Filed pursuant to Rule 424(b)(3) Registration No. 333-274329



#### Wheeler Real Estate Investment Trust, Inc.

This is Prospectus Supplement No. 7 (this "Prospectus Supplement") to our Prospectus, dated September 29, 2023 (the "Prospectus"), relating to the issuance from time to time by Wheeler Real Estate Investment Trust, Inc. of up to 101,100,000 shares of our common stock, par value \$0.01 ("Common Stock"). Terms used but not defined in this Prospectus Supplement have the meanings ascribed to them in the Prospectus.

We have attached to this Prospectus Supplement our Current Report on Form 8-K filed on November 20, 2023. The attached information updates and supplements, and should be read together with, the Prospectus, as supplemented from time to time.

Investing in our Common Stock involves a high degree of risk. You should review carefully the risks and uncertainties described under the heading *Risk* Factors" beginning on page 4 of the Prospectus, and under similar headings in any amendments or supplements to the Prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of the Prospectus. Any representation to the contrary is a criminal offense. The date of this Prospectus Supplement is November 20, 2023.

# UNITED STATES SECURITIES AND EXCHANGE COMMISSION

# WASHINGTON, D.C. 20549

## FORM 8-K

### CURRENT REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

Date of report (date of earliest event reported): November 15, 2023

WHEELER REAL ESTATE INVESTMENT TRUST, INC. (Exact name of registrant as specified in its charter)

### 001-35713

Maryland
(State or other jurisdiction
of incorporation or organization)

(Commission File Number) 45-2681082 (IRS Employer

(IRS Employer Identification No.)

2529 Virginia Beach Blvd.	
Virginia Beach, VA	_

(Address of principal executive offices)

23452

(Zip code)

Registrant's telephone number, including area code: (757) 627-9088

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligations of the registrant under any of the following provisions:

- U Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
- Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (\$230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (\$240.12b-2 of this chapter). Emerging growth company  $\Box$ 

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.  $\Box$ 

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, \$0.01 par value per share	WHLR	Nasdaq Capital Market
Series B Convertible Preferred Stock	WHLRP	Nasdaq Capital Market
Series D Cumulative Convertible Preferred Stock	WHLRD	Nasdaq Capital Market
7.00% Subordinated Convertible Notes due 2031	WHLRL	Nasdaq Capital Market

### Item 8.01. Other Events.

On November 15, 2023, the Company determined that interest on its 7.00% Subordinated Convertible Notes due 2031 (the "Notes") payable on December 31, 2023 to holders of record of the Notes at the close of business at 5:00 p.m., New York City time, on December 1, 2023, shall be in the form of the Company's Series D Cumulative Convertible Preferred Stock.

### SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

WHEELER REAL ESTATE INVESTMENT TRUST, INC.

By:

/s/ M. Andrew Franklin Name: M. Andrew Franklin Title: Chief Executive Officer and President

Dated:November 20, 2023