

ORDINANCE NO. _____

City Code Chapter 25-12 (*Technical Codes*) is amended to add a new Article 3 (*Flood Hazard Areas*) to read as follows:

ARTICLE 3. FLOOD HAZARD AREAS

§ 25-12-51 APPLICABILITY.

- (A) This article applies to the design, construction of buildings and structures, and additions and alterations to buildings and structures located in flood hazard areas.
- (B) This article is administered, implemented, and enforced in conjunction with each article of Chapter 25-12 (*Technical Codes*).
- (C) This article is amended in the same manner as the Building and Residential Codes.

§ 25-12-52 DEFINITIONS.

- (A) Except as otherwise provided, the definitions in this subsection apply to all articles in this chapter:
 - (1) **BASE FLOOD** A flood that has the following characteristics:
 - (a) For areas amended to incorporate Atlas 14 data, a flood that has a one percent chance of being equaled or exceeded in any given year (100-year flood) calculated under fully developed conditions as prescribed by the Drainage Criteria Manual as amended to incorporate Atlas 14 data;
 - (b) For areas not yet amended to incorporate Atlas 14 data, a flood that has a 0.2 percent chance of being equaled or exceeded in any given year (500-year flood) calculated under the conditions underlying the FEMA Flood Insurance Rate Map as of January 6, 2016, as subsequently revised, or as calculated under existing conditions as prescribed by the Drainage Criteria Manual using data predating Atlas 14; or
 - (c) For the Colorado River, a flood that has a one percent chance of being equaled or exceeded in any given year (100-year flood) calculated under the conditions underlying the FEMA Flood Insurance Rate Map dated January 6, 2016, or as subsequently revised.

- 1 (2) **BASE FLOOD ELEVATION** The elevation of the base flood, including
2 wave height, relative to the National Geodetic Vertical Datum (NGVD),
3 North American Vertical Datum (NAVD) or other datum specified on the
4 Flood Insurance Rate Map (FIRM).
- 5 (3) **DESIGN FLOOD** A flood that has the following characteristics:
6 (a) For areas amended to incorporate Atlas 14 data, a flood associated
7 with an area of a floodplain subject to a one percent or greater chance
8 of being flooded in any year (100-year flood) based on projected full
9 development in accordance with the City of Austin Drainage Criteria
10 Manual as amended to incorporate Atlas 14 data;
11 (b) For areas not yet amended to incorporate Atlas 14 data, a flood
12 associated with an area of a floodplain subject to a 0.2 percent or
13 greater chance of being flooded in any year (500-year flood)
14 calculated under the conditions underlying the FEMA Flood Insurance
15 Rate Map as of January 6, 2016, as subsequently revised, or as
16 calculated under existing conditions as prescribed by the Drainage
17 Criteria Manual using data predating Atlas 14; or
18 (c) For the Colorado River, a flood associated with an area of a floodplain
19 subject to a one percent or greater chance of being flooded in any year
20 (100-year flood) as depicted on the FEMA Flood Insurance Rate Map
21 dated January 6, 2016, or as subsequently revised.
- 22 (4) **DESIGN FLOOD ELEVATION** The elevation of the “design flood” relative
23 to the City of Austin vertical datum standard.
- 24 (5) **DEVELOPMENT.** Any man-made change to improved or unimproved real
25 estate, including but not limited to, buildings or other structures, temporary
26 or permanent storage of materials, mining, dredging, filling, grading, paving,
27 excavations, operations and other land disturbing activities.
- 28 (6) **FLOOD or FLOODING** A general and temporary condition of partial or
29 complete inundation of normally dry land from:
30 (a) the overflow of inland waters; or
31 (b) the unusual and rapid accumulation or runoff of surface waters from
32 any source.

- 1 (7) FLOOD DAMAGE-RESISTANT MATERIALS Any construction material
2 capable of withstanding direct and prolonged contact with floodwaters
3 without sustaining any damage that requires more than cosmetic repair
- 4 (8) FLOOD HAZARD AREA An area that has the following characteristics:
- 5 (a) For areas amended to incorporate Atlas 14 data, an area within a
6 floodplain subject to a one percent or greater chance of being flooded
7 in any year (100-year flood) based on projected full development in
8 accordance with the City of Austin Drainage Criteria Manual as
9 amended to incorporate Atlas 14 data;
- 10 (b) For areas not yet amended to incorporate Atlas 14 data, an area of a
11 floodplain subject to a 0.2 percent or greater chance of being flooded
12 in any year (500-year flood) calculated under the conditions
13 underlying the FEMA Flood Insurance Rate Map as of January 6,
14 2016, as subsequently revised, or as calculated under existing
15 conditions as prescribed by the Drainage Criteria Manual using data
16 predating Atlas 14; or
- 17 (c) For the Colorado River, an area within a floodplain subject to a one
18 percent or greater chance of being flooded in any year (100-year
19 flood) as depicted on the FEMA Flood Insurance Rate Map dated
20 January 6, 2016, or as subsequently revised.
- 21 (9) FLOOD INSURANCE RATE MAP (FIRM) An official map of a
22 community on which the Federal Emergency Management Agency (FEMA)
23 has delineated both the special flood hazard areas and the risk premium
24 zones applicable to the community.
- 25 (10) FLOOD INSURANCE STUDY The official report provided by the Federal
26 Emergency Management Agency containing the Flood Insurance Rate Map
27 (FIRM), the Flood Boundary Map, the water surface elevation of the base
28 flood, and supporting technical data.
- 29 (11) FLOODWAY The channel of the river, creek, or other watercourse and the
30 adjacent land areas that must be reserved in order to discharge the base flood
31 without cumulatively increasing the water surface elevation more than a
32 designated height. An area that has the following characteristics:
- 33 (a) For the Colorado River, an area with a floodplain subject to a four
34 percent or greater chance of flooding in any year (25-year flood)

