



City of Harker
Heights
May 12, 2022
Contractors Meeting



- Inspection request Change.
- Irrigation Submittals.
- Residential New Construction document.
- Fences-Height and placement restrictions.
- Off-street parking requirements.
- Construction in FEMA Flood area.
- Education Track-308.4 Hazardous Locations of glazing.
- Education Track-302.6 Residential Garage Separation.
- Contact information-Update.
- Open discussion.
- Questions.



Inspection Request Change.

- Cut off for inspection request is 4PM the day prior.
- Inspection will be performed between 8am and 5pm.
- Applies to online and hot-line requests
- Effective date June 13, 2022. This a Monday so any inspection will need to be called in the Friday before prior to 4PM.
- Exception-Utility connect at occupied residence.



Irrigation submittals: 344.61 TAC. TCEQ

- (a) An irrigator shall prepare a site-specific irrigation plan for each new irrigation system. The irrigation plan must be on the job site during the installation of the irrigation system and must be consulted for installation requirements.
- (b) (b) The irrigation plan must show that the irrigation system provides complete coverage of all areas to be irrigated. If there are areas on the site that are not to be irrigated, they must be clearly identified on the irrigation plan.



Irrigation submittals: Cont.

(c) All irrigation plans used for construction must be drawn to scale. The plan must include, at a minimum, the following information:

(1) the irrigator's seal, signature, and date of signing;

(2) all major physical features in accordance with subsection (b) of this section including, but not limited to, property lines, streets, sidewalks, buildings, fences, flower bed lines, and the boundaries of the areas to be watered;

(3) a North arrow;

(4) a legend showing the symbols used in the irrigation plan and an accurate description of what the symbol represents;

(5) the zone flow measurement for each zone which includes the zone/controller station number and the zone valve size;



Irrigation submittals:

(6) location and type of each:

(A) controller;

(B) sensor (for example, but not limited to, rain, moisture, wind, flow, or freeze);

(7) specifications for all irrigation system components to include, but not limited to, location, type, size, manufacturer, model number, operating pressure, flow range, radius of throw;

(8) the scale used; and

(9) the design pressure.



Irrigation submittals:

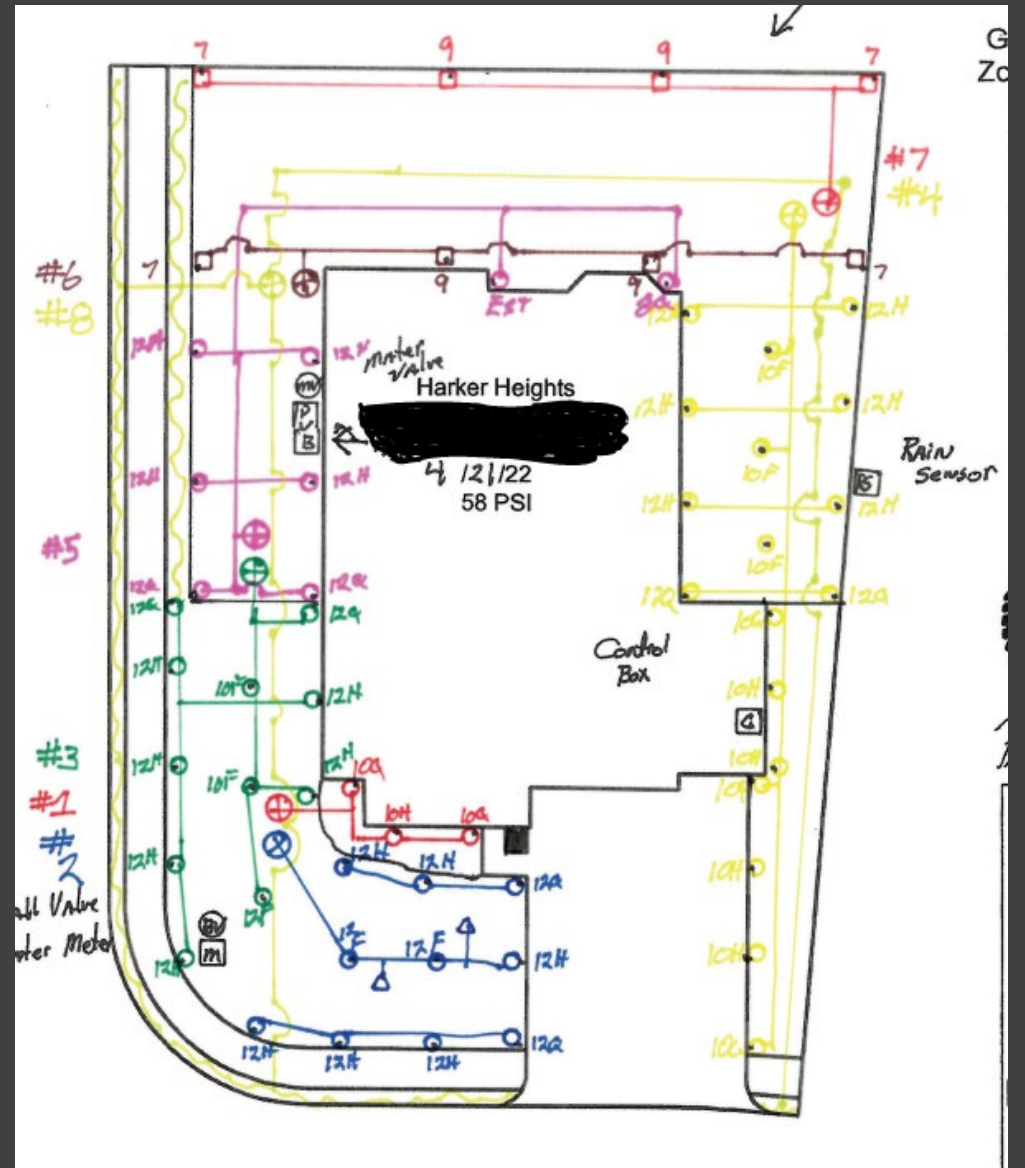
(d) During the installation of the irrigation system, changes from the original plan may be authorized by the licensed irrigator if they are clearly documented in red ink on the irrigation plan and the change does not:

- (1) diminish the operational integrity of the irrigation system; and
- (2) violate any requirements of this chapter.

(e) All changes to the irrigation plan shall be documented as an as-built drawing.



Irrigation submittals:





Irrigation submittals:

All standards for design can be found on the TCEQ website.

Subchapter F, 344.60 – 344.66



Texas Administrative Code

TITLE 30	ENVIRONMENTAL QUALITY
PART 1	TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
CHAPTER 344	LANDSCAPE IRRIGATION
SUBCHAPTER F	STANDARDS FOR DESIGNING, INSTALLING, AND MAINTAINING LANDSCAPE IRRIGATION SYSTEMS

