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**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION**  
Washington, D.C. 20549

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**SCHEDULE 14A**  
(Rule 14a-101)

**INFORMATION REQUIRED IN PROXY STATEMENT  
SCHEDULE 14A INFORMATION**

**Proxy Statement Pursuant to Section 14(a) of the  
Securities Exchange Act of 1934**

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Filed by the registrant ☒

Filed by a party other than the registrant ☐

Check the appropriate box:

- ☐ Preliminary Proxy Statement
- ☐ **Confidential, for Use of the Commission Only** (as permitted by Rule 14a-6(e)(2))
- ☐ Definitive Proxy Statement
- ☒ Definitive Additional Materials
- ☐ Soliciting Material Pursuant to §240.14a-12

**AG Mortgage Investment Trust, Inc.**  
(Name of registrant as specified in its charter)

(Name of person(s) filing proxy statement, if other than the registrant)

Payment of filing fee (Check the appropriate box):

- ☒ No fee required
- ☐ Fee computed on table below per Exchange Act Rules 14a-6(i)(1) and 0-11
-

(1) Title of each class of securities to which transaction applies:

(2) Aggregate number of securities to which transaction applies:

(3) Per unit price or other underlying value of transaction computed pursuant to Exchange Act Rule 0-11 (set forth the amount on which the filing fee is calculated and state how it was determined):

(4) Proposed maximum aggregate value of transaction:

(5) Total fee paid:

☐ Fee paid previously with preliminary materials.

☐ Check box if any part of the fee is offset as provided by Exchange Act Rule 0-11(a)(2) and identify the filing for which the offsetting fee was paid previously. Identify the previous filing by Registration Statement number, or the Form or Schedule and the date of its filing.

(1) Amount previously paid:

(2) Form, Schedule, or Registration Statement No.:

(3) Filing party:

(4) Date filed:

AG MORTGAGE INVESTMENT TRUST, INC.  
245 PARK AVE., 26TH FL.  
NEW YORK, NY 10167

#### VOTE BY INTERNET

*Before The Meeting* - Go to [www.proxyvote.com](http://www.proxyvote.com)

Use the Internet to transmit your voting instructions and for electronic delivery of information up until 11:59 p.m. Eastern Time the day before the cut-off date or meeting date. Have your proxy card in hand when you access the web site and follow the instructions to obtain your records and to create an electronic voting instruction form.

*During The Meeting* - Go to [www.virtualshareholdermeeting.com/MITT2020](http://www.virtualshareholdermeeting.com/MITT2020)

You may attend the meeting via the Internet and vote during the meeting. Have the information that is printed in the box marked by the arrow available and follow the instructions.

#### ELECTRONIC DELIVERY OF FUTURE PROXY MATERIALS

If you would like to reduce the costs incurred by our company in mailing proxy materials, you can consent to receiving all future proxy statements, proxy cards and annual reports electronically via e-mail or the Internet. To sign up for electronic delivery, please follow the instructions above to vote using the Internet and, when prompted, indicate that you agree to receive or access proxy materials electronically in future years.

#### VOTE BY PHONE - 1-800-690-6903

Use any touch-tone telephone to transmit your voting instructions up until 11:59 p.m. Eastern Time the day before the cut-off date or meeting date. Have your proxy card in hand when you call and then follow the instructions.

#### VOTE BY MAIL

Mark, sign and date your proxy card and return it in the postage-paid envelope we have provided or return it to Vote Processing, c/o Broadridge, 51 Mercedes Way, Edgewood, NY 11717.

TO VOTE, MARK BLOCKS BELOW IN BLUE OR BLACK INK AS FOLLOWS:

D16380-P40952

KEEP THIS PORTION FOR YOUR RECORDS  
DETACH AND RETURN THIS PORTION ONLY

THIS PROXY CARD IS VALID ONLY WHEN SIGNED AND DATED.

#### AG MORTGAGE INVESTMENT TRUST, INC.

The board of directors recommends you vote FOR  
ALL of the Nominees listed in Proposal 1.

1. Election of Directors

##### Nominees:

01) T.J. Durkin	04) Peter Linneman
02) Debra Hess	05) David N. Roberts
03) Joseph LaManna	

For All	Withhold All	For All Except
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<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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To withhold authority to vote for any individual nominee(s), mark "For All Except" and write the number(s) of the nominee(s) on the line below.

The board of directors recommends you vote FOR Proposals 2, 3 and 4.

For	Against	Abstain
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- |   |                          |                          |                          |
|---|--------------------------|--------------------------|--------------------------|
| 2. Ratification of the appointment of PricewaterhouseCoopers LLP as our independent registered public accounting firm for the year ending December 31, 2020 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Approval, on an advisory basis, of our executive compensation  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Approval of the AG Mortgage Investment Trust, Inc. 2020 Equity Incentive Plan  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

For address changes and/or comments, please check this box  
and write them on the reverse side where indicated.

☐

Please sign exactly as your name(s) appear(s) hereon. When signing as attorney, executor, administrator, or other fiduciary, please give full title as such. Joint owners should each sign personally. All holders must sign. If a corporation or partnership, please sign in full corporate or partnership name by authorized officer.

<input type="text"/>	<input type="text"/>
Signature [PLEASE SIGN WITHIN BOX]	Date

<input type="text"/>	<input type="text"/>
Signature (Joint Owners)	Date

**Important Notice Regarding the Availability of Proxy Materials for the Annual Meeting:**

The Notice, Proxy Statement, and Annual Report are available at [www.proxyvote.com](http://www.proxyvote.com).