1 based on existing developed conditions as prescribed by the Drainage
2 Criteria Manual using data predating Atlas 14; or

3 (b) For all other rivers, creeks, and watercourses in areas amended to
4 incorporate Atlas 14 data, an area with a four percent or greater
5 chance of flooding in any year (25-year flood) based on a projected
6 full development in accordance with the City of Austin Drainage
7 Criteria Manual as amended to incorporate Atlas 14 data; or

8 (c) For all other rivers, creeks, and watercourses in areas not yet amended
9 to incorporate Atlas 14 data, an area with a one percent or greater
10 chance of flooding in any year (100-year flood) based on a projected
11 full development in accordance with the City of Austin Drainage
12 Criteria Manual using data predating Atlas 14.

13 (12) **FUNCTIONALLY DEPENDENT FACILITY.** A facility which cannot be
14 used for its intended purpose unless it is located or carried out in close
15 proximity to water, such as a docking or port facility necessary for the
16 loading or unloading of cargo or passengers, shipbuilding or ship repair. The
17 term does not include long-term storage, manufacture, sales or service
18 facilities.

19 (13) **MANUFACTURED HOME.** A structure that is transportable in one or more
20 sections, built on a permanent chassis, designed for use with or without a
21 permanent foundation when attached to the required utilities, and
22 constructed to the Federal Mobile Home Construction and Safety Standards
23 and rules and regulations promulgated by the U.S. Department of Housing
24 and Urban Development. The term also includes mobile homes, park trailers,
25 travel trailers and similar transportable structures that are placed on a site for
26 180 consecutive days or longer.

27 (14) **MANUFACTURED HOME PARK OR SUBDIVISION.** A parcel (or
28 contiguous parcels) of land divided into two or more manufactured home
29 lots for rent or sale.

30 (15) **RECREATIONAL VEHICLE.** A vehicle that is built on a single chassis,
31 400 square feet (37.16 m²) or less when measured at the largest horizontal
32 projection, designed to be self-propelled or permanently towable by a light-
33 duty truck, and designed primarily not for use as a permanent dwelling but,
34 as temporary living quarters for recreational, camping, travel or seasonal
35 use. A recreational vehicle is ready for highway use if it is on its wheels or

jacking system, is attached to the site only by quick disconnect-type utilities and security devices and has no permanently attached additions.

- (16) **REGULATORY FLOOD DATUM** An established plane of reference from which elevations and depth of flooding may be determined for specific locations of the floodplain. It is the water level of the design flood plus a freeboard factor of one foot. Design flood plus freeboard equals Regulatory Flood Datum.
- (17) **SPECIAL FLOOD HAZARD AREA** The land area subject to flood hazards and shown on a Flood Insurance Rate Map or other flood hazard map as Zone A, AE, A1-30, A99, AR, AO, AH, V, VO, VE or VI-30.
- (18) **START OF CONSTRUCTION.** The date a permit is issued for new construction or substantial improvements to existing structures if construction, repair, reconstruction, rehabilitation, addition, placement or other improvement starts within 180 days from the date the permit is issued. Construction starts when permanent construction of a building (including a manufactured home) is first placed and includes pouring a slab or footing, installing pilings, or constructing columns. Permanent construction does not include preparing land (clearing, excavating, grading, or filing); installing streets or walkways; excavating for a basement, footing, pier, or foundation; or erecting temporary forms or installing accessory buildings not occupied as dwelling units or not part of the main building. For a substantial improvement, construction starts when a wall, ceiling, floor, or other structural part of a building is altered even if the alteration does not affect the external dimensions of the building.
- (19) **SUBSTANTIAL DAMAGE.** Damage of any origin sustained by a structure, whereby the cost of restoring the structure to its before-damage condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.
- (20) **SUBSTANTIAL IMPROVEMENT.** For the purpose of determining compliance with the flood hazard management provisions of the Building Code, a substantial improvement is any combination of repair, reconstruction, rehabilitation, alteration, addition or other improvement of a building or structure during the immediate 10-year period, the cost of which cumulatively equals or exceed 50 percent of the market value of the structure before the improvement or repair is started, or if the structure has been damaged and is being restored, before the damage occurred. If the structure has sustained substantial damage, any repairs are considered

substantial improvement regardless of the actual repair work performed. The term does not, however, include either of the following:

1. Any project for improvement of a building required to correct existing health, sanitary or safety code violations identified by the building official and that are the minimum necessary to assure safe living conditions.
2. Any alteration of a historic structure, provided that the alteration will not preclude the structure's continued designation as a historic structure; for the purpose of this exclusion, a historic building is a building that is:
 - a. listed or preliminarily determined to be eligible for listing in the National Register of Historic Places; or
 - b. determined by the Secretary of the U.S. Department of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined to qualify as an historic district; or
 - c. designated as historic under a State of Texas or local historic preservation program that is approved by the Department of the Interior.

(22) VARIANCE. A grant of relief from the requirements of this article which permits construction in a manner otherwise prohibited by this article where specific enforcement would result in unnecessary hardship.

(B) A term defined in an article in this chapter has the same meaning in this article.

§ 25-12-53 FLOOD LOADS.