Rules

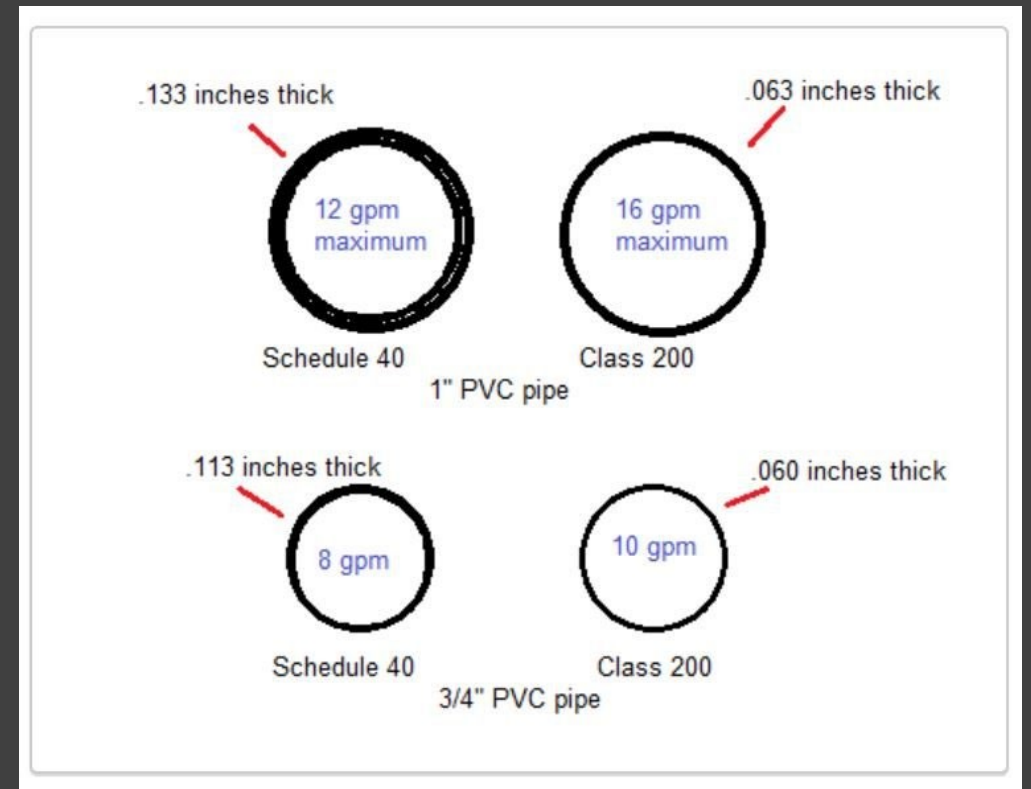
§344.60	Water Conservation
§344.61	Minimum Standards for the Design of the Irrigation Plan
§344.62	Minimum Design and Installation Requirements
§344.63	Completion of Irrigation System Installation
§344.64	Maintenance, Alteration, Repair, or Service of Irrigation Systems
§344.65	Reclaimed Water
§344.66	Temporary Irrigation Systems



Irrigation:

Water line material.

Water line from meter to the backflow device must be of schedule 40 PVC or better.





Submittal documents for permitting Residential new house

- Manual J, S and D
- Rescheck/HERs
- Site plan
- Landscape plan (if applicable)
- Layout (Plugs, equipment, attic access, windows, doors etc)
- Engineered details (If applicable)
- Other items as requested



Submittal documents for permitting Residential new house:

Manual J, S and D.

- Shall be based on ACCA Manuals regardless of the software used
- Manual J should include at a minimum the Climate zone used, the temperature design, the R-values of ceiling and walls, the window size and types, the building orientation, the number of people, the Appliance information.
- Manual D should include, at a minimum, Design airflow (cfm), the external Static pressure, the Component pressure losses, the available static pressure, the longest supply, the, longest return, the total Effective Length, and the friction rate
- Side note a Manual J is required should an existing system be changed out



Submittal documents for permitting Residential new house: Rescheck

This shall be based on the 2021 I-Codes.

- R-49 in ceiling
- R-13 in the walls
- Climate zone 2A

TABLE R402.1.3 INSULATION MINIMUM R-VALUES AND FENESTRATION REQUIREMENTS BY COMPONENT^a

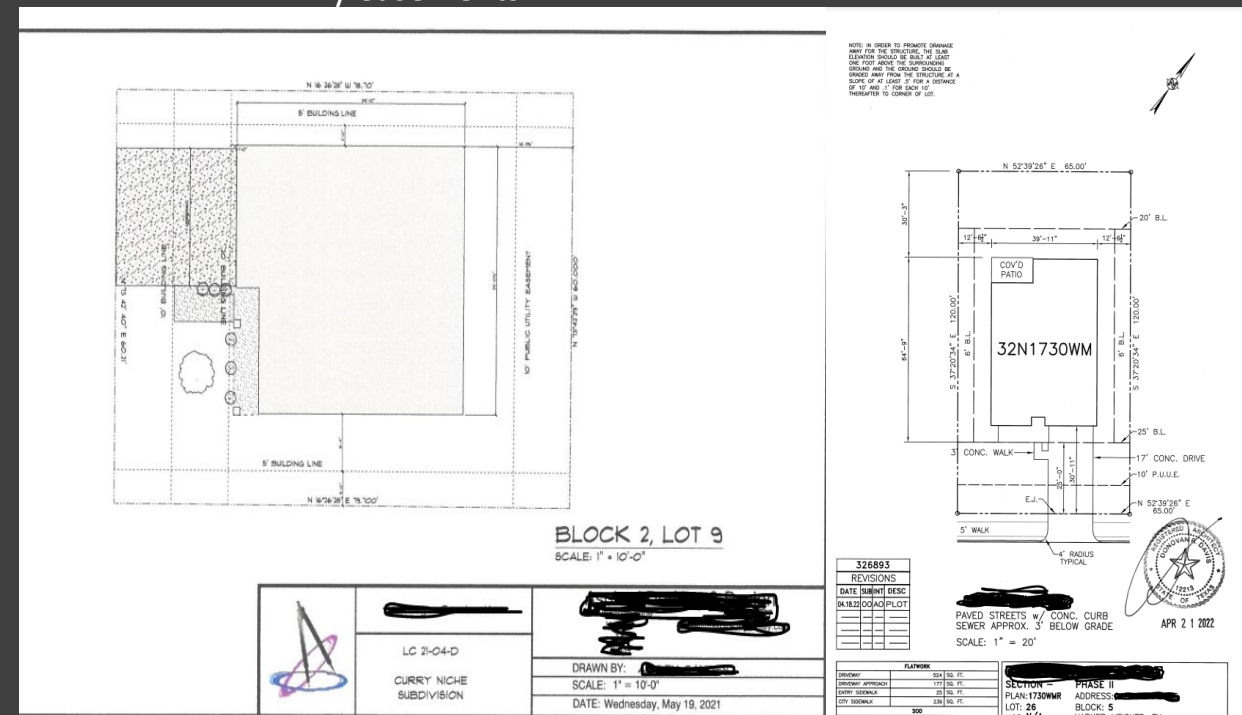


CLIMATE ZONE	FENESTRATION U-FACTOR ^{b, i}	SKYLIGHT ^b U-FACTOR	GLAZED FENESTRATION SHGC ^{b, e}	CEILING R-VALUE	WOOD FRAME WALL R-VALUE ^g	MASS WALL R-VALUE ^h	FLOOR R-VALUE	BASEMENT ^{c, g} WALL R-VALUE	SLAB ^d R-VALUE & DEPTH	CRAWL SPACE ^{c, g} WALL R-VALUE
0	NR	0.75	0.25	30	13 or 0& 10ci	3/4	13	0	0	0
1	NR	0.75	0.25	30	13 or 0& 10ci	3/4	13	0	0	0
2	0.40	0.65	0.25	49	13 or 0& 10ci	4/6	13	0	0	0
3	.30	0.55	0.25	49	20 or 13& 5ci ^h or 0& 15ci ^h	8/13	19	5ci or 13 ^f	10ci, 2 ft	5ci or 13 ^f
4 except Marine	.30	0.55	0.40	60	30 or 20&5ci ^h or 13& 10ci ^h or 0&20ci ^h	8/13	19	10ci or 13	10ci, 4 ft	10ci or 13
5 and Marine 4	0.30 ⁱ	0.55	0.40	60	30 or 20&5ci ^h or 13& 10ci ^h or 0&20ci ^h	13/17	30	15ci or 19 or 13& 5ci	10ci, 4 ft	15ci or 19 or 13& 5ci
6	0.30 ⁱ	0.55	NR	60	30 or 20&5ci ^h or 13& 10ci ^h or 0&20ci ^h	15/20	30	15ci or 19 or 13& 5ci	10ci, 4 ft	15ci or 19 or 13& 5ci
7 and 8	0.30 ⁱ	0.55	NR	60	30 or 20&5ci ^h or 13&10ci ^h or 0&20ci ^h	19/21	38	15ci or 19 or 13& 5ci	10ci, 4 ft	15ci or 19 or 13& 5ci



Submittal documents for permitting Residential new house:
Site plan/survey

- Square footage of building
- Foot-print of building
- Location of building on property
- Distance from side, rear and front property lines.
- Parking/Flat work
- Subdivision, lot and block
- Any patios or porches.
- Any easements





Submittal documents for permitting
Residential new house: Landscape plan

Please include the minimum number of trees
and shrubs

- 2 trees: 2" caliber measured up 12" from the root ball.
- 8 Shrubs: Minimum 3 gallon
- Existing trees and shrubs may meet this requirement.
- Note that all vegetation disturbed during construction will be replaced. (On or off property)
- Seed is allowed provided full growth is in place by final inspection.



