

ORDINANCE NO.: 3654  
INTRODUCED BY: Sandgren

AN ORDINANCE REPEALING AND REENACTING SECTION 18-542 OF THE THORNTON CITY CODE REGARDING ARTIFICIAL TURF.

WHEREAS, the City of Thornton regulates landscaping in Chapter 18 of the Thornton City Code (Code); and

WHEREAS, the Code currently allows artificial turf to be installed as landscaping in single-family rear yards and in side yards that are not visible to the public; and

WHEREAS, City Council desires to expand installation allowances for artificial turf as a method for conserving water and providing additional landscaping alternatives for residents; and

WHEREAS, the related artificial turf installation, materials, and other requirements were adopted in 2013 and need to be updated based on new industry products and lessons learned from application in a variety of situations; and

WHEREAS, the Environmental Protection Agency (EPA) has identified per- and polyfluoroalkyl substances (PFAS) as a health concern and has proposed additional regulations regarding PFAS in drinking water; and

WHEREAS, the EPA has identified PFAS in water, air, and soil, which can result in PFAS contamination of the water sources that the City relies on for drinking water; and

WHEREAS, City Council desires to ensure that artificial turf installed in the City is PFAS-free so as to limit any additional contamination of its water resources; and

WHEREAS, these amendments are necessary to promote the public health, safety, and welfare.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF THORNTON, COLORADO, AS FOLLOWS:

1. Section 18-542 of the Thornton City Code is hereby repealed and reenacted to read as follows:

**Sec. 18-542. Artificial turf.**

(a) *Locations permitted.*

- (1) Artificial turf is allowed on lots developed with a single-family detached or single-family attached dwelling.
- (2) Artificial turf is prohibited on all other lots or tracts unless the requirements of both (2)a and (2)b, below, are met.

- a. The artificial turf has been allowed through the development permit process for:
    - 1. Designated sports fields on city-owned or city-operated parks and recreational facilities; or
    - 2. Designated activity areas where the artificial turf serves a functional purpose and is not intended as landscaping, such as putting greens, playground surfacing, and similar spaces that facilitate play, sport, or other specific recreational opportunities; and
  - b. The artificial turf complies with the design, materials, and installation requirements of this section.
- (3) A minor development permit is required prior to the installation of artificial turf as landscaping.
- (b) *Maximum area.* Artificial turf is permitted as follows:
  - (1) In the rear landscape area, with no area limitations. For purposes of this provision, the rear landscape area means:
    - a. The area between the rear plane of the dwelling and the rear lot line, extending the width of the lot, as shown on Figure 542.1 as the shaded area designated as 'a', and;
    - b. Areas of the lot located behind the front plane of the dwelling which are visually shielded or obscured from public places by solid fencing, densely planted vegetation, structures, or combination thereof, as shown on Figure 542.1 as the shaded area designated as 'b'.

