7,850,124  \$ 10,510,000 3,7,850,124  \$ 10,510,000 3,7,850,124  \$ 10,510,000 3,7,850,124  \$ 10,510,000 3,7,850,124  \$ 10,510,000 3,7,850,124  \$ 10,510,000 3,7,850,124  \$ 10,510,000 3,7,850,124  \$ 10,510,000 3,7,850,124  \$ 10,510,000 3,7,850,124  \$ 10,510,000 3,7,850,124  \$ 10,510,000 3,7,850,124  \$ 10,510,000 3,7,850,124  \$ 10,510,000 3,7,850,124  \$ 10,510,000 3,7,850,124  \$ 10,510,000 3,7,850,124  \$ 10,510,000 3,7,850,124  \$ 10,510,000 3,7,850,124  \$ 10,510,000 3,7,850,124  \$ 10,510,000 3,7,850,124  \$ 10,510,000 3,7,850,124  \$ 10,510,000 3,7,850,124  \$ 10,510,000 3,7,850,124  \$ 10,510,000 3,7,850,124  \$ 10,510,000 3,7,850,124  \$ 10,510,000 3,7,850,124  \$ 10,510,000 3,7,850,124  \$ 10,510,000 3,7,850,124  \$ 10,510,000 3,7,850,124  \$ 10,7,11,000 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,7,950,100 3,			YB	\$ 81,065,124	SEQ	4.00%	FIX	38384C4S5	August 2053
10,510,000 9,951,000 37,850,124  \$ 11,083,000 YC \$ 69,394,124 SEQ 4.00% FIX 10,510,000 37,850,124  \$ 10,510,000 37,850,124  \$ 10,510,000 37,850,124  \$ 9,951,000 37,850,124  \$ 9,951,000 YE \$ 47,801,124 SEQ 4.00% FIX 37,850,124  \$ 10,20,279,000 LA \$ 60,139,500 SEQ 3.75 FIX LD 120,279,000 SEQ 3.25 FIX LL 17,182,714 NTL(SEQ) 3.50 FIX/O	$\sim$	11,083,000			)				)
\$ 11,083,000 YC \$ 69,394,124 SEQ 4.00% FIX 10,510,000 9,951,000 YC \$ 69,394,124 SEQ 4.00% FIX 10,510,000 37,850,124 SEQ, 4.00% FIX 9,951,000 37,850,124 SEQ, 4.00% FIX 37,850,124 SEQ, 4.00% FIX 37,850,124 SEQ, 4.00% FIX 10,510,000 TE \$ 47,801,124 SEQ, 4.00% FIX 10,510,000 TE \$ 60,139,500 SEQ, 3.75 FIX 10,510,279,000 TE \$ 80,186,000 SEQ, 3.75 FIX 10,510,279,000 SEQ, 3.00 FIX 11,182,714 NTL(SEQ) 3.50 FIX/10.	· -	10,510,000							
\$ 11,083,000 YC \$ 69,394,124 SEQ 4.00% FIX 10,510,000 9.951,000 37,850,124 SEQ 4.00% FIX 8.10,510,000 YD \$ 58,311,124 SEQ 4.00% FIX 9.951,000 37,850,124 SEQ 4.00% FIX 37,850,124 SEQ 4.00% FIX 37,850,124 SEQ 4.00% FIX 37,850,124 SEQ 4.00% FIX 10,510,279,000 LA \$ 60,139,500 SEQ 3.75 FIX 10,710,279,000 SEQ 3.25 FIX 11,110,110,110,110,110,110,110,110,110,		9,951,000							
\$ 11,083,000 YC \$ 69,394,124 SEQ 4.00% FIX 10,510,000 9,951,000 37,850,124 \$ 10,510,000 YD \$ 58,311,124 SEQ 4.00% FIX 9,951,000 37,850,124 \$ 47,801,124 SEQ 4.00% FIX 37,850,124 \$ 9,951,000 YE \$ 47,801,124 SEQ 4.00% FIX 10,510,000 YE \$ 60,139,500 SEQ 4.00% FIX 10,510,000 LA \$ 60,139,500 SEQ 4.00% FIX 10,510,279,000 SEQ 3.75 FIX 11,122,79,000 SEQ 3.00 FIX 11,122,779,000 SEQ 3.00 FIX 11,122,714 NTL(SEQ) 3.50 FIX/10	$\mathbb{A}$	37,850,124							
\$ 11,083,000 YC \$ 69,394,124 SEQ 4.00% FIX 10,510,000 9,951,000 37,850,124 \$ 10,510,000 YD \$ 58,311,124 SEQ 4.00% FIX 37,850,124 \$ 9,951,000 YE \$ 47,801,124 SEQ 4.00% FIX 37,850,124 \$ 120,279,000 LA \$ 60,139,500 SEQ 4.00% FIX 1D 120,279,000 SEQ 3.75 FIX 1D 120,279,000 SEQ 3.25 FIX 1D 120,279,000 SEQ 3.00 FIX 1D 120,279,000 SEQ 3.00 FIX 1D 17,182,714 NTL(SEQ) 3.50 FIX/10	bination 21								