Submittal documents for permitting Residential new house: House layout

- Include locations of plugs (outside and inside)
- GFCI protection
- Appliances
- Plumbing fixtures
- Equipment (water heater, electric service location etc.)
- Doors/windows/egress
- Attic access location



Submittal documents for permitting
Residential new house: Engineered plans.

Any plans that are engineered must
include details.

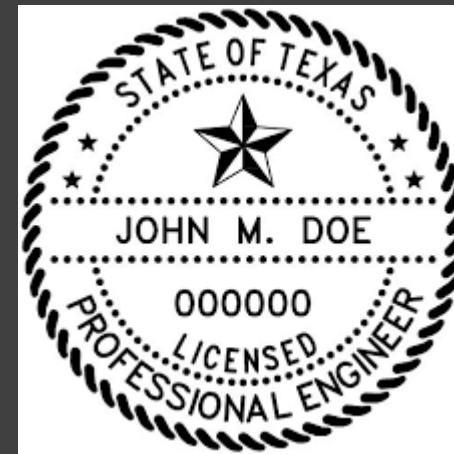
- Foundations
- Compaction test
- Piers
- Wind-bracing
- Trusses (floor/ceiling)



Submittal documents for permitting
Residential new house: Other items

Other items may be required based on
submittal documents.

Where special conditions exist, the
building official is authorized to require
additional construction documents to be
prepared by a registered design
professional.





Fences-Height and restrictions. 150.33

Corner Lots

- (D) Fences built on a side yard shall be placed on the property line.

(1) Fences built on a side yard facing a public street may be placed on the property line. When the side yard is adjacent to the adjoining property's front yard, the side yard fences may not exceed four feet in height unless they are set back to the adjoining properties front yard setback line.



Fences: Newly added

(E) Fences on property that are at the intersection of two streets must not encroach within any visibility triangle.

The visibility triangle shall mean a triangle sight area, at all intersections, which shall include that portion of public right-of-way and any corner lot within the adjacent curb lines and a diagonal line intersecting such curb lines at points fifty (50) feet back from their intersection (such curb lines being extended if necessary to determine the intersection point). The visibility triangle shall also be required in the same manner at intersections of a driveway or access point with the public right-of-way. This sight distance triangle must be kept free of fences that would obstruct the motorist's views of oncoming traffic.



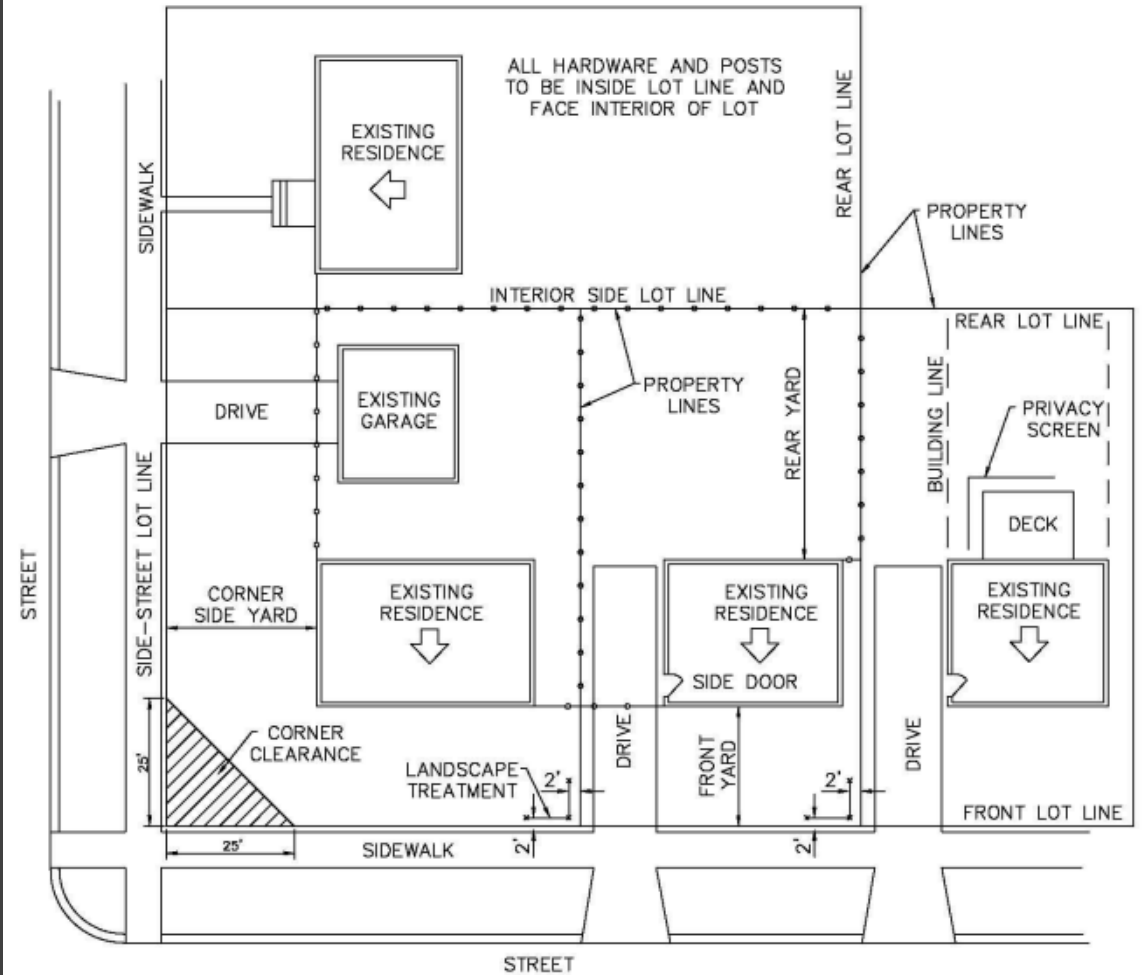
Fences: Newly added

(F) An applicant may submit an alternative fence design for side yard fences on corner lots to the city's Planning and Development Director.

(1) The alternative fence design shall allow for a clear line of sight within the visibility triangle, be in accordance with American Association of State Highway and Transportation Officials (AASHTO) standards and follow standard engineering practices. The city's Planning and Development Director may approve an alternate fence design.



