City of Belton
520 Main
Belton, MO 64012

Phone: 816.331.4331
Fax: 816.331.6973

RESIDENTIAL PLOT PLAN REQUIREMENTS

1. Sealed by a registered Professional Engineer and/or Professional Land Surveyor licensed in the State of Missouri pursuant to Missouri State Law.

   The plot plan must also include the following certification: "I, [Design Professional], certify that this plot plan has been field verified, and is in compliance with the approved subdivision grading plan unless otherwise noted."

2. Plan drawn to scale with North Arrow

   The plot plan and all features shown on the plot plan must be drawn at a legible scale. The scale shall be 1" = 10' or 1" = 20' to provide clarity. The plan must also be on 11" X 17" format. Scales smaller than 1" = 20' are generally not acceptable, except for large lot developments.

3. Street Address, Subdivision Name (with Plat #), Lot and Block Number

4. Lot dimensions including all Easements

   Include dimensions of front, side and rear yards. Show all easements within the lot. Easements should be labeled to include type of easement and dimensions. Easements must EXACTLY match those shown on the plat and/or dedicated by separate instrument.

5. Building Setback Lines

   Show all building set back lines including side and rear yards with dimension and label.

6. Structures

   Include location and dimensions of house and other accessory buildings. Where applicable locate and label retaining walls, wing walls, and fireplaces.

7. Paved Areas

   Indicate location and dimensions of all proposed driveways, walks, patios, and other paved areas. Public sidewalks should be located along streets 6 feet behind the back of curb and 4 feet in width and in locations as noted in the approved subdivision grading plan. The slope of sidewalks shall be ½" per foot and shall drain to the curb.

   Driveways must conform to the following:
   - Driveway approach shall have a slope ½" per foot to the right-of-way line
   - Driveway shall have a positive slope from garage floor to back of curb

- Minimum of 2 feet away from property lines
- Driveway wings must not extend beyond side property line extension including cul-de-sac lots
- Approach Minimum Width – 12.0 feet
- Approach Maximum Width – 25.0 feet
- Maximum Yard Area – 35% of front yard area
- Maximum Width, Duplex Developments – 35.0 feet
- Maximum Yard Area, Duplex Developments – 50% of front yard area

8. Water Main, Sanitary and Storm Sewer structures **(with elevations)** and associated piping

   Show **BOTH** sides of the street and the location of the public utilities including all piping adjacent to the lot and on either side of the street. Storm piping does **NOT** need to be shown.

9. Erosion Control Plan

   Provide an erosion control plan in conformance with the APWA Single Family Residential Design Booklet.
   Provide silt fence around entire property, as necessary and ¾-inch rock on driveway area.
   Provide any additional erosion control measures necessary to prevent silt from leaving the site.

10. Site Utilities

    Show the location of water service line and meter pit in Right-of-Way
    - Water meter pit shall be located in the front of the building and 13 feet behind the back of curb measured to the front of the meter pit
    - Top of meter pit shall be at an elevation of ½" per foot above the back of curb

    Show the location of the existing sanitary sewer service wye (include elevations at the public main)

    General Elevation Information

    A. Top of Foundation

       Include the top of foundation elevation

    B. Egress Window

       All houses WITHOUT walkouts shall indicate an egress window whose sill is a maximum of 44 inches above the basement floor elevation. The plan must indicate either the elevation of the window sill (44" maximum from floor) or the top of foundation wall at window (40" maximum from floor) and the top of the egress well where applicable

    C. Floor

       Include elevation of Basement Floor, Garage Floor, and Carport and Accessory building Floors where applicable. Garage Floor shall be a minimum of 1.3 feet (1.9 feet preferred) above the top of the back of curb elevation at the middle of the driveway. (16.0' @ ½" per foot [R-O-W line] + 30.0' @ ¼" per foot [building setback line])

    D. Top of finish curb at points of extension of lot lines and middle of driveway.

Elevation shall conform to the approved as-built grading plan, and with the top of curb elevations indicated on adjacent lots. Tolerance +/- 0.1 foot. Include elevation of the middle of the driveway approach at the right-of-way line.