(A) **General.**

- (1) Within flood hazard areas as established in Subsection (B) (*Establishment of flood hazard areas*), all new construction and alterations of buildings, structures and portions of buildings and structures, including substantial improvement and restoration of substantial damage to buildings and structures, shall be designed and constructed to resist the effects of flood hazards and flood loads. When new construction constitutes a substantial improvement or restoration of substantial damage all aspects of the existing structure shall be brought into compliance with the requirements for new

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R322.1 General

1 construction for flood design. All elevation requirements noted in this
2 ordinance shall be documented using the Elevation Certificate, FEMA 086-
3 0-33, and shall be certified by a registered professional engineer, surveyor,
4 or architect, and shall be submitted to the Floodplain Administrator.

- 5 (2) Except as otherwise provided, this section applies to residential and non-
6 residential building and structures.

7 (B) **Establishment of flood hazard areas.** The City establishes a flood hazard area that
8 includes the following:

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R322.2

- 9 (1) areas of special flood hazard areas identified by the Federal
10 Emergency Management Agency in the current scientific and
11 engineering report entitled, "The Flood Insurance Study (FIS) for
12 Williamson County, Texas and Incorporated Areas" dated December
13 20, 2019, with accompanying Flood Insurance Rate Maps (FIRM)
14 dated December 20, 2019, the current scientific and engineering
15 report entitled "The Flood Insurance Study for Travis County, Texas
16 and Incorporated Areas" dated January 6, 2016, with accompanying
17 Flood Insurance Rate Maps dated January 6, 2016, and any and any
18 revisions are adopted by reference and declared to be a part of this
19 section; and
- 20 (2) the 100-year and 25-year floodplains as defined in the Austin City
21 Code are adopted by reference and declared to be part of this section.

22 (C) **Design and construction.** The design and construction of buildings and structures,
23 and additions and alterations to buildings and structures located in flood hazard
24 areas, shall be in accordance with ASCE 24, Flood Resistant Design and
25 Construction.

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26 (1) **Elevation Requirements.**

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- 27 (a) Unless otherwise specified in the Title 25 (*Land Development*), the
28 lowest floor of a building or structure must be elevated a minimum of
29 two feet above the design flood elevation.
- 30 (b) **Freeboard.** Unless otherwise specified in the Title 25 (*Land*
31 *Development*), a minimum freeboard of two foot shall be added where
32 the design flood elevation or other elevation requirements are
33 specified.

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1 (c) In areas of shallow flooding (AO Zones), the lowest floor (including a
2 basement) of a building or structure must be elevated higher than the
3 highest adjacent grade as the depth number specified in feet (mm) on
4 the FIRM plus two feet, or at least three feet (915 mm) if a depth
5 number is not specified.

6 (d) A basement floor that is below grade on all sides must be elevated at
7 least two feet above the design flood elevation.

8 Exception. An enclosed area, including a basement, which is below
9 the design flood elevation but not below grade on all sides must meet
10 the requirements in Subsection (C)(2) (Enclosed area below design
11 flood elevation

12 (2) Enclosed area below design flood elevation. An enclosed area, including a
13 crawl space, that is below the regulatory flood datum must:

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14 (a) be used only for parking vehicles, building access or storage
15 excluding property, material, or equipment that may constitute a
16 safety hazard when contacted by flood waters;

17 (b) include flood openings that meet the following criteria:

18 (i) the enclosed area must have a minimum of two openings
19 located on different sides of the enclosed area; if a building
20 includes more than one enclosed area below the design flood
21 elevation, each area must have openings on exterior walls;

22 (ii) the total net area of all openings must be at least 1 square inch
23 (645 mm²) per square foot (0.093 m²) of the enclosed area, or
24 the openings are designed and the construction documents state
25 that the design and installation will provide for the equalization
26 of hydrostatic flood forces on exterior walls by allowing for the
27 automatic entry and exist of floodwaters;

28 (iii) the bottom of each opening is 1 foot (305 mm) or less above
29 adjacent ground level;

30 (iv) each opening is at least 3 inches (76 mm) in diameter;

31 (v) any louvers, screens or other opening covers allow the
32 automatic flow of floodwaters into and out of the enclosed
33 areas;

(vi) a door or window that does not meet the requirements in Subsection (C)(2)(b)(i) through (v) does not comply with this section; and

(vii) constructed of flood damage-resistant materials.

(3) Provisions of safe refuge.

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R322.2.5

(a) A building or structure constructed in the flood hazard area where the ground surface is below the design flood elevation or where flood water velocities at the building may exceed five feet per second shall provide an enclosed refuge space two feet or more above the design flood elevation of sufficient area to provide for the occupancy load with a minimum of 12 square feet per person. The refuge space shall be provided to an exterior platform and stairway not less than three feet wide.

(b) An existing building or structure in a flood hazard area that is enlarged, extended, or altered, or where a change of use or occupancy is made, shall conform to the requirements of Subsection (a).

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(c) Regardless of the structure or space classification, a floor level or portion of a building or structure that is lower than two foot above the design flood elevation shall not be used residentially, or for storage of any property, materials, or equipment that might constitute a safety hazard when contacted by flood waters.

(4) Means of egress.

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R322.2.6

(a) Unless otherwise approved by the building official, normal access to the building shall be by direct connection with an area that is a minimum of one foot above the design flood elevation.

(b) For a building that is part of a single-family condo regime residential building permit application and part of a site plan that was approved between December 1, 2017, and November 25, 2019, compliance with this section shall be determined at the time of site plan approval.

(c) For a building that is part of a single-family building permit application and part of (a) a preliminary plan that was submitted for approval between December 1, 2014, and November 25, 2019, or (b) a final plat that was approved between December 1, 2017, and

November 25, 2019, compliance with this section shall be determined at the time of preliminary plan or final plat approval, respectively.