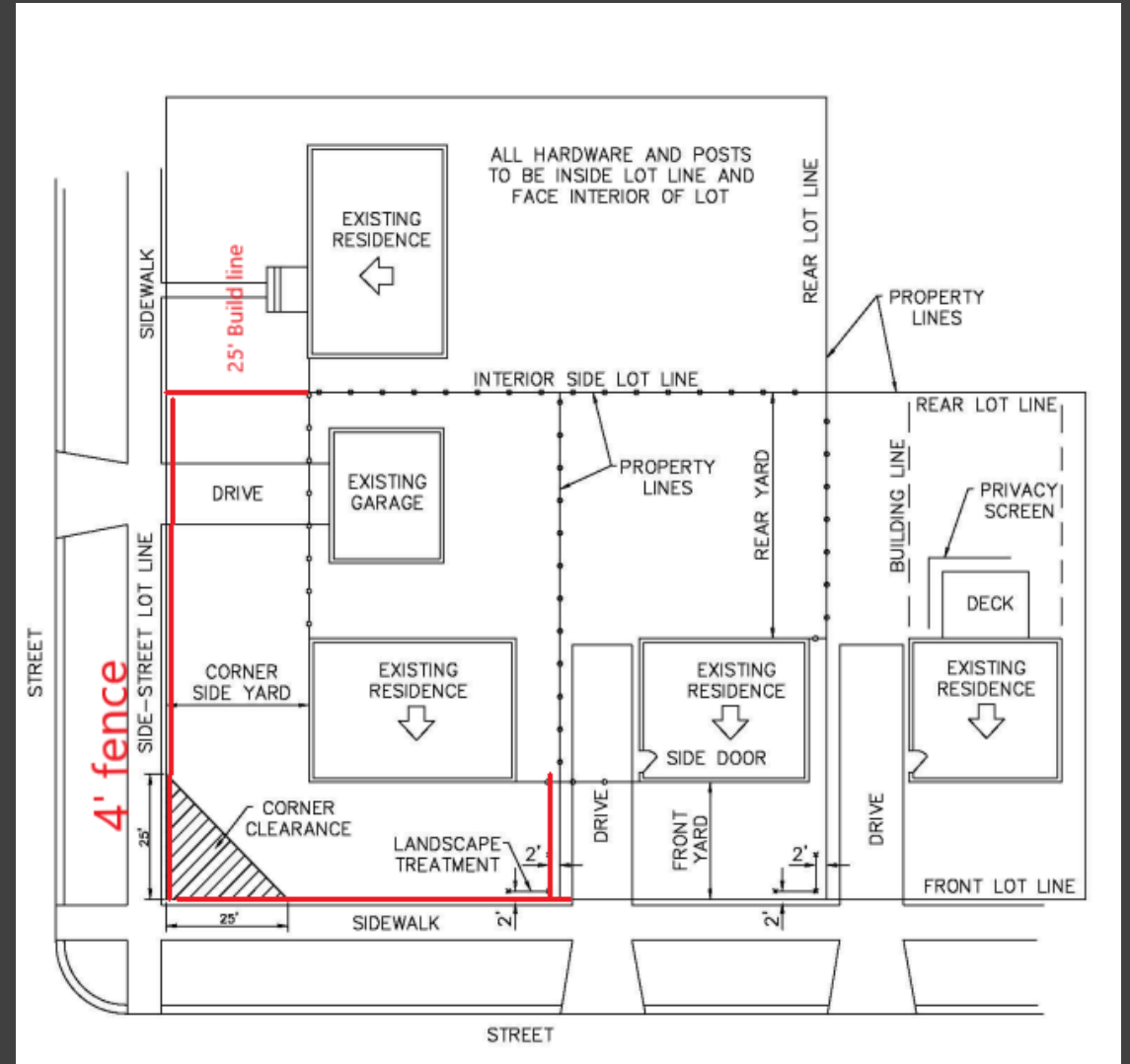
What does this mean to you:



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Central Texas*

Harker Heights

Fences:





Fences:

Lots over 5 acres and front yards

(C) On premises five acres or larger in size, fences may not be greater than five feet in height. Otherwise, fences and gates built in the front yard within the 25-foot building setback, where permitted, shall not exceed four feet in height and must be constructed of chain link, wrought iron, or other semitransparent materials as approved by the Building Official.



Fences:

Alternative material over 6' in height.

(B) Except as provided in division (A), fences may be constructed only of masonry, cedar, redwood, treated lumber, chain link, or decorative iron, and no other materials are permitted unless approved in writing by the Building Official. Wooden fence material placed in contact with the earth shall be treated to protect the material from rot, decay, and termites.



Fences:

Alternative material over 6' in height.

(C) (1) The use of any alternative fence materials must be approved by the Building Official. Such authorization shall be based on specific proposals that demonstrate superior craftsmanship, aesthetic harmony with and enhancement of the streetscape and the neighborhood, structural integrity, durability, safety, and overall design exceeding the standards under § 150.36.

(2) Alternative fence materials exceeding six feet in height must be approved in writing by the Director of Planning and Development and the Building Official.

(D) All fences must be maintained in good order and repair.



Fences: In easements-Drainage

Any fence built in or across utility easements shall remain the responsibility of the property owner. In the event that the fence is constructed on an easement and the fence is subsequently damaged or destroyed through the exercise of the rights of the owner of the easement, the repair or replacement of the fence shall be the sole responsibility of the property owner.



Fences: Drainage Easements.

Fences may not be placed within a drainage easement or impede the natural or designed flow.

Based on topography, flow and other conditions a fence that would not change or restrict the flow of run-off may be allowed. (chain link, wrought iron) within a drainage easement. Drainage calculations may or may not be required based on conditions.



Off-street parking requirements.

(C) Parking spaces in addition to driveways and those parking spaces required in Chapter 155, Table 21-D are permitted in residentially zoned yards, provided they are improved with an alternative parking surface.

(1) Such additional parking spaces shall be limited to 50% of the area of the front yard or side yard.

(2) Such additional parking spaces shall be limited to 25% of the area of the rear yard.

Off-street parking requirements: Required number of parking spots



Table 21-D: Parking Requirements			
Uses	Number of Spaces	Required for Each	Additional Requirements
<i>Residential</i>			
Single-Family	2	Dwelling unit	9 feet x 20 feet (minimum) open or enclosed
Single-Family Infill Dwelling	2	Main dwelling unit	1 additional space permitted with a detached garage apartment
Two-Family Infill Dwelling	2	Dwelling unit	Open or closed
Multi-Family	2.5	Dwelling unit	Open or enclosed
Boarding or Rooming House	1	Rooming unit	Plus 2 spaces for owner
Hotel, Motel, or Tourist Court	1.2	Guest room or residence unit	
Mobile Home Park	2	Lot, stand, or space	Spaces shall 9 feet x 20 feet
Private Dormitory	1.5	Two occupants per designated occupancy	

Off-street parking requirements.



Permittable parking improvement limits



Off Street parking requirements:



This chart is to serve as clarification for ordinance §155.069 Parking in Residential Yards.

CONDITION	MATERIAL TYPE						
	Concrete	Asphalt	Crushed Granite	Concrete Blocks	Gravel	Connection to Street or alley with concrete or asphalt.	Connection to street or alley with compacted soil (without ruts or tracking of material into ROW)
Existing Parking Space(s)	X	X	X	X	X	X	X
Required Parking Space(s)	X	X				X	
Existing Driveway	X	X	X	X	X	X	X
Driveway	X	X				X	
Additional Parking Space	X	X	X	X		X	

DEFINITIONS:

DRIVEWAY APPROACH means the portion of the private driveway that connects the public roadway or curb line to the public sidewalk or ROW line.

DRIVEWAY means a road leading from a public road or alley to a parking space or house.

EXISTING PARKING SPACE means a clearly defined area where the soil has been compacted due to extended use so as not to create ruts when parked upon in wet weather **and** which is surfaced with gravel, **provided** said conditions existed prior to the effective date of this prohibition. (10/01/2021)

EXISTING DRIVEWAY means a clearly defined area where the soil has been compacted due to extended use so as not to create ruts when driven upon in wet weather **and** is used to access an existing parking space, **provided** said conditions existed prior to the effective date of this prohibition (10/01/2021)

PARKING SPACE means a clearly defined area enclosed or unenclosed containing not less than 9 feet x 20 feet for single family dwelling unit and not less than 160 square foot for all other.