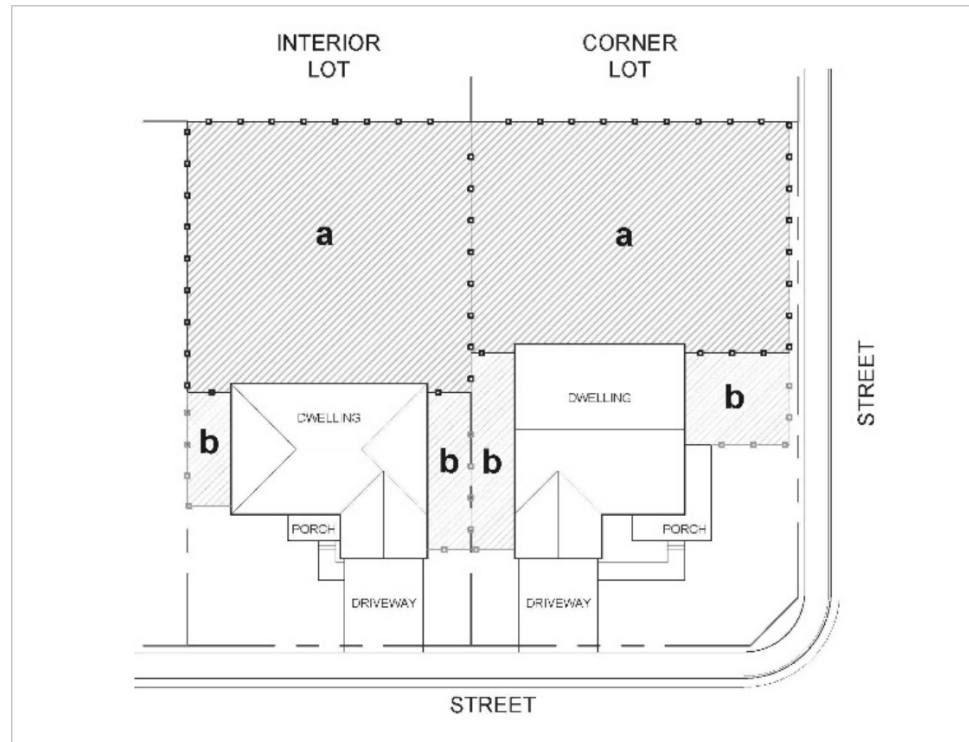


Figure 542.1

(2) In all other areas of the lot that are not the rear landscape area, as defined by subsection (b)(1), artificial turf shall not exceed 25 percent of the area that is not occupied by driveways, sidewalks, patios, decks, buildings, or other structures.

(c) *Design requirements.*

(1) The design and installation of all artificial turf areas shall comply with the front, side, and rear yard landscaping requirements of the landscape code.

(2) Artificial turf shall be installed and maintained to effectively simulate the appearance of a well-maintained lawn. The department shall maintain and make available for public inspection a sample of various artificial turf products that meet this standard of appearance.

a. Artificial turf products shall have a minimum eight-year warranty against fading.

b. Artificial turf must be a green color, similar to natural grass.

(3) Buffers.

- a. The following minimum buffer areas are required between the edge of the artificial turf and the specified location:
    - 1. Three feet from all property lines. Artificial turf may extend to the front property line if a minimum three-foot buffer is installed between the artificial turf and the sidewalk along a street.
    - 2. Eight feet from the front wall of any building, and three feet from all other building walls or impervious surfaces when located outside of rear landscape area, as defined in subsection (b)(1).
    - 3. Three feet from the trunk of any deciduous tree, and no closer than the dripline of any evergreen tree.
  - b. Buffers shall be permeable, consisting of wood mulch, gravel, or rock a maximum of two inches in diameter, or other approved permeable materials.
- (4) Living plant materials are required when artificial turf is installed on the lot outside of the rear landscape area, as defined in subsection (b)(1).
- a. For the first 750 square feet of artificial turf, or fraction thereof, one tree equivalent is required.
  - b. For each additional 250 square feet of artificial turf, or fraction thereof, one-half tree equivalent is required.
  - c. Required living plant materials shall be located on the lot outside of the rear landscape area, as defined in subsection (b)(1).
  - d. Required living plant materials may consist of:
    - 1. Existing plant materials meeting the requirements of Section 18-537(d);
    - 2. New plant materials installed in accordance with Section 18-538; or
    - 3. A combination of existing and new materials.
- (d) *Materials requirements.*
- (1) *Artificial turf products.*
- a. Artificial turf shall be of a type known as cut pile infill and shall be manufactured from polypropylene, biobased products, nylon, polyester, polyethylene, or a blend of polypropylene, biobased products, nylon,

polyester, or polyethylene fibers stitched onto a meshed or hole-punched backing made of similar materials. Biobased products are derived from plants and other agricultural, marine, and forestry materials, and may be certified as a USDA BioPreferred product.

- b. Hole-punched backings shall have holes spaced in a uniform grid pattern with spacing not to exceed four inches by six inches on center.
- c. Backings shall be designed to drain at a minimum rate of two inches per hour.
- d. The use of indoor or outdoor carpeting in lieu of artificial turf, mulch or other plant materials is not permitted.