- (d) For all other buildings subject to Article 11 (*Residential Code*), compliance with this section shall be determined at the time of building permit application.

Exception. This subsection does not apply to an addition or alteration to an existing building or structure subject to Article 11 (*Residential Code*) that is not a substantial improvement as defined in Section 25-12-52 (*Definitions*).

- (5) **Installation of openings.** The walls of enclosed areas shall have openings installed such that:

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- (a) There shall be not less than two openings on different sides of each enclosed area; if a building has more than one enclosed area, each area shall have openings.
- (b) The bottom of each opening shall be not more than 1 foot (305 mm) above the higher of the final interior grade or floor and the finished exterior grade immediately under each opening.
- (c) Openings shall be permitted to be installed in doors and windows; doors and windows without installed openings do not meet the requirements of this section

- (D) **Flood hazard documentation.** For construction in flood hazard areas, the following documentation shall be prepared and sealed by a registered design professional and submitted to the building official:

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- (1) The elevation of the lowest floor, including the basement, as required by the lowest floor elevation inspection in Building Code Section 110.3.3 (*Lowest floor elevation*) and for the final inspection in Building Code Section 110.3.10.1 (*Flood hazard documentation*).
- (2) For fully enclosed areas below the design flood elevation where provisions to allow for the automatic entry and exit of floodwaters do not meet the minimum requirements in Section 2.6.2.1 of ASCE 24, construction documents shall include a statement that the design will provide for equalization of hydrostatic flood forces in accordance with Section 2.6.2.2 of ASCE 24.

(3) For dry flood-proofed nonresidential buildings, construction documents shall include a statement that the dry floodproofing is designed in accordance with ASCE 24.

(4) The as-built elevation documentation of the elevations specified in Section 25-12-53(C)(1) (*Elevation Requirements*).

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§ 25-12-54 FLOOD-RESISTANT CONSTRUCTION.

(A) **Statutory Authorization.** As a home-rule city, the City of Austin has the responsibility and power to adopt regulations designed to minimize flood losses. The Legislature of the State of Texas has in Sections 16.3145 and 16.315 of the Texas Water Code authorized local government units to adopt regulations designed to minimize flood losses.

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(B) **Administration**

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(1) **Purpose.** The purpose of this section is to promote the public health, safety and general welfare and to minimize public and private losses due to flood conditions in specific flood hazard areas through the establishment of comprehensive regulations for management of flood hazard areas designed to:

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- (a) prevent unnecessary disruption of commerce, access and public service during times of flooding;
- (b) manage the alteration of natural flood plains, stream channels and shorelines;
- (c) manage filling, grading, dredging and other development which may increase flood damage or erosion potential;
- (d) prevent or regulate the construction of flood barriers which will divert floodwaters or which can increase flood hazards;
- (e) contribute to improved construction techniques in the flood plain;
- (f) restrict or prohibit uses that are dangerous to health, safety or property in times of flood, or cause excessive increases in flood heights or velocities; and
- (g) require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction.

1 (2) **Objectives.** The objectives of this section are to protect human life, minimize
2 the expenditure of public money for flood control projects, minimize the
3 need for rescue and relief efforts associated with flooding, minimize
4 prolonged business interruption, minimize damage to public facilities and
5 utilities, help maintain a stable tax base by providing for the sound use and
6 development of flood-prone areas, contribute to improved construction
7 techniques in the flood plain and ensure that potential owners and occupants
8 are notified that property is within flood hazard areas.

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9 (3) **Scope.** The provisions of this section shall apply to all proposed
10 development in a flood hazard area established in Section 25-12-53 (*Flood*
11 *Loads*) of this code.

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12 (4) **Alternative provisions.** As an alternative to the requirements applicable to
13 building and structures subject to Article 11 (*Residential Code*), ASCE 24 is
14 permitted subject to the limitations of this code and the limitations therein.

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15 (5) **Structural systems.** Structural systems of buildings and structures shall be
16 designed, connected and anchored to resist flotation, collapse or permanent
17 lateral movement due to structural loads and stresses from flooding equal to
18 the design flood elevation.

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19 (6) **Flood-resistant construction.** Buildings and structures erected in areas prone
20 to flooding shall be constructed by methods and practices that minimize
21 flood damage

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22 (C) **Applicability.**

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23 (1) **General.** This section, in conjunction with other applicable provisions in this
24 chapter, provides minimum requirements for development located in flood
25 hazard areas, including:

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- 26 (a) the subdivision of land;
- 27 (b) site improvements and installation of utilities;
- 28 (c) placement and replacement of manufactured homes;
- 29 (d) placement of recreational vehicles;
- 30 (e) new construction and repair, reconstruction, rehabilitation, or
- 31 additions to new construction;

(f) substantial improvement of existing buildings and structures, including restoration after damage; and

(g) the installation of tanks.

(2) **Abrogation and greater restrictions.** This section is not intended to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where this section and another city code provision, easement, covenant, or deed restriction conflict or overlap, whichever imposes the more stringent restrictions shall prevail.

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(3) **Establishment of flood hazard areas.** Flood hazard areas are established in Section 25-12-53(B) (*Establishment of flood hazard areas*).

Commented [LP24]: G102.2

(4) **Nonconforming Uses.** A structure, or the use of a structure or premises, which was lawful before the adoption of the Building Code, but which does not conform with the requirements of these regulations, may be continued subject to the following conditions:

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(a) No such use shall be expanded, changed, enlarged, or altered in a way which increases its nonconformity.