REQUIRED PARKING SPACE means the required number in spaces identified in §155.069 & Table 21-D.

ADDITIONAL PARKING SPACE means any parking space in addition to the Required Parking Spaces.

EXCEPTION:

- Per §155.061(T), Residential properties that are over one acre in size and whose existing parking space is not visible from public right-of-way are not required to have an all-weather surface driveway connecting the existing parking space to a public street or alley, **provided** that they have an all-weather surface driveway approach from the public street or alley to the property line and that their existing parking space meets the other requirements.
- Per §155.061(G), all required parking facilities shall be maintained for the duration of the use requiring such areas. If the Owner fails to maintain the Existing Parking Spaces then the Parking Spaces must come into compliance as a new Required Parking Space, Driveway, and/or Additional Parking Space.



Construction in a FEMA Special Flood Hazard Area.

- Any construction within a FEMA flood hazard area must include documents from a Texas Design professional.
- Development within a Flood plain must have an Elevation Certificate (E.C) provided by a Texas Design Professional. The CoHH has a 2' freeboard.
- Development within a FEMA designated Floodway will require a Hydrologic and Hydraulic (H&H) study to show a no-rise in the floodway.
- Depending on the conditions other items may be required.

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2021 IRC Chapter 308.4-Hazardous
locations (Glazing).





R308.4.1 Glazing in doors.

Glazing in fixed and operable panels of swinging, sliding and bifold doors shall be considered to be a hazardous location.

Exceptions:

1. Glazed openings of a size through which a 3-inch-diameter (76 mm) sphere is unable to pass.
2. Decorative glazing.

Exceptions:

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**Harker
Heights**





R308.4.2 Glazing adjacent to doors.

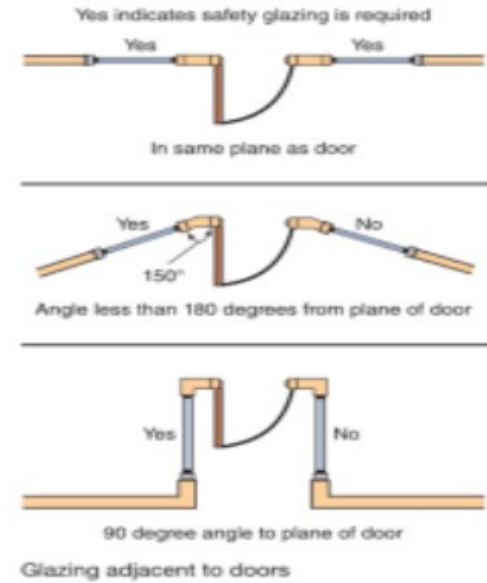
Glazing in an individual fixed or operable panel adjacent to a door shall be considered to be a hazardous location where the bottom exposed edge of the glazing is less than 60 inches (1524 mm) above the floor or walking surface and it meets either of the following conditions:

1. Where the glazing is within 24 inches (610 mm) of either side of the door in the plane of the door in a closed position.

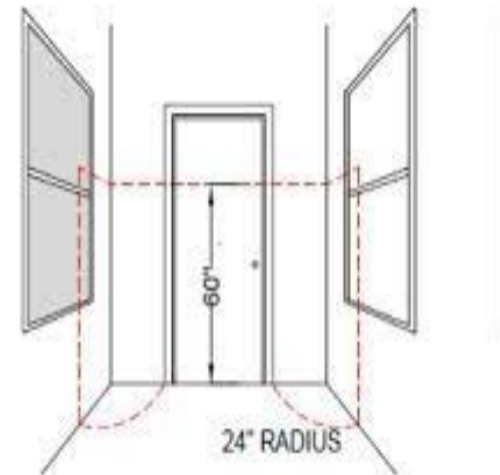
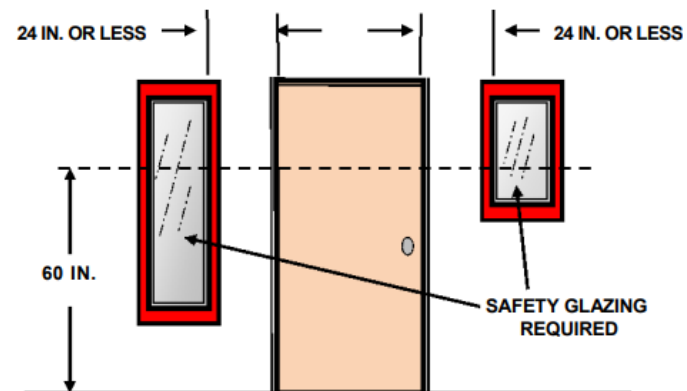
2. Where the glazing is on a wall less than 180 degrees (3.14 rad) from the plane of the door in a closed position and within 24 inches (610 mm) of the hinge side of an in-swinging door.



Hazardous locations:
Inside or outside



SAFETY GLAZING ADJACENT DOORS (R308.4.2)





Exceptions:

1. Decorative glazing.

2. Where there is an intervening wall or other permanent barrier between the door and the glazing.

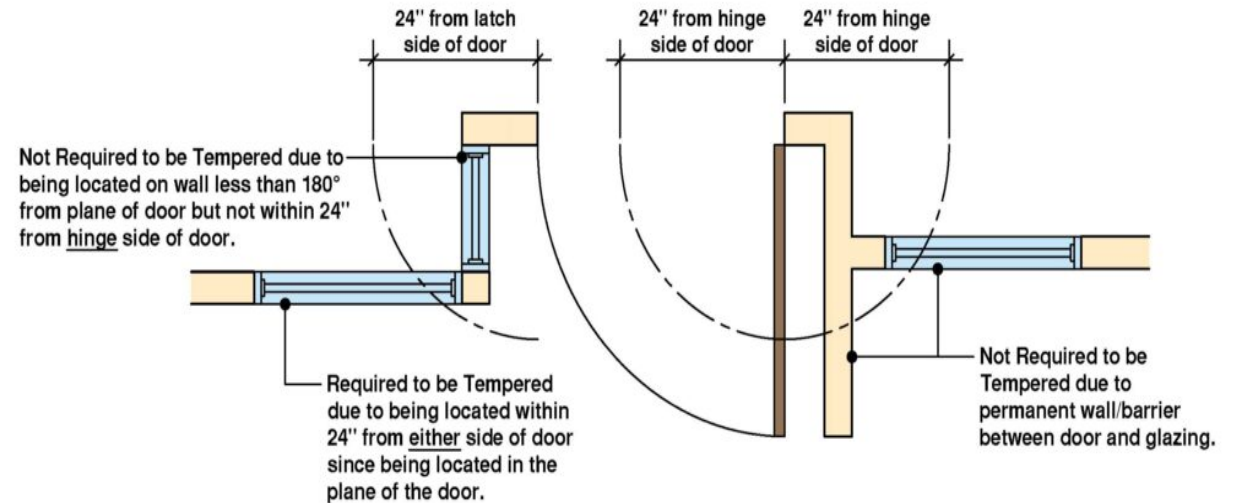
3. Where access through the door is to a closet or storage area 3 feet (914 mm) or less in depth. Glazing in this application shall comply with Section R308.4.3.