10,510,000 9,951,000 37,850,124 \$ 10,510,000 37,850,124 \$ 9,951,000 37,850,124 \$ 9,951,000 37,850,124 \$ 9,951,000  \$ 8, 9,951,000 \$ YE \$ 47,801,124 \$ SEQ \$ 4.00% FIX \$ ST,850,124 \$ 120,279,000  \$ 120,279,000 \$ SEQ \$ 3.75 FIX \$ LE \$ 120,279,000 \$ SEQ \$ 3.75 FIX \$ LE \$ 120,279,000 \$ SEQ \$ 3.00 FIX \$ LE \$ 120,279,000 \$ SEQ \$ 3.00 FIX \$ LE \$ 120,279,000 \$ SEQ \$ 3.00 FIX \$ LE \$ 120,279,000 \$ SEQ \$ 3.00 FIX \$ LE \$ 120,279,000 \$ SEQ \$ 3.00 FIX \$ LE \$ 120,279,000 \$ SEQ \$ 3.00 FIX \$ LE \$ 120,279,000 \$ SEQ \$ 3.00 FIX \$ LE \$ 120,279,000 \$ SEQ \$ 3.00 FIX \$ LE \$ 120,279,000 \$ SEQ \$ 3.00 FIX \$ LE \$ 120,279,000 \$ SEQ \$ 3.00 FIX \$ LE \$ 120,279,000 \$ SEQ \$ 3.00 FIX \$ LE \$ 120,279,000 \$ SEQ \$ 3.00 FIX \$ LE \$ 120,279,000 \$ SEQ \$ 3.00 FIX \$ LE \$ 120,279,000 \$ SEQ \$ 3.00 FIX \$ LE \$ 120,279,000 \$ SEQ \$ 3.00 FIX \$ LE \$ 120,279,000 \$ SEQ \$ 3.00 FIX \$ LE \$ 120,279,000 \$ SEQ \$ 3.00 FIX \$ LE \$ 120,279,000 \$ SEQ \$ 3.00 FIX \$ LE \$ 120,279,000 \$ SEQ \$ 3.00 FIX \$ LE \$ 120,279,000 \$ SEQ \$ 3.00 FIX \$ LE \$ 120,279,000 \$ SEQ \$ 3.00 FIX \$ LE \$ 120,279,000 \$ SEQ \$ 3.00 FIX \$ LE \$ 120,279,000 \$ SEQ \$ 3.00 FIX \$ LE \$ 120,279,000 \$ SEQ \$ 3.00 FIX \$ LE \$ 120,279,000 \$ SEQ \$ 3.00 FIX \$ LE \$ 120,279,000 \$ SEQ \$ 3.00 FIX \$ LE \$ 120,279,000 \$ SEQ \$ 3.00 FIX \$ LE \$ 120,279,000 \$ SEQ \$ 3.00 FIX \$ LE \$ 120,279,000 \$ SEQ \$ 3.00 FIX \$ LE \$ 120,279,000 \$ SEQ \$ 3.00 FIX \$ LE \$ 120,279,000 \$ SEQ \$ 3.00 FIX \$ LE \$ 120,279,000 \$ SEQ \$ 3.00 FIX \$ LE \$ 120,279,000 \$ SEQ \$ 3.00 FIX \$ LE \$ 120,279,000 \$ SEQ \$ 3.00 FIX \$ LE \$ 120,279,000 \$ SEQ \$ 3.00 FIX \$ LE \$ 120,279,000 \$ SEQ \$ 3.00 FIX \$ LE \$ 120,279,000 \$ SEQ \$ 3.00 FIX \$ LE \$ 120,279,000 \$ SEQ \$ 3.00 FIX \$ LE \$ 120,279,000 \$ SEQ \$ 3.00 FIX \$ LE \$ 120,279,000 \$ SEQ \$ 3.00 FIX \$ LE \$ L	~		YC	\$ 69,394,124	SEQ	4.00%	FIX	38384C4T3	August 2053
\$ 10,510,000  \$ 10,510,000  \$ 37,850,124  \$ 9,951,000  \$ 37,850,124  \$ 9,951,000  \$ \$ 47,801,124  \$ \$ 4,000  \$ FIX  \$ \$ 9,951,000  \$ YE  \$ 47,801,124  \$ \$ 4,000  \$ FIX  \$ 12,0279,000  \$ EQ  \$ 4.000  \$ FIX  \$ 10,510,279,000  \$ EQ  \$ 2,000  \$ FIX  \$ 10,510,279,000  \$ EQ  \$ 3.75  \$ FIX  \$ 11,120,279,000  \$ EQ  \$ 3.00  \$ FIX  \$ 11,120,279,000  \$ EQ  \$ 3.00  \$ FIX  \$ 11,182,714  \$ FIX 182,714  \$ FIX 192,710  \$ FIX 10.	· .	10,510,000							)
\$ 7,850,124  \$ 10,510,000 YD \$ 58,311,124 SEQ 4.00% FIX 37,850,124  \$ 9,951,000 YE \$ 47,801,124 SEQ 4.00% FIX 37,850,124  \$ 120,279,000 LA \$ 60,139,500 SEQ 4.00% FIX 1C 80,186,000 SEQ 3.75 FIX 1LD 120,279,000 SEQ 3.00 FIX 1LD 120,279,000 SEQ 3.00 FIX 1LD 17,182,714 NTL(SEQ) 3.50 FIX 1D 17,182,714 NTL(SEQ) 3.50 FIX	J	9,951,000							
\$ 10,510,000 YD \$ 58,311,124 SEQ 4.00% FIX 37,850,124   \$ 9,951,000 YE \$ 47,801,124 SEQ 4.00% FIX 37,850,124   \$ 120,279,000 LA \$ 60,139,500 SEQ 4.00% FIX 1C 80,186,000 SEQ 3.75 FIX 1D 120,279,000 SEQ 3.25 FIX 1D 120,279,000 SEQ 3.00 FIX 1L 17,182,714 NTL(SEQ) 3.50 FIX 1D 17,182,714 NT	<i>&gt;</i>	37,850,124							