(2) *PFAS-free requirements.* All artificial turf, infill, and other manufactured products used in the installation of artificial turf shall be free of per- and poly-fluoroalkyl substances (PFAS).

- a. PFAS-free means that at least one of the following requirements have been met:
  - 1. The manufacturer or distributor has publicly stated that the product is made without the intentional use of PFAS in a statement referring to all members of the class of PFAS using language such as “PFAS-free,” “fluorocarbon-free,” “per- and poly-fluorinated compounds-free,” and similar. “PFC-free” shall not be sufficient to satisfy this requirement. The statement must explicitly address which product or products it applies to, and ambiguous statements will not be accepted.
  - 2. The product has been tested and shown to be PFAS-free. Testing sufficient to satisfy this requirement may have been carried out at the manufacturer’s request or as a part of an independent investigation by a nongovernmental organization, research laboratory, or other entity not affiliated with the company. Testing completed by the manufacturer does not satisfy this requirement. Testing results must be published online and must indicate the test method used and the specific product tested. Third-party certifications are not valid as “PFAS-free” unless the testing evaluates total organic fluorine and results are publicly available.

- b. Documentation evidencing that the proposed product is PFAS-free shall be submitted at the time of permit application and approval of such documentation is at the sole discretion of the director or designee.
- c. Additional restrictions or standards may be adopted in writing by the director due to the rapidly evolving science around the presence of PFAS.
- d. If a product is installed that is later determined to contain PFAS, that product may remain in place so long as the applicant complied with the PFAS-free documentation requirements in Subsection (d)(2)a above.

(e) *Installation and maintenance.*

- (1) Artificial turf shall be installed in accordance with the manufacturer's specifications, including the following:
  - a. Sod or existing groundcover shall be removed prior to installation of any artificial turf.
  - b. Artificial turf shall be installed over a compacted aggregate material that is a minimum of three inches deep, which may be a combination of coarse and fine material layers separated by a geotextile per the manufacturer's specifications.
  - c. The specified base material(s) system must be able to contain a minimum of one-half inch of precipitation prior to generating sheet flow runoff.
  - d. Artificial turf shall be anchored at all edges and seams.
  - e. All artificial turf seams shall be glued and not sewn.
  - f. An infill medium consisting of clean washed sand and/or ground shells, or other approved mixture may be brushed into the fibers to ensure that the fibers remain in an upright position and to provide ballast that will help hold the turf in place and provide a cushioning effect. Infill is not required if the artificial turf manufacturer does not recommend or require its use.
- (2) Artificial turf shall be maintained in a manner to mimic healthy living turf. General maintenance requirements are specified in Section 18-556 of the Code. In addition, the following maintenance activities are required for artificial turf:
  - a. Cleaning, sanitizing, brushing, and removal of debris. Cleaning shall be done with biodegradable products.
  - b. Hand raking of worn turf areas on an as needed basis.

- c. Repairing of depressions to maintain an even visual surface.
  - d. Brushing back any loose infill that has been washed or moved off the turf.
  - e. Regular maintenance to eliminate any odors, flat or matted areas, weeds, looseness at edges, seams, or elsewhere.
  - f. Replacement of the artificial turf when maintenance or repair is unable to simulate a healthy living turf.
- (f) *Interpretations.* The director shall interpret this section and all other applicable provisions of this chapter as the need for interpretation arises pertaining to artificial turf, including but not limited to issues such as site configurations, buffer requirements, and area limitations. No interpretation shall permit artificial turf to be installed in locations prohibited in subsection (a).
2. If any portion of this ordinance is held to be unconstitutional or invalid for any reason, such decision shall not affect the constitutionality or validity of the remaining portions of this ordinance. City Council hereby declares that it would have passed this ordinance and each part hereof irrespective of the fact that any one part be declared unconstitutional or invalid.
  3. All other ordinances or portions thereof inconsistent or conflicting with this ordinance or any portion hereof are hereby repealed to the extent of such inconsistency or conflict.
  4. The repeal or amendment of any provision of the Code by this ordinance shall not release, extinguish, alter, modify, or change in whole or in part any penalty, forfeiture, or liability, either civil or criminal, which shall have been incurred under such provision, and each provision shall be treated and held as still remaining in force for the purpose of sustaining any and all proper actions, suits, proceedings, and prosecutions for the enforcement of the penalty, forfeiture, or liability, as well as for the purpose of sustaining any judgment, decree, or order which can or may be rendered, entered, or made in such actions, suits, proceedings, or prosecutions.
  5. This ordinance shall take effect upon final passage.