(b) No substantial improvement of the structure shall be made unless the structure is changed to conform to these regulations.

(c) If a nonconforming use is discontinued for a period of 90 days, any future use of the building or premises shall conform to these regulations.

(d) Any nonconforming use or structure which is destroyed by any means, including floods, to an extent of 50 percent or more of its market value, shall not be reconstructed except in conformance with the provisions of these regulations.

(D) **Powers and Duties**

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(1) **Permit applications.** All applications for permits must comply with the following:

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(a) The building official shall review all permit applications to determine whether proposed development is located in flood hazard areas established in Section 25-12-53(B) (*Establishment of flood hazard areas*).

(b) Where a proposed development site is in a flood hazard area, all development to which this section is applicable as specified in Subsection (C)(1) (*General*) shall be designed and constructed with methods, practices and materials that minimize flood damage and that are in accordance with the applicable provisions in Chapter 25-12 (*Technical Code*) and ASCE 24.

(2) **Other Permits.** It shall be the responsibility of the building official to ensure that approval of a proposed development shall not be given until proof that necessary approvals and/or permits have been granted by federal, state, or local agencies having jurisdiction over such development.

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(3) **Establishing the design flood elevation.** The design flood elevation defines areas prone to flooding and describes, at a minimum, the base flood elevation at the depth of peak elevation of flooding based upon:

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(a) For areas amended to incorporate Atlas 14 data, the 100-year floodplain calculated under fully developed conditions in accordance with the City of Austin Drainage Criteria Manual as amended to incorporate Atlas 14 data;

(b) For areas not yet amended to incorporate Atlas 14 data, the 500-year floodplain either as depicted on the FEMA Flood Insurance Rate Map as of January 6, 2016, as subsequently revised, or as calculated under existing conditions as prescribed by the Drainage Criteria Manual using data predating Atlas 14; or

(c) For the Colorado River, the 100-year floodplain as depicted on the FEMA Flood Insurance Rate Map dated January 6, 2016, or as subsequently revised.

(4) **Determination of design flood elevations.** If design flood elevations are not specified, the building official is authorized to require the applicant to:

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R322.1.4.1

(a) Obtain, review and reasonably utilize data available from a federal, state or other source; or

(b) Determine the design flood elevation in accordance with the 100-year floodplain as defined in the Austin City Code. Such analyses shall be performed and sealed by a Professional Engineer licensed by the State of Texas. Studies, analyses and computations shall be submitted in sufficient detail to allow review and approval by the building official.

1 The accuracy of data submitted for such determination shall be the
2 responsibility of the applicant.

- 3 (5) **Determination of impacts.** In a riverine flood hazard area where design flood
4 elevations are specified but floodways have not been designated, an
5 applicant must demonstrate that the effect of the proposed building or
6 structure on design flood elevations, including fill, when combined with all
7 other existing and anticipated flood hazard area encroachments, will not
8 increase the design flood elevation at any point within the jurisdiction.

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- 9 (6) **Activities in riverine flood hazard areas.** In riverine situations, the building
10 official shall not permit any new construction, substantial improvement or
11 other development, including fill, unless the applicant submits an
12 engineering analysis prepared by a registered design professional,
13 demonstrating that the cumulative effect of the proposed development, when
14 combined with all other existing and anticipated development, will not
15 increase the design flood elevation at any point that results in additional
16 adverse flooding on other property.

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- 17 (7) **Lowest floor.** The lowest floor shall be the floor of the lowest enclosed area,
18 including basement. The lowest floor does not include any unfinished flood-
19 resistant enclosure that is used only for vehicle parking, building access, or
20 limited storage, unless the enclosure is built to cause the building or
21 structure to violate this section.

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22 Exception. An unfinished enclosure used for storage of property, materials,
23 or equipment that constitute a safety hazard if contacted by flood waters is a
24 lowest floor.

- 25 (8) **Protection of mechanical, plumbing and electrical systems.** Electrical
26 systems, equipment and components; heating, ventilating, air-conditioning;
27 plumbing appliances and plumbing fixtures; duct systems; and other service
28 equipment shall be located at or above the elevation required in Section 25-
29 12-53(C)(1) (*Elevation Requirements*). If replaced as part of a substantial
30 improvement, electrical systems, equipment and components; heating,
31 ventilating, air-conditioning and plumbing appliances and plumbing fixtures;
32 duct systems; and other service equipment shall meet the requirements of
33 this section. Systems, fixtures, and equipment and components shall not be
34 mounted on or penetrate through walls intended to break away under flood
35 loads.

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Exception. Locating electrical systems, equipment and components; heating, ventilating, air-conditioning; plumbing appliances and plumbing fixtures; duct systems; and other service equipment is permitted below the elevation required in Section 25-12-53(C)(1) (*Elevation Requirements*) provided that they are designed and installed to prevent water from entering or accumulating within the components and to resist hydrostatic and hydrodynamic loads and stresses, including the effects of buoyancy, during the occurrence of flooding to the required elevation in accordance with ASCE 24. Electrical wiring systems are permitted to be located below the required elevation provided that they conform to the provisions of the electrical part of this code for wet locations.

(9) **Protection of water supply and sanitary sewage systems.** New and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the systems in accordance with the plumbing provisions of this code. New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into systems and discharges from systems into floodwaters in accordance with the plumbing provisions of this code and Chapter 3 of the International Private Sewage Disposal Code.

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(10) **Flood-resistant materials.** Building materials and installation methods used for flooring and interior and exterior walls and wall coverings below the elevation required in Section 25-12-53(C)(1) (*Elevation Requirements*) shall be flood damage-resistant materials that conform to the provisions of FEMA TB-2.