\$ 10,510,000 YD \$ 58,311,124 SEQ 4.00% FIX 59,951,000 37,850,124 \$ 9,951,000 YE \$ 47,801,124 SEQ 4.00% FIX 37,850,124  \$ 120,279,000 LA \$ 60,139,500 SEQ 4.00% FIX 1C 80,186,000 SEQ 3.75 FIX 1D 120,279,000 SEQ 3.00 FIX 1L 120,279,000 SEQ 3.00 FIX 1L 17,182,714 NTL(SEQ) 3.50 FIX 1L 17,182,714 NTL(SEQ) 3.50 FIX/10	oination 22								
\$7,850,124  \$ 9,951,000  XE \$ 47,801,124 SEQ 4.00% FIX 37,850,124  \$ 120,279,000 LA \$ 60,139,500 SEQ 4.00% FIX  LC 80,186,000 SEQ 3.75 FIX  LD 120,279,000 SEQ 3.25 FIX  LE 120,279,000 SEQ 3.00 FIX  LI 17,182,714 NTL(SEQ) 3.50 FIX/10			YD	\$ 58,311,124	SEQ	4.00%	FIX	38384C4U0	August 2053
\$7,850,124 \$ 9,951,000 YE \$ 47,801,124 SEQ 4.00% FIX 37,850,124 \$120,279,000 LA \$ 60,139,500 SEQ 4.00% FIX 3 LC 80,186,000 SEQ 3.75 FIX LD 120,279,000 SEQ 3.25 FIX LE 120,279,000 SEQ 3.00 FIX LE 120,279,000 SEQ 3.00 FIX LE 120,279,000 SEQ 3.00 FIX LI 17,182,714 NTL(SEQ) 3.50 FIX/10	T.	9,951,000							
\$ 9,951,000 YE \$ 47,801,124 SEQ 4.00% FIX 37,850,124 SEQ 4.00% FIX 37,850,124 SEQ 4.00% FIX 3 S120,279,000 LA \$ 60,139,500 SEQ 4.00% FIX 3 LC 80,186,000 SEQ 3.75 FIX LD 120,279,000 SEQ 3.25 FIX LE 120,279,000 SEQ 3.00 FIX LI 17,182,714 NTL(SEQ) 3.50 FIX/IO	$\Delta$	37,850,124							
\$ 9,951,000 YE \$ 47,801,124 SEQ 4.00% FIX 37,850,124 SEQ 4.00% FIX 37,850,124 SEQ 4.00% FIX 3 S120,279,000 LA \$ 60,139,500 SEQ 4.00% FIX 3 LC 80,186,000 SEQ 3.75 FIX LD 120,279,000 SEQ 3.25 FIX LE 120,279,000 SEQ 3.00 FIX LI 17,182,714 NTL(SEQ) 3.50 FIX LI 17,182,714 NTL(SEQ) 3.50 FIX/LO	oination 23								
\$7,850,124 \$120,279,000 LA \$ 60,139,500 SEQ 4.00% FIX 3 LC 80,186,000 SEQ 3.75 FIX LD 120,279,000 SEQ 3.25 FIX LE 120,279,000 SEQ 3.00 FIX LE 120,279,000 SEQ 3.00 FIX LI 17,182,714 NTL(SEQ) 3.50 FIX/LO	<u></u>		YE	\$ 47,801,124	SEQ	4.00%	FIX	38384C4V8	August 2053
\$120,279,000 LA \$ 60,139,500 SEQ 4.00% FIX 3 LC 80,186,000 SEQ 3.75 FIX LD 120,279,000 SEQ 3.25 FIX LE 120,279,000 SEQ 3.00 FIX LI 17,182,714 NTL(SEQ) 3.50 FIX LI 17,182,714 NTL(SEQ) 3.50 FIX/LO	<i>∆</i>	37,850,124							
\$120,279,000 LA \$ 60,139,500 SEQ 4.00% FIX 3 LC 80,186,000 SEQ 3.75 FIX LD 120,279,000 SEQ 3.25 FIX LE 120,279,000 SEQ 3.00 FIX LI 17,182,714 NTL(SEQ) 3.50 FIX/LI 17,182,714 NTL(SEQ) SEQ	y Group 12								
\$120,279,000 LA \$ 60,139,500 SEQ 4.00% FIX 3 LC 80,186,000 SEQ 3.75 FIX LD 120,279,000 SEQ 3.25 FIX LE 120,279,000 SEQ 3.00 FIX LI 17,182,714 NTL(SEQ) 3.50 FIX LI 17,182,714 NTL(SEQ) SEQ	oination 24(5)								
80,186,000 SEQ 3.75 FIX 120,279,000 SEQ 3.25 FIX 120,279,000 SEQ 3.00 FIX 17,182,714 NTL(SEQ) 3.50 FIX/IO		\$120,279,000	LA	\$ 60,139,500	SEQ	4.00%	FIX	38384C4W6 I	November 2045
120,279,000 SEQ 5.25 FIX 120,279,000 SEQ 3.00 FIX 17,182,714 NTL(SEQ) 3.50 FIX/10			)   	80,186,000	SEQ	3.75	FIX	38384C4X4 [	November 2045
17,182,714 NTL(SEQ) 3.50 FIX/IO			LD	120,2/9,000	SEQ SEO	5.5	FIX	38384C4Y2   38384C4Y2	November 2045
			] ]	17.182.714	NTL(SEO)	3.50	FIX/IO	38384C5A3 [	November 2045