INTRODUCED, READ, PASSED on first reading, ordered posted in full, and title ordered published by the City Council of the City of Thornton, Colorado, on May 23, 2023.

PASSED AND ADOPTED on second and final reading on June 13, 2023.

CITY OF THORNTON, COLORADO

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Jan Kulmann, Mayor

ATTEST:

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Kristen N. Rosenbaum, City Clerk

THIS ORDINANCE IS ON FILE IN THE CITY CLERK'S OFFICE FOR PUBLIC INSPECTION.

APPROVED AS TO LEGAL FORM:

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Tami Yellico, City Attorney

PUBLICATION:

Posted at City Hall, Margaret W. Carpenter Recreation Center, Thornton Active Adult Center, and Trail Winds Recreation Center after first and second readings.

Published on the City's official website after first reading on May 24, 2023, and after second and final reading on June 14, 2023.



# COUNCIL COMMUNICATION

<b>Meeting Date:</b> June 13, 2023	<b>Agenda Item:</b> 12A	<b>Agenda Location:</b> ACTION ITEMS	<u>      </u> 1 <sup>st</sup> Reading <u>  X  </u> 2 <sup>nd</sup> Reading
<b>Subject:</b> A public hearing concerning an ordinance repealing and reenacting Section 18-542 of the Thornton City Code regarding artificial turf.			
<b>Department Head Review:</b> Randy Grant, City Development Director		<b>Approved by:</b> Kevin S. Woods, City Manager	<b>Ordinance previously introduced by:</b> <u>                    Sandgren                    </u>
<b>Presenter(s):</b> Karen Widomski, Senior City Development Analyst			

## **SYNOPSIS:**

On May 23, 2023, City Council voted six to three to approve this ordinance on first reading.

This ordinance repeals the existing regulations for artificial turf and enacts updated requirements, allowing artificial turf to be installed as up to 25 percent of the landscape area in the front and publicly visible side yards for single-family dwellings, in addition to rear yards and side yards that are not visible to the public. The ordinance requires that all products used in the installation of artificial turf are free of per-and poly-fluoroalkyl substances (PFAS), and it incorporates updated requirements for buffers, living plant materials, and other installation standards.

## **RECOMMENDATION:**

Staff recommends Alternative No. 1, approval of the ordinance as drafted. While natural materials are more consistent with community aesthetics, artificial turf provides an option for water conservation and easier maintenance for those desiring the product. Inclusion of the area limitations, PFAS-free requirements, living plant materials, and updated standards help to address sustainability and other concerns.

## **BUDGET/STAFF IMPLICATIONS:**

None.

## **ALTERNATIVES:**

1. Approve the ordinance repealing and reenacting Section 18-542 as drafted to allow artificial turf as up to 25 percent of the front and publicly visible side yards, in addition to rear yards and side yards that are not visible to the public, and updated requirements for PFAS-free materials, buffers, living plant materials, and other installation standards.
2. Approve the ordinance amending Section 18-542 in a manner directed by Council.
3. Do not approve the ordinance.

**BACKGROUND (ANALYSIS/NEXT STEPS/HISTORY):** (includes previous City Council action)

Council discussed this topic at the Planning Session on August 30, 2022, the Council Update on January 10, 2023, the Planning Session on March 21, 2023, and the Planning Session on May 2, 2023.