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(11) **Floodway encroachment.** Prior to issuing a permit for any floodway encroachment, including fill, new construction, substantial improvements and other development or land-disturbing activity, the building official shall require submission of a certification prepared by a Professional Engineer licensed by the State of Texas, along with supporting technical data in accordance with the City of Austin Drainage Criteria Manual, demonstrating that such development will not cause any increase of the level of the design flood.

Commented [LP37]: G103.5

(12) **Floodway revisions.** A floodway encroachment that increases the level of the design flood may be considered for a variance only if the applicant has applied for a conditional Flood Insurance Rate Map (FIRM) revision and has received the approval of the Federal Emergency Management Agency (FEMA) provided the conditional Flood Insurance Rate Map (FIRM) revision is required by the City of Austin Drainage Criteria Manual.

Commented [LP38]: G103.5.1

1 (13) **Watercourse alteration.** Prior to issuing a permit for any alteration or
2 relocation of any watercourse, the building official shall require the
3 applicant to provide notification of the proposal to the appropriate
4 authorities of all affected adjacent government jurisdictions, as well as
5 appropriate state agencies. A copy of the notification shall be maintained in
6 the permit records and submitted to FEMA.

Commented [LP39]: G103.6

7 (14) **Engineering analysis.** The building official shall require submission of an
8 engineering analysis in accordance with the City of Austin Drainage Criteria
9 Manual performed and sealed by a Professional Engineer licensed by the
10 State of Texas demonstrating that the flood-carrying capacity of the altered
11 or relocated portion of the watercourse will not be decreased. Such
12 watercourses shall be maintained in a manner which preserves the channel's
13 flood-carrying capacity.

Commented [LP40]: G103.6.1

14 (15) **Records.** The building official shall maintain a permanent record of all
15 permits issued in flood hazard areas, including copies of inspection reports
16 and certifications required in Section 25-12-53(D) (*Flood hazard*
17 *documentation*).

Commented [LP41]: G103.7

18 (16) **Inspections.** Development for which a permit under this section is required
19 shall be subject to inspection. The building official or the building official's
20 designee shall make, or cause to be made, inspections of all development in
21 flood hazard areas authorized by issuance of a permit under this section.

Commented [LP42]: G103.9

22 (E) **Permits**

Commented [LP43]: G104

23 (1) **Required.** Any person, owner or owner's authorized agent who intends to
24 conduct any development in a flood hazard area shall first make application
25 to the building official and shall obtain the required permit.

Commented [LP44]: G104.1

26 (2) **Application for permit.** The applicant shall file an application in writing on
27 a form furnished by the building official. Such application shall:

Commented [LP45]: G104.2

- 28 (a) Identify and describe the development to be covered by the permit.
- 29 (b) Describe the land on which the proposed development is to be
30 conducted by legal description, street address or similar description
31 that will readily identify and definitely locate the site.
- 32 (c) Include a site plan showing the delineation of flood hazard areas,
33 floodway boundaries, flood zones, design flood elevations, ground

elevations, proposed lowest floor elevation, proposed fill and excavation and drainage patterns and facilities.

- (d) Include in subdivision proposals and other proposed developments with more than 50 lots or larger than 5 acres (20,234 m²), base flood elevation data in accordance with Section 25-12-53(B) (*Establishment of flood hazard areas*).
- (e) Indicate the use and occupancy for which the proposed development is intended.
- (f) Be accompanied by construction documents, grading and filling plans and other information deemed appropriate by the building official.
- (g) State the valuation of the proposed work.
- (h) Be signed by the applicant or the applicant's authorized agent.

- (3) **Validity of permit.** The issuance of a permit under this section shall not be construed to be a permit for, or approval of, any violation of this section or any other ordinance of the jurisdiction. The issuance of a permit based on submitted documents and information shall not prevent the building official from requiring the correction of errors. The building official is authorized to prevent occupancy or use of a structure or site which is in violation of this section or other ordinances of the City of Austin.

Commented [LP46]: G104.3

- (4) **Time Limitation on Application; Permit Expiration and Reactivation.** Article 13 (*Administration of Technical Codes*) of this chapter establishes permit application time limits and requirements applicable to permit expiration and reactivation, including a review fee for expired permits.

Commented [LP47]: G104.4

Exception: Permits issued under Section 105.1.1 (*Annual permit*) are only valid for a period of 360 days from the date of issuance and cannot be extended.

- (5) **Suspension or revocation.** The building official is authorized to suspend or revoke a permit issued under this section wherever the permit is issued in error or on the basis of incorrect, inaccurate or incomplete information, or in violation of any ordinance or code of the City of Austin.

Commented [LP48]: G104.5

- (F) **Variances.**

Commented [LP49]: G105

1 (1) **General.** The City Council shall decide requests for variances from the
2 floodplain regulations in this code and Chapter 25-7 (*Drainage*) after
3 conducting a public hearing. The City Council shall base its determination
4 on technical justifications and has the right to attach such conditions to
5 variances as it deems necessary to further the purposes and objectives of this
6 article.

Commented [LP50]: G105.1

7 (2) **Records.** The building official shall maintain a permanent record of all
8 variance actions, including justification for their issuance.

Commented [LP51]: G105.2

9 (3) **Historic structures.** A variance may be issued for the repair or rehabilitation
10 of a historic structure upon a determination that the proposed repair or
11 rehabilitation will not preclude the structure's continued designation as a
12 historic structure, and the variance is the minimum necessary to preserve the
13 historic character and design of the structure.