4. Glazing that is adjacent to the fixed panel of patio doors.

Exceptions: Example

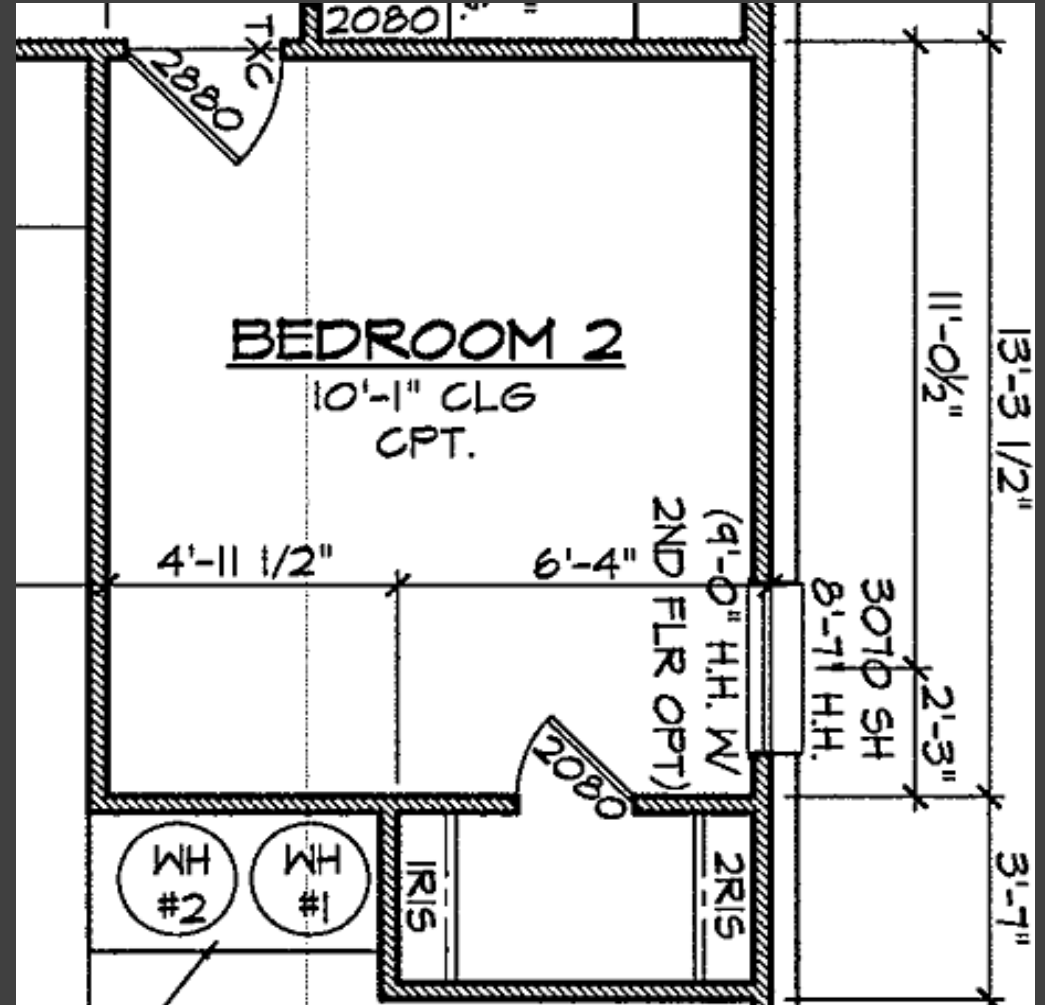


*Assuming all glazing in this example has the bottom exposed edge located less than 60" from the floor.





Exceptions: Example



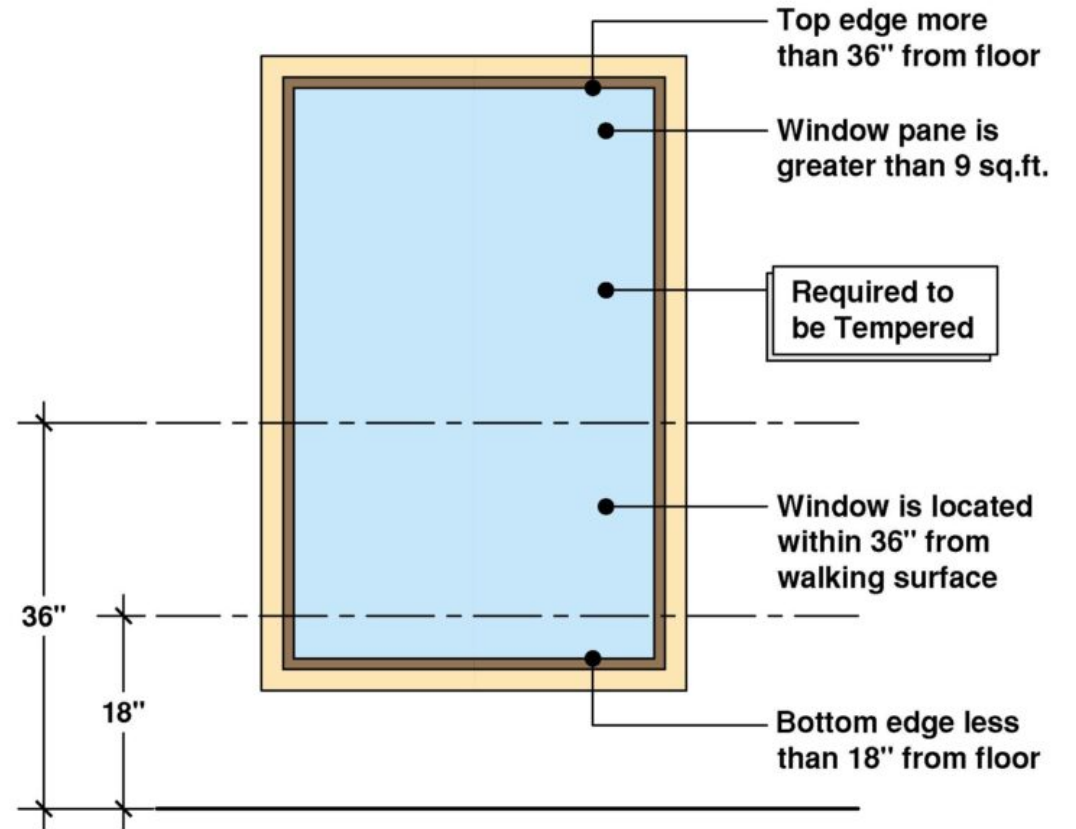


R308.4.3 Glazing in windows.

Glazing in an individual fixed or operable panel that meets all of the following conditions shall be considered to be a hazardous location:

1. The exposed area of an individual pane is larger than 9 square feet (0.836 m²).
2. The bottom edge of the glazing is less than 18 inches (457 mm) above the floor.
3. The top edge of the glazing is more than 36 inches (914 mm) above the floor.
4. One or more walking surfaces are within 36 inches (914 mm), measured horizontally and in a straight line, of the glazing.

R308.4.3 Glazing in windows: Example





Exemptions:

1. Decorative glazing.
2. Where glazing is adjacent to a walking surface and a **horizontal rail is installed 34 to 38 inches (864 to 965 mm) above the walking surface.** The rail shall be capable of withstanding a horizontal load of 50 pounds per linear foot (730 N/m) without contacting the glass and have a cross-sectional height of not less than 1 1/2 inches (38 mm).
3. Outboard panes in insulating glass units and other multiple glazed panels where the bottom edge of the glass is 25 feet (7620 mm) or more above grade, a roof, walking surfaces or other horizontal [within 45 degrees (0.79 rad) of horizontal] surface adjacent to the glass exterior.



R308.4.5 Glazing and wet surfaces.