**Current City Code**

The City Code currently allows artificial turf to be utilized as landscaping in single-family rear yards and side yards that are not viewable from the public rights-of-way, subject to specific materials, buffering, installation, slope restrictions, general appearance, and maintenance requirements. Artificial turf cannot be installed in front yards or in any other location, except for designated sports fields on public property when approved by Council. The number of artificial turf permits issued has increased substantially in recent years, growing from four in 2020, nine in 2021, to 29 in 2022.

**Proposed Ordinance**

The ordinance repeals the existing regulations for artificial turf and enacts updated requirements, as described below.

Locations Permitted: The ordinance retains the existing allowances for artificial turf in single-family rear yards and side yards that are not visible from a public space, and on designated sports fields on public property when approved by City Council. In addition, the ordinance:

- Includes allowances for artificial turf in all other areas of the lot that are not defined as the ‘rear landscape area.’ This generally means the front yard but is specifically defined as any area that is not between the rear plane of the dwelling and rear lot line (i.e., backyard), and not located in a visually shielded area behind the front plane of the dwelling (i.e., visually shielded side yard). The maximum area for artificial turf located outside of the rear landscape area is 25 percent of the area that is not occupied by driveways, sidewalks, patios, decks, buildings, or other structures.
- Clarifies that designated activity areas where artificial turf serves a functional purpose is not considered landscaping and its installation can be approved through the development permit process. Examples include putting greens, playground surfacing, and similar spaces.

Design Requirements: The ordinance retains the existing requirements that artificial turf must be green and effectively simulate the appearance of a well-maintained lawn and must have a minimum eight-year warranty against fading. The ordinance would eliminate the maximum six percent slope installation limitation, since methods exist to mitigate any concerns related to installation on steeper slopes.

Buffers: Installation of permeable buffer areas adjacent to artificial turf helps to protect plant materials, promote consistent landscape design, and ensure that infill does not wash into storm drains or onto neighboring properties. The ordinance clarifies the materials that can be used in buffer areas, removes the planting requirements, and adds the following minimum separations from artificial turf:

- Three feet from all property lines
- Three feet from the trunk of any deciduous tree
- No closer than the dripline of any evergreen tree

- Eight feet from the front wall of any building, and three feet from all other building walls and impervious surfaces

Living Plant Materials: The ordinance requires living plant materials when artificial turf is installed anywhere outside of the defined rear landscape area to ensure a balance of living and nonliving materials and maintain overall community aesthetics. In some instances, existing plant materials may be sufficient to meet all or some of these requirements. For reference, one “tree equivalent” (TE) means one two-inch caliper deciduous tree or one six-foot tall evergreen tree, or ten shrubs or 20 ground covers or ornamental grasses. Living plant materials requirements outside of the rear landscape area are shown below:

- For the first 750 square feet (or fraction thereof) of artificial turf: 1 TE (generally, one tree or ten shrubs)
- For each additional 250 square feet (or fraction thereof) of artificial turf: ½ TE

Materials and Installation: The ordinance incorporates updated materials requirements to accommodate industry changes in artificial turf products and related materials since the adoption of the current artificial turf requirements in 2013. Changes include:

- Allowed artificial turf materials have been expanded to include nylon and biobased products. For reference, biobased products are derived from plants and other agricultural, marine, and forestry materials.
- To ensure appropriate drainage during storm events, requirements have been added indicating that backings drain at a minimum rate of two inches per hour and are installed over specified base material that is able to contain a minimum of one-half inch of precipitation prior to generating surface runoff.
- Authorized infill products have been updated to include ground shells and/or clean washed sand and remove ground rubber and ground coal slag.

PFAS-free Requirements: The ordinance requires that artificial turf, infill, and other manufactured products used in the installation of artificial turf are free of PFAS.