E. Public/Private Infrastructure

Provide elevations on all public and private infrastructure. (i.e. manholes, valve boxes, storm inlets, etc.)

F. Existing and finish grade at each corner of lot and at each principal corner of structure.

G. Finish grade at both sides of abrupt changes of grade such as retaining walls, slopes, etc.

H. Walkouts and daylight windows

Indicate acceptable location and theoretical minimum low opening (if applicable)

11. Grading Plan (In addition to Elevation Information as listed above)

- Maximum contour interval of 2 feet
- Conform with approved as-built grading plan AND adjacent approved plot plans
- Grades at right-of-way must match typical street cross-section (i.e. ½-inch per foot slope)
- Must match adjacent property grades (+/- 0.1 foot vertical tolerance except where otherwise more restrictive) and/or approved subdivision grading plan.
- Minimum allowable slope – 2%
- Maximum allowable slope – 3:1
- Indicate High Point location and elevation at gradient breaks
- For retaining walls, indicate grade at both top and bottom of wall at both ends of wall and at 25 foot maximum intervals along the wall
- Include additional elevation benchmarks necessary to stake and check grading as necessary

12. Additional requirements if lot is governed by a Single MLO:

A. Minimum Low Opening (MLO)

Indicate a single MLO for the entire structure based on the FIRM elevation, flood study, lake, or MLO set by the Design Engineer. The MLO must be based on the appropriate freeboard at the most upstream point on the property. The design engineer has the discretion to set the MLO higher than the minimum required by the City. The MLO applies to any opening in the foundation AND the foundation wall itself. The minimum freeboard requirement is the greater of the following:

- FEMA: 100-year Base Flood Elevation (water surface) plus 2.0 feet
- Flood Study: 100-yeat Energy Grade Line (EGL) plus 1.0 foot
- Lake: 100-yeat Surface Elevation plus 1.0 foot
- Design Engineer: Use MLO as set by Design Engineer
- SPECIAL NOTE: If the BUILDING FOOTPRINT ITSELF lies within the 100-year FIRM boundary, the freeboard is 2.0 feet above the BASEMENT FLOOR, not the low openings in the foundation.

B. 100-year floodplain elevations

Show 100-year Energy Grade Line (EGL) for FEMA regulated streams, flood studies, and lakes at affected property corners. For these types of floodplains, the UPSTREAM PROPERTY CORNER EGL governs for house opening elevations.

13. Additional requirements if lot contains, or is adjacent to an Engineered Drainage swale:

    A. Minimum Low Opening (MLO) for Engineered Swale

    MLO elevation for swales can be indicated for individual openings, individual wall sections, OR for an entire structure. If indicated for the entire structure, the governing MLO must be based on the swale EGL as measured perpendicular to the UPSTREAM CORNER of the house.

    If the intent is to assign individual MLO elevations for each opening, ALL individual openings must be clearly indicated, and the MLO must be based on the EGL of the swale perpendicular to the upstream side of the opening

    Swale "TYPICAL" Cross Section

    Include typical cross-section labeled as per the section cut designated on the swale. The typical section should include the design flow, dimensions, 100-year flood depth, 100-year EGL, and minimum slope.

    B. Swale Elevations at Critical Locations

    Include swale flowline and 100-year EGL at critical locations. These include the upstream side of structure openings, perpendicular to house corners, changes or stair stepping in the foundation wall height, and intersections with property lines of ALL adjacent lots. Do NOT call out MLO's at locations where there are not openings, EXCEPT where they will be applied to the entire structure. MLO's should be called out ONLY where an elevation inspection will occur. NOTE: The top of foundation WILL be considered an MLO if there is no other opening along that side of the structure and an elevation inspection WILL occur there.

    C. Limits of swale on plan

    Indicate the specific location and limits of the swale on the plan. Label the swale as required above. If the swale is located outside of the limits of the drawing, but it's elevations still impact the site, include a note indicating "Engineered Swale is located [direction and distance] from the subject property.