Commented [LP52]: G105.3

14 Exception: Within flood hazard areas, historic structures that are not:

- 15 (a) listed or preliminarily determined to be eligible for listing in the
16 National Register of Historic Places; or
- 17 (b) determined by the Secretary of the U.S. Department of Interior as
18 contributing to the historical significance of a registered historic
19 district or a district preliminarily determined to qualify as an historic
20 district; or
- 21 (c) designated as historic under a state or local historic preservation
22 program that is approved by the Department of Interior.

23 (4) **Functionally dependent facilities.** A variance may be issued for the
24 construction or substantial improvement of a functionally dependent facility
25 provided the criteria in Section 25-12-53(A) (*General*) are met and the
26 variance is the minimum necessary to allow the construction or substantial
27 improvement, and that all due consideration has been given to methods and
28 materials that minimize flood damages during the design flood and create no
29 additional threats to public safety.

Commented [LP53]: G105.4

30 (5) **Restrictions.** The City Council shall not issue a variance for any proposed
31 development in a floodway if any increase in flood levels would result
32 during the design flood discharge.

Commented [LP54]: G105.5

1 (6) **Considerations.** In reviewing applications for variances, the City Council
2 shall consider all technical evaluations, all relevant factors, all other portions
3 of this section, and each of the following:

Commented [LP55]: G105.6

- 4 (a) The danger that materials and debris may be swept onto other lands
5 resulting in further injury or damage.
- 6 (b) The danger to life and property due to flooding or erosion damage.
- 7 (c) The susceptibility of the proposed development, including contents, to
8 flood damage and the effect of such damage on current and future
9 owners.
- 10 (d) The importance of the services provided by the proposed development
11 to the community.
- 12 (e) The availability of alternate locations for the proposed development
13 that are not subject to flooding or erosion.
- 14 (f) The compatibility of the proposed development with existing and
15 anticipated development.
- 16 (g) The relationship of the proposed development to the comprehensive
17 plan and flood plain management program for that area.
- 18 (h) The safety of access to the property in times of flood for ordinary and
19 emergency vehicles.
- 20 (i) The expected heights, velocity, duration, rate of rise and debris and
21 sediment transport of the floodwaters and the effects of wave action, if
22 applicable, expected at the site.
- 23 (j) The costs of providing governmental services during and after flood
24 conditions including maintenance and repair of public utilities and
25 facilities such as sewer, gas, electrical and water systems, streets and
26 bridges.

27 (7) **Conditions for issuance.** Variances shall only be issued by the City Council
28 upon:

Commented [LP56]: G105.7

- 29 (a) a technical showing of good and sufficient cause based on the unique
30 characteristics of the size, configuration or topography of the site;

- 1 (b) a determination that failure to grant the variance would result in
2 exceptional hardship by rendering the lot undevelopable;
- 3 (c) a determination that the granting of a variance will not result in
4 increased flood heights, additional threats to public safety,
5 extraordinary public expense, nor create nuisances, cause fraud on or
6 victimization of the public or conflict with existing local laws or
7 ordinances;
- 8 (d) a determination that the variance is the minimum necessary,
9 considering the flood hazard, to afford relief; and
- 10 (e) notification to the applicant in writing over the signature of the
11 building official that the issuance of a variance to construct a structure
12 below the base flood level will result in increased premium rates for
13 flood insurance, and that such construction below the base flood level
14 increases risks to life and property.

15 (G) **Subdivisions.**

- 16 (1) **General.** Any subdivision proposal, including proposals for manufactured
17 home parks and subdivisions, or other proposed new development in a flood
18 hazard area shall be reviewed to verify all of the following:
- 19 (a) all such proposals are consistent with the need to minimize flood
20 damage;
- 21 (b) all public utilities and facilities, such as sewer, gas, electric and water
22 systems are located and constructed to minimize or eliminate flood
23 damage; and
- 24 (c) adequate drainage is provided to reduce exposure to flood hazards.
- 25 (2) **Subdivision requirements.** The following requirements shall apply in the
26 case of any proposed subdivision, including proposals for manufactured
27 home parks and subdivisions, any portion of which lies within a flood hazard
28 area:
- 29 (a) The flood hazard area, including floodways, as appropriate, shall be
30 delineated on tentative and final subdivision plats.
- 31 (b) Design flood elevations shall be shown on tentative and final
32 subdivision plats.

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Commented [LP58]: G301.1

Commented [LP59]: G301.2

- (c) Residential building lots shall be provided with adequate buildable area outside the flood hazard area.
- (d) The design criteria for utilities and facilities set forth in this section, Section 25-12-53 (*Flood Loads*), ASCE 24, the City of Austin Drainage Criteria Manual, and applicable FEMA design criteria shall be met.

(H) Site Improvement.

- (1) Development in floodways. Development or land disturbing activity shall not be authorized in the floodway unless it has been demonstrated through hydrologic and hydraulic analyses performed and sealed by a Professional Engineer licensed by the State of Texas in accordance with the City of Austin Drainage Criteria Manual, that the proposed encroachment will not result in any increase in the level of the design flood.
- (2) Sewer facilities. All new or replaced sanitary sewer facilities, private sewage treatment plants (including all pumping stations and collector systems) and on-site waste disposal systems shall be designed in accordance with Chapter 7, ASCE 24, to minimize or eliminate infiltration of floodwaters into the facilities and discharge from the facilities into floodwaters, or impairment of the facilities and systems.
- (3) Water facilities. All new replacement water facilities shall be designed in accordance with the provisions of Chapter 7, ASCE 24, to minimize or eliminate infiltration of floodwaters into the systems.
- (4) Storm drainage. Storm drainage shall be designed to convey the flow of surface waters to minimize or eliminate damage to persons or property.
- (5) Streets and sidewalks. Streets and sidewalks shall be designed to minimize potential for increasing or aggravating flood levels.