Although there is not a specific testing organization that could certify products as such, the ordinance requires that at least one of the following factors are met:

- The manufacturer or distributor has publicly stated that the product is made without the intentional use of PFAS in a statement referring to all members of the class of PFAS using language such as “PFAS-free,” “fluorocarbon-free,” “per- and poly-fluorinated compounds-free,” and similar. A “PFC-free” statement is insufficient to satisfy this requirement. The statement must explicitly address which product or products it applies to, and ambiguous statements will not be accepted.
- The product has been tested and shown to be PFAS-free. Testing sufficient to satisfy this requirement may have been carried out at the manufacturer’s request or as a part of an independent investigation by a nongovernmental organization, research laboratory, or other entity not affiliated with the company. Testing completed by the manufacturer does not satisfy this requirement. Testing results must be published online and must indicate the test method used and the specific product tested. Third-party certifications are not valid as “PFAS-free” unless the testing evaluates total organic fluorine and results are publicly available.

Documentation that the proposed product is PFAS-free would need to be submitted at the time of permit application, and applications will be evaluated based on the information available at that time. If a product is installed that is later determined to contain PFAS, that product may remain in place so long as the applicant complied with the PFAS-free documentation requirements.

Due to the rapidly evolving science around this topic, the ordinance includes flexibility to allow the City Development Director to adopt additional restrictions or standards pertaining to PFAS-free products.

### **Existing Noncompliant Properties**

Code Compliance staff will work with individual property owners who, at the time of adoption of the ordinance, currently have artificial turf installed in the front yard of their single-family homes to provide time and options for bringing the landscaping into compliance. Options may include rebates related to xeriscaping and turf replacement programs as well as Development Director discretion to consider deviations from standards on a case-by-case basis per Section 18-577 and the proposed Section 18-547(f) of the City Code.

### **Public Hearing Notice**

Notice of the Public Hearing was published on the City's official website and at City Hall, Margaret W. Carpenter Recreation Center, Thornton Active Adult Center, and Trail Winds Recreation Center on April 11, 2023.

AFFIDAVIT OF POSTING

PUBLIC NOTICE

State of Colorado       )  
                                  ) ss.  
County of Adams       )

I, Lucia Higginbotham, being first duly sworn upon oath depose and say that I did, on April 11<sup>th</sup>, post the PUBLIC NOTICE of the City Council of the City of Thornton, Colorado, for the Public Hearing concerning an ordinance repealing and reenacting Section 18-542 of the Thornton City Code regarding artificial turf to update requirements. This Hearing will be held on May 23, 2023, at 7 p.m. at Thornton City Hall, 9500 Civic Center Drive, Thornton, Colorado and virtually at

[https://thorntonco.zoom.us/webinar/register/WN\\_gdHF0wezSJK-0CdTxSKodA](https://thorntonco.zoom.us/webinar/register/WN_gdHF0wezSJK-0CdTxSKodA)

or by telephone at **669-900-6833** using meeting ID# **899 0545 6471**, a copy of which posted Notice is attached hereto and posted at the following locations:

1. Thornton City Hall, 9500 Civic Center Dr.
2. Margaret W. Carpenter Recreation Center, 11151 Colorado Blvd.
3. Thornton Active Adult Center, 11181 Colorado Blvd.
4. Trail Winds Recreation Center, 13495 Holly St.

Signed:

  
Administrative Specialist

Date:

4/11/2023

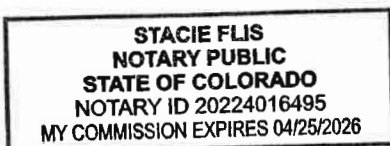
Subscribed and sworn to before me by Lucia Higginbotham, in the County of Adams, State of Colorado, this 11<sup>st</sup> day of April, 2023.

Notary Public

My Commission Expires



04/25/2026



AFFIDAVIT OF POSTING

LEGAL NOTICE OF PUBLIC HEARING

State of Colorado       )  
                                  ) ss.  
County of Adams       )

I, Melissa Beary, being first duly sworn upon oath depose and say that I did, on April 11, 2023, post an **UPDATED PUBLIC NOTICE** of the City Council of the City of Thornton, Colorado, will hold a public hearing concerning an ordinance repealing and reenacting Section 18-542 of the Thornton City Code regarding artificial turf to update requirements. This Hearing will be held on May 23, 2023, at 7 p.m. at Thornton City Hall, 9500 Civic Center Drive, Thornton Colorado and virtually at.