14. Water Resistant Window Wells (where required)

    Call out the location and top of concrete window well elevation for any required Water Resistant Window Wells (WRWW). WRWW's are required for the following conditions:

    When the FEMA Base Flood Elevation plus 2 foot freeboard area is within 25 feet of the window well.
    If the edge of an engineered swale is closer to the window well than 10 feet AND the swale side slope is steeper than 3:1 or is vertical.
    IF the design 100-year flow in the swale exceeds 50 cfs AND the edge of the swale (at the 100-year water surface) is less than 15 feet from the window.

CITY OF BELTON - PLOT PLAN REQUIREMENTS CHECKLIST

The applicant shall submit a Plot Plan showing the locations of the proposed structure on the lot to the City of Belton at the time of the building permit application. This Plot Plan shall be certified by a person licensed by the Missouri Board for Architects, Professional Engineers and Professional Land Surveyors.

DP Cert	City Cert	The plot plan should contain at a minimum:	
		Sealed by a Registered Professional Engineer or Land Surveyor	Bldg
		Grading Plan Certification Statement	Bldg
		Style/Type of house labeled	Bldg
		1" = 20 Scale, 11" X 17" Format, North Arrow	Bldg
		Subdivision Name w/ Plat Number, Block # and Lot #	Bldg
		Lot Dimensions including Easements	Bldg
		Front Yard Area Labeled	Bldg
		Building Setback Lines - including side and rear yard dimensions	Bldg
		Location and dimensions of house and accessory buildings	Bldg
		Located and Labeled: Retaining Walls, Wing Walls, Fireplaces (If outside sill plate)	Bldg
		Indicated location of all proposed paved areas (driveways, walks, patios, etc.)	Bldg
		Sidewalk 6' behind back of curb and 4' wide (1/2" per foot slope)	Bldg
		Driveways:	
		1/2" per foot slope in ROW	Bldg
		2' away from property line	Bldg
		Driveway wings do not extend beyond extension of property line	Bldg
		Approach: Minimum Width: 12.0' Maximum Width: 25.0'	Bldg
		Driveway not more than 35% of front yard area	Bldg
		Public Street Shown (Both sides)	Bldg
		Public Water Main Shown including Fire Hydrants and Valves	Bldg/Engr
		Public Sanitary Sewer Main Shown w/ Elevations on Structures	Bldg/Engr
		Public Storm Sewer Structures Shown w/ Elevations	Bldg/Engr
		Private water service line and meter pit (shown in ROW only) (meter 13' behind curb)	Bldg
		Sanitary sewer service wye location shown with elevations	Bldg
		Top of foundation elevation shown	Bldg
		Egress window shown w/ elevation (All houses WITHOUT walkouts)	Bldg
		Elevation for garage floor, basement floor, carport & accessory building	Bldg
		Garage Floor is a minimum 1.3' above the top of back of curb @ middle of driveway	Bldg
		Top of finish curb shown @ extension of lot lines and middle of driveway	Bldg
		Elevation @ middle of driveway approach shown at ROW line	Engr
		Existing and finish grade shown at corners of lot and corner of house	Bldg
		Elevation of walkouts and daylight windows	Bldg
		Theoretical Minimum Low Opening (MLO) shown when applicable	Bldg
		Grading Plan	
		Existing and proposed contour shown @ max. 2' interval (1' interval may be necessary)	Bldg
		Grading plan conforms to approved as-built grading plan & adjacent plot plans	Bldg/Engr
		Proposed grading plan matches existing grades at lot lines or approved adjacent plot plans	Bldg/Engr
		Min. allowable slope - 2% Max. allowable slope - 3:1	Bldg
		High point elevation indicated and labeled.	Bldg
		Retaining wall elevation shown @ top and bottom, 25' interval	Bldg
		Design Professional:	
Permit #		Address	

Note: Additional Requirements if lot contains, or is adjacent to an engineered drainage swale