REMIC Securities				M	MX Securities	S		
Clace	Original Class Principal Balance or Class Notional	Related MY Class	Maximum Original Class Principal Balance or Class Notional Balance	Principal	Interest	Interest Tree(2)	CUSIP	Final Distribution
Class	Dalailee	MA Class	Dalailee(2)	1ype(3)	Naic	(c)adkr	Number	Daic(4)
Combination 25(5)								
KG	\$120,279,000	IL	\$ 18,706,857	NTL(SEQ)	3.50%	FIX/IO	38384C5B1	January 2047
KH	10,669,000	TG	65,474,000	SEQ	4.00	FIX	38384C5C9	January 2047
		IH	87,298,666	SEQ	3.75	FIX	38384C5D7	January 2047
		ĹĴ	130,948,000	SEQ	3.50	FIX	38384C5E5	January 2047
		LK	130,948,000	SEQ	3.25	FIX	38384C5F2	January 2047
		ΓM	130,948,000	SEQ	3.00	FIX	38384C5G0	January 2047
Combination 26(5)								
KG	\$120,279,000	MA	\$ 70,557,000	SEQ	4.00%	FIX	38384C5H8	January 2048
KH	10,669,000	MB	94,076,000	SEQ	3.75	FIX	38384C5J4	January 2048
KJ	10,166,000	MC	141,114,000	SEQ	3.50	FIX	38384C5K1	January 2048
		MD	141,114,000	SEQ	3.25	FIX	38384C5L9	January 2048
		ME	141,114,000	SEQ	3.00	FIX	38384C5M7	January 2048
		MI	20,159,142	NTL(SEQ)	3.50	FIX/IO	38384C5N5	January 2048
Combination 27(5)								
KG	\$120,279,000	IM	\$ 21,541,285	NTL(SEQ)	3.50%	FIX/IO	38384C5P0 1	38384C5P0 December 2048
KH	10,669,000	$\overline{\mathrm{MG}}$	75,394,500	SEQ	4.00	FIX	38384C5Q8 1	38384C5Q8 December 2048
KJ	10,166,000	MH	100,526,000	SEQ	3.75	FIX	38384C5R6 December	December 2048
KL	9,675,000	MJ	150,789,000	SEQ	3.50	FIX	38384C5S4 1	38384C5S4 December 2048
		MK	150,789,000	SEQ	3.25	FIX	38384C5T21	38384C5T2 December 2048
		ML	150,789,000	SEQ	3.00	FIX	38384C5U9 1	38384C5U9 December 2048
Combination 28(5)								
KG	\$120,279,000	NB	\$ 79,992,500	SEQ	4.00%	FIX	38384C5V7 I	38384C5V7 November 2049
KH	10,669,000	NC	106,656,666	SEQ	3.75	FIX	38384C5W5 I	38384C5W5 November 2049
込	10,166,000	ND	159,985,000	SEQ	3.50	FIX	38384C5X3 I	38384C5X3 November 2049
KL	9,675,000	NE	159,985,000	SEQ	3.25	FIX	38384C5Y1 [	38384C5Y1 November 2049
KM	9,196,000	NG	159,985,000	SEQ	3.00	FIX	38384C5Z8 [	38384C5Z8 November 2049
		Z	22,855,000	NTL(SEQ)	3.50	FIX/IO	38384C6A2	38384C6A2 November 2049

