

1602 Hinkson Avenue
Columbia, MO 65201

March 1, 2018

Planning and Zoning Commission
City of Columbia
701 East Broadway Street
Columbia, MO 65201

Dear Commissioners,

Having just read through the proposed modifications to §29-5.1(b), I am a more than a little confused, and am left wondering at whose request these changes were made. The following section of the proposed changes make no sense to me, and appear to be aimed at giving development companies a free pass to (a) construct subdivisions within regions that are potentially sensitive and surely subject to periodic flooding, and (b) side-step normal zoning regulations because of a desire to either maximize development density and, thus, profit or to compensate for a poor choice in purchasing land for a subdivision:

§29-5.1(b)(1)(iii). The Land Analysis Map shall further identify **that portion of a site located within the floodplain** (i.e. flood fringe) shown on the Flood Rate Insurance Maps (FIRMs) for the City of Columbia or FIRMs for unincorporated Boone County if the subject subdivision or re- subdivision is not inside the City's boundary. Such areas **shall not be considered restricted from development**; however, are subject to the development standards of the FP-O (Floodplain Overlay) district. Preservation and avoidance of such areas in the course of site development may qualify for a "preservation bonus" in accordance with the provisions of provided below.

I understand the City's desire to achieve maximum infill, however there are areas that are sensitive for one reason or another and those areas ought to be left untouched by development. For historical reasons, construction in areas prone to flooding is a very poor idea, and zoning regulations aimed at *permitting* this type of activity are misguided. Once the homeowner has purchased an at-risk home from the development company, the homeowner assumes all risk. The likelihood that the homeowner can insure their investment against flooding is low, and so, from a consumer protection standpoint this change in rules is irresponsible.

Another significant problem with the proposed changes to the rules is the potential for destroying the watershed that would otherwise serve to mitigate flooding.

In other words, by permitting increased development density in areas immediately adjacent to the “sensitive features,” the rules are inadvertently worsening the problem of flooding by removing permeable land area, and dynamically changing the Flood Rate Insurance Maps mentioned in the paragraph quoted above.

As a final argument against these rules, I would point out that a floodplain – in fact, *any* floodplain – is connected to a drainage system that is a part of the larger watershed. The Missouri Department of Conservation (MDC) has put the City of Columbia on notice for excessive contamination in the Hinkson Creek watershed (of which a significant portion of Columbia’s stormwater feeds into) due to excessive runoff. Building closer to the watershed drainage route, and reducing the effectiveness of permeable land at reducing runoff, is a sure-fire way to worsen the problem of watershed contamination, and may lead to MDC levying fines against the City.

Not only is this a bad idea, it is irresponsible. For a modern equivalent one need only look at the plight of Houston, Texas in the aftermath of hurricane Harvey. The loss of permeable land surface through paving and construction activities coupled with construction within a reservoir (e.g. a *known* floodplain), led to catastrophic losses that could have been mitigated through intelligent and thoughtful floodplain development rules.

In closing, these rules clearly appear to be driven by special interests and *not* common sense. Don’t run with scissors. Don’t play with fire. And definitely don’t build a home in a riverbed.

Respectfully,

Peter Norgard

TO: City of Columbia Planning and Zoning Commission

FROM: Cody Darr, PE, A Civil Group

RE: UDC Section 29-5.1(b) Revision

Below are my comments and questions for the proposed revision listed below:

29-5.1(b)(1)(ii)(C) – I have no issues with this revision. {Although, FIRMs do get revised and floodways change (e.g. Hinkson creek 2017), what if there is a revision to the FIRM between preliminary platting and final platting. I assume the FIRMs referenced would be the city adopted FIRMs of the FP-O?...Same note for next section}

29-5.1(b)(1)(iii) – I am in favor of this revision.

29-5.1(b)(2)(i) – Regarding the added last sentence about no floodway as part of a lot for development; I can easily foresee instances that this would not be practicable or cause undue hardship (e.g. some commercial subdivisions, larger residential lot subdivisions, subdivisions with no common lots/hoa, small common lot dedication and configuration requiring stem/access to road causing reduction of buildable lots for no other purpose than to cover the small area of floodway, etc). I believe the existing wording is sufficient, in allowing for written and graphical documentation to prove the layout is justified in cases of floodways, as with any other sensitive area. Alternatively, allowance of not-for-development lots that do not need to meet minimum lot requirements, or allowance of conservation easement of floodway areas in certain situations. Plus, it should also be noted, that floodways are regulated and protected in other parts of the code as well.

29-5.1(b)(2)(ii) – I have no issues with this revision

29-5.1(b)(3) – I am in favor of this revision.