D16381-P40952

**AG MORTGAGE INVESTMENT TRUST, INC.  
Annual Meeting of Stockholders  
June 19, 2020 at 3:00 PM  
This proxy is solicited by the Board of Directors**

The undersigned hereby appoints David N. Roberts and Raul E. Moreno, and each of them, with full power of substitution and power to act alone, as proxies to vote all the shares of Common Stock which the undersigned would be entitled to vote if personally present and acting at the Annual Meeting of the Stockholders of AG Mortgage Investment Trust, Inc., to be held on Friday, June 19, 2020 at 3:00 p.m., Eastern Time, and any adjournments or postponements thereof. The Annual Meeting will be held virtually at [www.virtualshareholdermeeting.com/MITT2020](http://www.virtualshareholdermeeting.com/MITT2020).

**This proxy, when properly executed, will be voted in the manner directed herein. If no such direction is made, this proxy will be voted in accordance with the board of directors' recommendations.**

Address Changes/Comments: \_\_\_\_\_

\_\_\_\_\_

(If you noted any Address Changes/Comments above, please mark corresponding box on the reverse side.)

**Continued and to be signed on reverse side**

**\*\*\* Exercise Your *Right* to Vote \*\*\***  
**Important Notice Regarding the Availability of Proxy Materials for the  
Stockholder Meeting to Be Held on June 19, 2020**

**AG MORTGAGE INVESTMENT TRUST, INC.**

AG MORTGAGE INVESTMENT TRUST, INC.  
245 PARK AVE., 26TH FL.  
NEW YORK, NY 10167

**Meeting Information**

**Meeting Type:** Annual Meeting  
**For holders as of:** May 4, 2020  
**Date:** June 19, 2020    **Time:** 3:00 p.m., Eastern Time  
**Location:** Meeting live via the Internet-please visit:  
[www.virtualshareholdermeeting.com/MITT2020](http://www.virtualshareholdermeeting.com/MITT2020).

The company will be hosting the meeting live via the Internet this year. To attend the meeting via the Internet please visit [www.virtualshareholdermeeting.com/MITT2020](http://www.virtualshareholdermeeting.com/MITT2020) and be sure to have the information that is printed in the box marked by the arrow → [XXXX XXXX XXXX XXXX] (located on the following page).

You are receiving this communication because you hold shares in the company named above.

This is not a ballot. You cannot use this notice to vote these shares. This communication presents only an overview of the more complete proxy materials that are available to you on the Internet. You may view the proxy materials online at [www.proxyvote.com](http://www.proxyvote.com) or easily request a paper copy (see reverse side).

We encourage you to access and review all of the important information contained in the proxy materials before voting.

**See the reverse side of this notice to obtain proxy materials and voting instructions.**

— **Before You Vote** —  
How to Access the Proxy Materials

**Proxy Materials Available to VIEW or RECEIVE:**

1. Notice                      2. Proxy Statement                      3. Annual Report

**How to View Online:**

Have the information that is printed in the box marked by the arrow → [XXXX XXXX XXXX XXXX] (located on the following page) and visit: [www.proxyvote.com](http://www.proxyvote.com)

**How to Request and Receive a PAPER or E-MAIL Copy:**

If you want to receive a paper or e-mail copy of these documents, you must request one. There is NO charge for requesting a copy. Please choose one of the following methods to make your request:

- 1) BY INTERNET:      [www.proxyvote.com](http://www.proxyvote.com)
- 2) BY TELEPHONE:    1-800-579-1639
- 3) BY E-MAIL\*:      [sendmaterial@proxyvote.com](mailto:sendmaterial@proxyvote.com)

\* If requesting materials by e-mail, please send a blank e-mail with the information that is printed in the box marked by the arrow → [XXXX XXXX XXXX XXXX] (located on the following page) in the subject line.

Requests, instructions and other inquiries sent to this e-mail address will NOT be forwarded to your investment advisor. Please make the request as instructed above on or before June 5, 2020 to facilitate timely delivery.

— **How To Vote** —  
Please Choose One of the Following Voting Methods

**Vote By Internet:**

*Before The Meeting:*

Go to [www.proxyvote.com](http://www.proxyvote.com). Have the information that is printed in the box marked by the arrow → [XXXX XXXX XXXX XXXX] (located on the following page) available and follow the instructions.

*During The Meeting:*

Go to [www.virtualshareholdermeeting.com/MITT2020](http://www.virtualshareholdermeeting.com/MITT2020). Have the information that is printed in the box marked by the arrow → [XXXX XXXX XXXX XXXX] (located on the following page) available and follow the instructions.

**Vote By Mail:** You can vote by mail by requesting a paper copy of the materials, which will include a proxy card.

### Voting Items

**The board of directors recommends you vote FOR  
ALL of the Nominees listed in Proposal 1.**

1. Election of Directors

**Nominees:**

01)	T.J. Durkin	04)	Peter Linneman
02)	Debra Hess	05)	David N. Roberts
03)	Joseph LaManna		

**The board of directors recommends you vote FOR Proposals 2, 3 and 4.**

2. Ratification of the appointment of PricewaterhouseCoopers LLP as our independent registered public accounting firm for the year ending December 31, 2020
3. Approval, on an advisory basis, of our executive compensation
4. Approval of the AG Mortgage Investment Trust, Inc. 2020 Equity Incentive Plan

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