REMIC Securities				N	MX Securities	S		
	Original Class Principal Balance or Class Notional	Related	Maximum Original Class Principal Balance or Class Notional	Principal	Interest	Interest	CUSIP	Final Distribution
Class	Balance	MX Class	Balance(2)	Type(3)	Rate	Type(3)	Number	Date(4)
Combination 29(5)								
KG	\$120,279,000	Z	\$ 24,101,571	NTL(SEQ)	3.50%	FIX/IO	38384C6B0	August 2050
KH	10,669,000	NH	84,355,500	SEQ	4.00	FIX	38384C6C8	August 2050
KJ	10,166,000	Ŋ	112,474,000	SEQ	3.75	FIX	38384C6D6	August 2050
KL	9,675,000	NK	168,711,000	SEQ	3.50	FIX	38384C6E4	August 2050
KM	9,196,000	N	168,711,000	SEQ	3.25	FIX	38384C6F1	August 2050
KN	8,726,000	NM	168,711,000	SEQ	3.00	FIX	38384C6G9	August 2050
Combination 30(5)								
KG	\$120,279,000	PA	\$102,990,594	PT	4.00%	FIX	38384C6H7	August 2053
KH	10,669,000	PB	137,320,792	ΡΤ	3.75	FIX	38384C6J3	August 2053
KJ	10,166,000	PC	205,981,189	ΡΤ	3.50	FIX	38384C6K0	August 2053
KL	9,675,000	PD	205,981,189	ΡΤ	3.25	FIX	38384C6L8	August 2053
KM	9,196,000	PE	205,981,189	ΡΤ	3.00	FIX	38384C6M6	August 2053
KN	8,726,000	PI	29,425,884	NTL(PT)	3.50	FIX/IO	38384C6N4	August 2053
KP	37,270,189							
Combination 31								
KH	\$ 10,669,000	YG	\$ 85,702,189	SEQ	3.50%	FIX	38384C6P9	August 2053
KJ	10,166,000							
KL	9,675,000							
KM	9,196,000							
KN	8,726,000							
KP	37,270,189							
Combination 32								
KJ	\$ 10,166,000	YH	\$ 75,033,189	SEQ	3.50%	FIX	38384C6Q7	August 2053
KL	9,675,000							
KM	9,196,000							
KN	8,726,000							
KP	37,270,189							