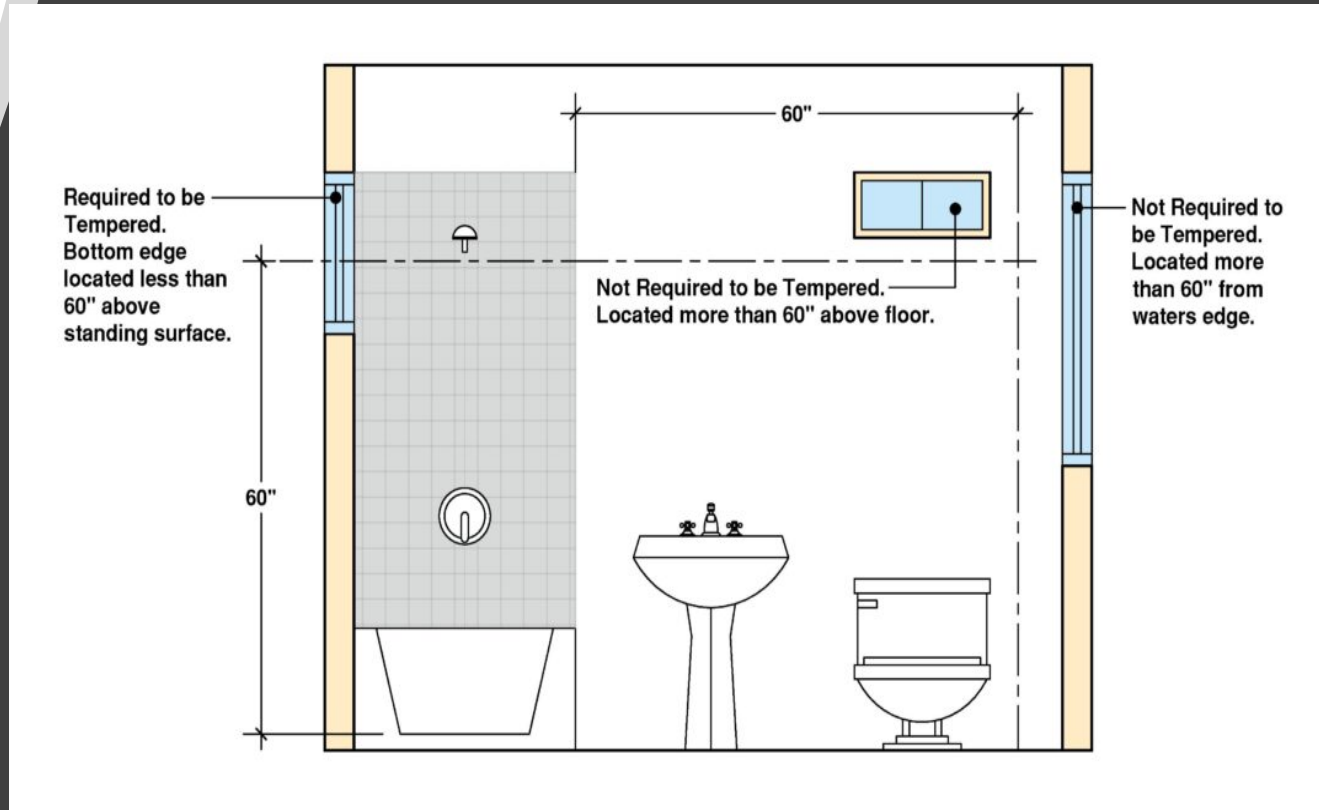
Glazing in walls, enclosures or fences containing or adjacent to hot tubs, spas, whirlpools, saunas, steam rooms, bathtubs, showers and indoor or outdoor swimming pools where the bottom exposed edge of the glazing is less than 60 inches (1524 mm) measured vertically above any standing or walking surface shall be considered to be a hazardous location. This shall apply to single glazing and each pane in multiple glazing.



Exception:

Glazing that is more than 60 inches (1524 mm), measured horizontally, from the water's edge of a bathtub, hot tub, spa, whirlpool or swimming pool or from the edge of a shower, sauna or steam room.

R308.4.5 Glazing and wet surfaces:
Example





308.4.6 Glazing adjacent to stairs and ramps.

Glazing where the bottom exposed edge of the glazing is less than 36 inches (914 mm) above the plane of the adjacent walking surface of stairways, landings between flights of stairs and ramps shall be considered to be a hazardous location.

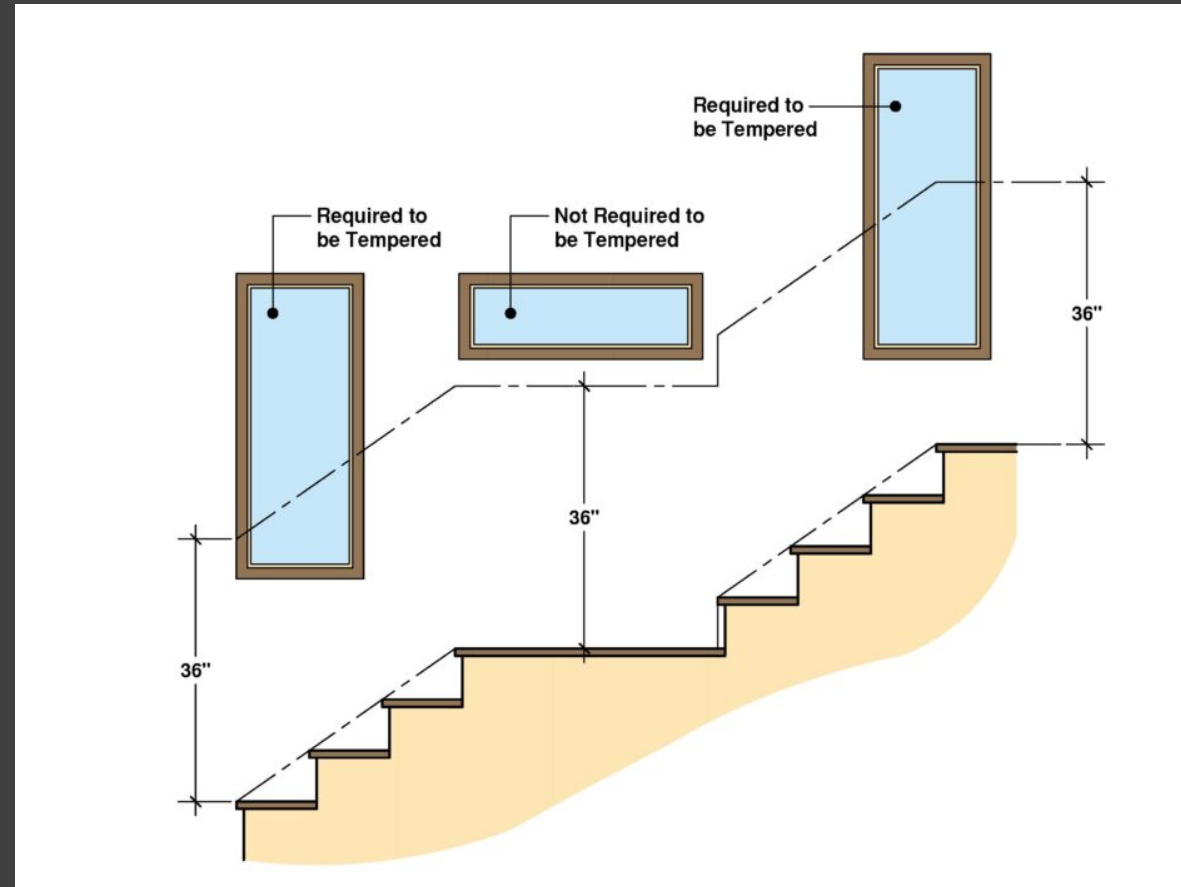


Exceptions:

1. Where glazing is adjacent to a walking surface and a horizontal rail is installed at 34 to 38 inches (864 to 965 mm) above the walking surface. The rail shall be capable of withstanding a horizontal load of 50 pounds per linear foot (730 N/m) without contacting the glass and have a cross-sectional height of not less than 1 1/2 inches (38 mm).
2. Glazing **36 inches** (914 mm) or more measured horizontally from the walking surface.