[https://thorntonco.zoom.us/webinar/register/WN\\_gdHF0wezSJK-0CdTxSKodA](https://thorntonco.zoom.us/webinar/register/WN_gdHF0wezSJK-0CdTxSKodA)

The legal notice was posted at the following location, pursuant to City Code Section 2-1:

1. Thornton's official website, [www.thorntonCO.gov](http://www.thorntonCO.gov).

Signed:

  
Title: Executive Assistant

Date:

4/11/23

Subscribed and sworn to before me by Melissa Beary In the County of Adams, State of Colorado, This 11 day of April, 2023.

Notary Public



**ALEXIS ALARID  
NOTARY PUBLIC  
STATE OF COLORADO  
NOTARY ID 20224017095  
MY COMMISSION EXPIRES 04/28/2026**

**NOTICE OF PUBLIC HEARING  
SPCD 2023-001**

The City Council of the City of Thornton will hold a public hearing concerning an ordinance repealing and reenacting Section 18-542 of the Thornton City Code regarding artificial turf to update requirements.

**Please note: this hearing has been rescheduled.** The hearing was originally scheduled for April 25, 2023, but will now be held on **May 23, 2023, at 7:00 p.m.** at the Thornton City Hall in the Council Chambers, 9500 Civic Center Drive, Thornton, Colorado. The City is also offering remote access to the public hearing. To attend online, register in advance at [https://thorntonco.zoom.us/webinar/register/WN\\_qdHF0wezSJK-0CdTxSKodA](https://thorntonco.zoom.us/webinar/register/WN_qdHF0wezSJK-0CdTxSKodA) or call 669-900-6833 and enter meeting ID 899 0545 6471. After registering, you will receive a confirmation email containing information about joining the meeting and the process for providing testimony.

The City Council agenda is on the City of Thornton website at [www.thorntonco.gov](http://www.thorntonco.gov).

All interested parties are invited to attend the public hearing or present their views to City Council by providing written comments in advance of the public hearing. Written comments sent via email must be received at [CityDevelopment@ThorntonCO.gov](mailto:CityDevelopment@ThorntonCO.gov) prior to 4:00 p.m. MDT/MST on the day of the public hearing. Written comments sent via mail to Thornton City Hall, City Development Department, 9500 Civic Center Drive, Thornton, CO 80229 must be received at City Hall prior to 5:00 p.m. MDT/MST on the Friday preceding the public hearing. If you have any questions concerning this matter, please contact the City Development Department at 303-538-7295.

If you have any questions regarding attending the Zoom Meeting, please email [CityDevelopment@ThorntonCO.gov](mailto:CityDevelopment@ThorntonCO.gov) prior to 4 p.m. on May 23, 2023. Qualified individuals with a disability may contact Thornton's ADA Coordinator to request and arrange for accommodations. Requests for accommodation should be made as far in advance as possible, but preferably no less than five business days prior to the date needed. Please contact Thornton's ADA Coordinator via telephone 303-538-7334 or email [adacoordinator@ThorntonCO.gov](mailto:adacoordinator@ThorntonCO.gov).

A copy of the proposed ordinance and the Development Code (Chapter 18 of the Code of the City of Thornton) is on file with the City Clerk of the City of Thornton for inspection by any interested party. Further, any interested party may appear at this hearing or may communicate their interest to the City Council by written notice. Written notice must be received prior to, or during the public hearing.

CITY COUNCIL OF THE  
CITY OF THORNTON, COLORADO

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Jan Kulmann, Mayor

ATTEST: Kristen N. Rosenbaum, City Clerk  
APPROVED AS TO FORM: Tami Yellico, City Attorney