REMIC Securities				ľ.	MX Securities	ŝ		
Class	Original Class Principal Balance or Class Notional Balance	Related MX Class	Maximum Original Class Principal Balance or Class Notional Balance(2)	Principal Type(3)	Interest Rate	Interest Type(3)	CUSIP	Final Distribution Date(4)
Combination 33								
KL	\$ 9,675,000	YJ	\$ 64,867,189	SEQ	3.50%	FIX	38384C6R5	August 2053
KM	9,196,000							
KN	8,726,000							
KP	37,270,189							
Combination 34								
KM	\$ 9,196,000	YK	\$ 55,192,189	SEQ	3.50%	FIX	38384C6S3	38384C6S3 August 2053
KN	8,726,000							
KP	37,270,189							
Combination 35								
KN	\$ 8,726,000	YL	\$ 45,996,189	SEQ	3.50%	FIX	38384C6T1	38384C6T1 August 2053
KP	37,270,189							

(1) All exchanges must comply with minimum denomination restrictions.

The amount shown for each MX Class represents the maximum Original Class Principal Balance (or original Class Notional Balance) of that Class, assuming it were to be issued on the Closing Date.

As defined under "Class Types" in Appendix I to the Base Offering Circular.

See "Yield, Maturity and Prepayment Considerations — Final Distribution Date" in this Supplement. 4

In the case of Combinations 12, 13, 14, 15, 16, 17, 18, 24, 25, 26, 27, 28, 29 and 30, various subcombinations are permitted. See "Description of the Securities — Modification and Exchange" in the Base Offering Circular for a discussion of subcombinations. (2)

The Interest Rate will be calculated as described under "Terms Sheet — Interest Rates" in this Supplement.



\$1,276,213,803

Government National Mortgage Association

# **GINNIE MAE**®

Guaranteed REMIC Pass-Through Securities and MX Securities Ginnie Mae REMIC Trust 2023-112

> OFFERING CIRCULAR SUPPLEMENT August 24, 2023

Citigroup Roberts & Ryan Investments Inc.