308.4.6 Glazing adjacent to stairs and ramps. Example





R308.4.7 Glazing adjacent to the bottom stair landing.

Glazing adjacent to the landing at the bottom of a stairway where the glazing is less than 36 inches (914 mm) above the landing and within a 60-inch (1524 mm) horizontal arc less than 180 degrees (3.14 rad) from the bottom tread nosing shall be considered to be a hazardous location.

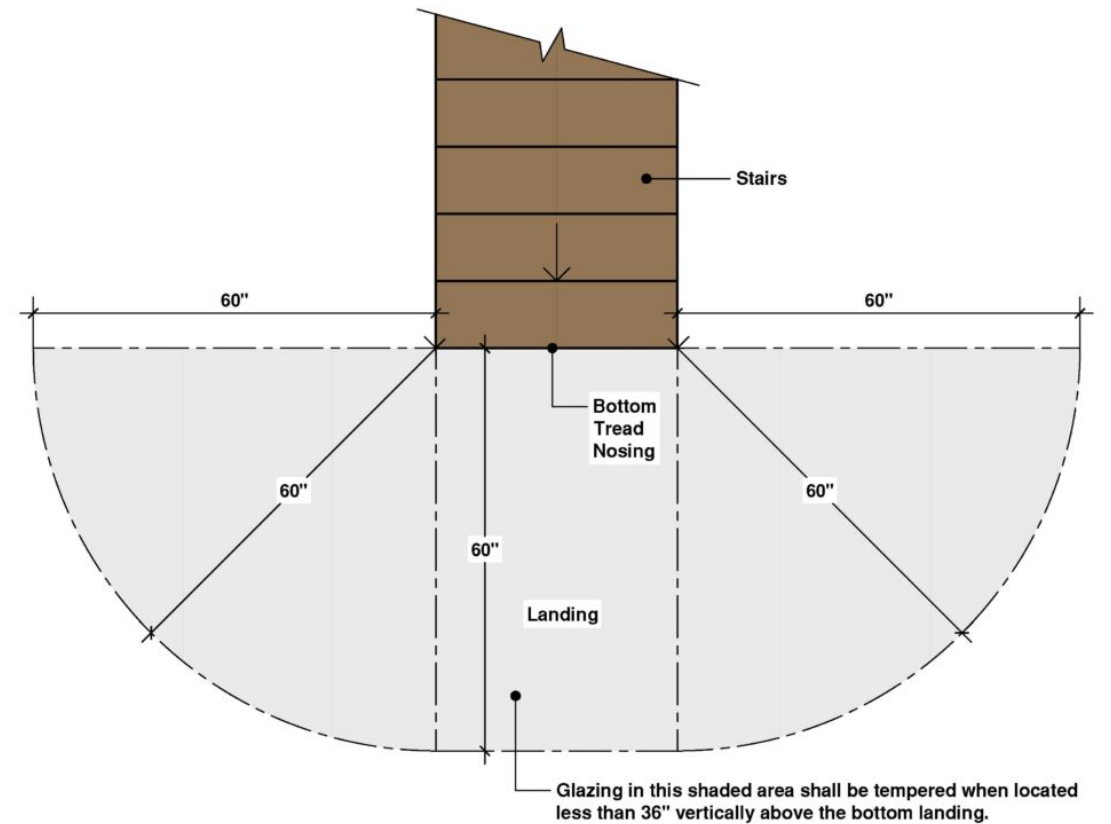


Exception:

Where the glazing is protected by a guard complying with Section R312 and the plane of the glass is more than 18 inches (457 mm) from the guard.



R308.4.7 Glazing adjacent to the bottom stair landing. Example



2021 IRC Chapter 302.6- Residential
Garage separation





R302.6 Dwelling-garage fire separation.

The garage shall be separated as required by **Table R302.6**. Openings in garage walls shall comply with Section R302.5.

Attachment of gypsum board shall comply with Table R702.3.5. The wall separation provisions of Table R302.6 shall not apply to garage walls that are perpendicular to the adjacent dwelling unit wall.

TABLE R302.6 DWELLING-GARAGE SEPARATION



SEPARATION	MATERIAL
From the residence and attics	Not less than 1/2-inch gypsum board or equivalent applied to the garage side
From habitable rooms above the garage	Not less than 5/8-inch Type X gypsum board or equivalent
Structure(s) supporting floor/ceiling assemblies used for separation required by this section	Not less than 1/2-inch gypsum board or equivalent
Garages located less than 3 feet from a dwelling unit on the same lot	Not less than 1/2-inch gypsum board or equivalent applied to the interior side of exterior walls that are within this area



R302.6 Dwelling-garage fire separation

Openings in garage walls shall comply with Section R302.5

R302.5 Dwelling-garage opening and penetration protection.

Openings and penetrations through the walls or ceilings separating the dwelling from the garage shall be in accordance with Sections R302.5.1 through R302.5.3.



R302.5.1 Opening protection.

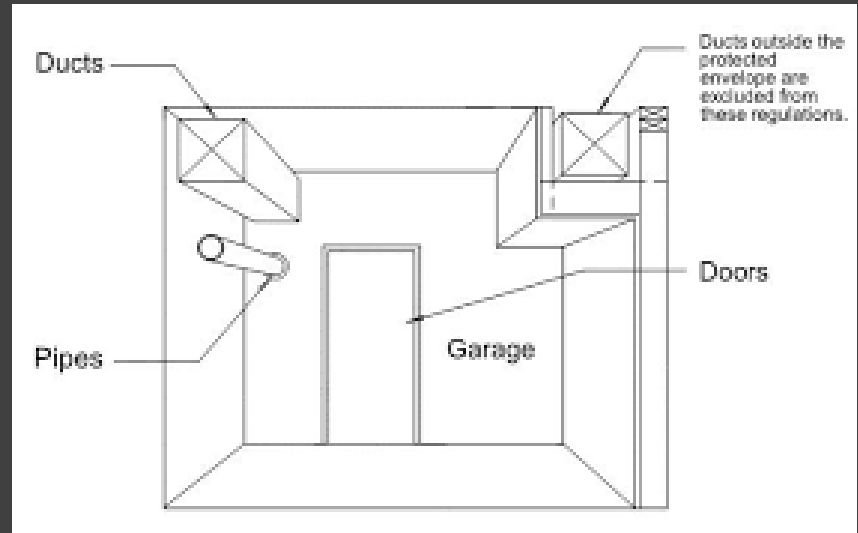
Openings from a private garage directly into a room used for sleeping purposes **shall not be permitted**. Other openings between the garage and residence shall be equipped with solid wood doors not less than 1 3/8 inches (35 mm) in thickness, solid or honeycomb-core steel doors not less than 1 3/8 inches (35 mm) thick, or 20-minute fire-rated doors. **Doors shall be self-latching and equipped with a self-closing or automatic-closing device.**





R302.5.2 Duct penetration.

Ducts in the garage and ducts penetrating the walls or ceilings separating the dwelling from the garage shall be constructed of a **minimum No. 26 gage** (0.48 mm) sheet steel or other approved material and shall not have openings into the garage.





R302.5.3 Other penetrations.

Penetrations through the separation required in Section R302.6 shall be protected as required by Section R302.11, Item 4.

R302.11 Item 4.

...At openings around vents, pipes, ducts, cables and wires at ceiling and floor level, with an approved material to resist the free passage of flame and products of combustion...

NOTE: City of Harker Heights only requires a fire collar on penetrations 1" or over. All other penetrations may be fire caulked.

R302.5.3 Other penetrations: Example





Contact information

Please provide Courtney with your most up-to-date contact info.



Open discussion/Questions





Thank you for attending.

Michael Beard, CBO, CFM
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City of Harker Heights
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mbeard@harkerheights.gov

Courtney Fye
Building Official Secretary
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Eric Moree
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