(I) Manufactured Homes.

- (1) Elevation.
- (a) All new and replacement manufactured homes to be placed or substantially improved in a flood hazard area shall be elevated such that the lowest floor of the manufactured home is elevated to a minimum of two feet above the design flood elevation. Elevation

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Commented [LP61]: G401.1

Commented [LP62]: G401.2

Commented [LP63]: G401.3

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Commented [LP66]: G501

certification required by Section 25-12-53(D) (*Flood hazard documentation*) shall be submitted to the building official.

Commented [LP67]: G501.1

- (b) The bottom of the frame of new and replacement manufactured homes on foundations that conform to the requirements of Section 25-12-53(C)(1) (*Elevation Requirements*), as applicable, shall be elevated to or above the elevations specified in Section 25-12-53(C)(1) (*Elevation Requirements*). The anchor and tie-down requirements of the applicable state or federal requirements shall apply. The foundation and anchorage of manufactured homes to be located in identified floodways shall be designed and constructed in accordance with ASCE 24.

Commented [LP68]: R322.1.9

- (2) **Foundations.** All new and replacement manufactured homes, including substantial improvement of existing manufactured homes, shall be placed on a permanent, reinforced foundation that is designed in accordance with Section 25-12-53 (*Flood Loads*).

Commented [LP69]: G501.2

- (3) **Anchoring.** All new and replacement manufactured homes to be placed or substantially improved in a flood hazard area shall be installed using methods and practices which minimize flood damage. Manufactured homes shall be securely anchored to an adequately anchored foundation system to resist flotation, collapse and lateral movement. Methods of anchoring are authorized to include, but are not limited to, use of over-the-top or frame ties to ground anchors. This requirement is in addition to applicable state and local anchoring requirements for resisting wind forces.

Commented [LP70]: G501.3

- (4) **Protection of mechanical equipment and outside appliances.**

Commented [LP71]: G501.4

- (a) Mechanical equipment and outside appliances shall be elevated to or above the design flood elevation except as provided in (b).
- (b) Exception. Where such equipment and appliances are designed and installed to prevent water from entering or accumulating within their components and the systems are constructed to resist hydrostatic and hydrodynamic loads and stresses, including the effects of buoyancy, during the occurrence of flooding up to the elevation required by Section 25-12-53(C)(1) (*Elevation Requirements*), the systems and equipment shall be permitted to be located below the elevation required by 25-12-53(C)(1) (*Elevation Requirements*). Electrical wiring systems shall be permitted below the design flood elevation provided they conform to the provisions of NFPA 70.

(5) **Enclosures.** Fully enclosed areas below elevated manufactured homes shall comply with the requirements of 25-12-53(C) (*Design and Construction*).

Commented [LP72]: G501.5

(J) **Recreational Vehicles.**

Commented [LP73]: G601

(1) **Placement prohibited.** The placement of recreational vehicles shall not be authorized in floodways.

Commented [LP74]: G601.1

(2) **Temporary placement.** Recreational vehicles in flood hazard areas shall be fully licensed and ready for highway use; and shall be placed on a site for less than 180 consecutive days.

Commented [LP75]: G601.2

(3) **Permanent placement.** Recreational vehicles that are not fully licensed and ready for highway use, or that are to be placed on a site for more than 180 consecutive days, shall meet the requirements of Subsection (I) (*Manufactured Homes*) for manufactured homes.

Commented [LP76]: G601.3

(K) **Tanks.** Underground and above-ground tanks shall be designed, constructed, installed and anchored in accordance with ASCE 24.

Commented [LP77]: G701.1

(L) **Foundation design and construction.** This subsection applies to a building or structure subject to Article 11 (*Residential Code*).

Commented [LP78]: R322.2.3

(1) A foundation wall in a building or structure erected in a flood hazard area must meet the requirements in Residential Code, Chapter 4 (*Foundations*).

Exception: Unless designed consistent with Residential Code, Section R404 (*Foundation and Retaining Walls*):

(a) the unsupported height of a 6-inch (152 mm) plain masonry wall shall not exceed 3 feet (914 mm);

(b) the unsupported height of an 8-inch (203 mm) plain masonry wall shall not exceed 4 feet (1219 mm); and

(c) the unsupported height of an 8-inch (203 mm) reinforced masonry wall shall not exceed 8 feet (2438 mm).

(2) For purposes of the exception in (2), unsupported height is measured from the finished grade of the under-floor space to the top of the wall.

1 **§ 25-12-55 OFFENSE AND PENALTY.**

Commented [LP79]: G101.4

- 2 (A) A person who violates this article commits a separate offense for each day the
3 violation continues.
- 4 (B) A person who fails to comply with a permit or variance granted pursuant to this
5 article commits a separate offense for each day the violation continues.
- 6 (B) A person who violates this article or fails to comply with a permit or a variance
7 granted pursuant to this article commits a misdemeanor punishable as set forth in
8 Section 25-1-462 (*Criminal Enforcement*).

9 **PART 5.** This ordinance takes effect on September 1, 2021.

10 **PASSED AND APPROVED**

11
12 §
13 §
14 _____, 2021 § _____
15 Steve Adler
16 Mayor

17
18
19 **APPROVED:** _____ **ATTEST:** _____
20 Anne L. Morgan Jannette S. Goodall
21 City Attorney City Clerk