29-5.1(b)(4) – I am in favor of this revision.

Although not directly related to the proposed changes, I did want to share the following comments and questions to the subject section of UDC regarding sensitive areas since we are looking at revising it:

29-5.1(b)(1)(i) – If the city believes an area is a “sensitive area” at the time of any preliminary platting situation, why is there the 5 acre area, or more, criteria in the beginning of the section? Is this to allow for relaxed protections in redevelopment cases? Just seems a little confusing, and unclear behind the intent of the language.

29-5.1(b)(1)(ii)(A) – USGS is notorious for arbitrary dashed blue lines. From my understanding of how they were created, and experience in multiple cases of waterways shown as dashed blue streams, which rarely have any perceptible flow, and having drainage areas of less than 10 acres, should not be used as a sensitive area indicator. (Also, just as a side note: conversations with USACE regulatory specialists indicate that dashed blue lines on the USGS are rarely used to even consider whether a waterway is jurisdictional.) While it is an objective criterion, I think it does not accurately correspond to the sensitivity of the waterway. I think the city’s stream buffer regulations are better suited and sufficient to protect waterways and regulate development within these areas. Introducing new criteria to evaluate/control waterways just serves to confuse and add unneeded layers of regulation, and time resources.

29-5.1(b)(1)(ii)(B) – Steep slopes should be further defined to exclude manmade slopes. Only natural slopes, in my opinion, really qualify as sensitive areas that deserve protection from development. Also, I believe natural slopes up to 3:1 are common enough, and can be developed in a manner not detrimental to the environment, so that they should not be considered “sensitive areas”.

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March 2, 2018

Planning and Zoning Commission
City of Columbia
701 East Broadway
Columbia, MO 65205

RE: Proposed Text Revision
Avoidance of Sensitive Areas

Dear Commissioners:

Please find enclosed our recommended text edits to the proposed text amendments to Section 29-5.1(b) of the Unified Development Code for your consideration at the March 8, 2018 Planning and Zoning Commission meeting. These edits are in addition to the edits proposed by the City Staff. The following provides our reasoning for proposing these edits:

1. 29-5.1(b)(1)(i): The Land Analysis map should be used as a tool to identify potential sensitive areas. Identifying areas to be preserved as early as a concept review meeting is too early to make a final determination to whether there is a threat to safety, health, and general welfare, as defined in the first paragraph of this code section. Therefore, we recommend the map show potential sensitive lands only. Preservation will be identified on the plat.
2. 29-5.1(b)(1)(ii)(B): Property grading often creates slopes greater than 25%. However, we do not believe it is the intent of this ordinance to preserve graded slopes. Therefore, we recommend the slopes be defined as natural and undisturbed.
3. 29-5.1(b)(1)(ii)(B): Boone County soils are generally stable at a slope of 2:1 (50%) in a natural condition and are rarely unstable under 2.5:1 (40%). It is our professional opinion that slopes flatter than 40% are not a risk to safety, health, and general welfare. Therefore, we recommend an average slope of 3:1 (33%) be used to define a potential sensitive area, as this slope will encompass nearly all naturally slopes in a potentially unstable condition. In addition, we do not believe it is the intent of this code to protect short (1-ft to 10-ft) tall slopes. Therefore, we also recommend the potential sensitive slopes be limited to 10-feet or greater vertical elevation change.
4. 29-5.1(b)(1)(ii)(C): FEMA actions, such as Letters of Map Revisions or Letters of Map Amendments, are completed to revise the floodplain and floodway. As the ordinance is written, these revisions are not recognized as changing the flood boundary. We recommend these revision and amendments be recognized in the ordinance where they have modified the floodplain.
5. 29-5.1(b)(2)(i): The purpose of protection of sensitive areas is “neither subdivide nor develop, where there is a finding by the Council that a proposed subdivision or development poses a threat to the safety, health and general welfare of inhabitants of the land or surrounding areas due to flooding, improper drainage, steep slopes, rock formations, adverse earth formations, topography, utility easements or other adverse conditions.” To conform to this purpose, we recommend that

Other Offices
Jefferson City, Missouri • Sedalia, Missouri

this section be amended to allow appropriate safe guards, designed by a Professional Engineer, to be constructed to protect the sensitive areas and protect safety, health, and general welfare.

6. 29-5.1(b)(2)(i): We believe a strict adherence to no subdivision or development in a floodway will prevent the continued use and improvement to properties currently located in the floodway. We recommend this section be modified to allow tracts with development currently located in the floodway to be subdivided and developed in accordance with the FP-O.
7. 29-5.1(b)(2)(iii): Same reasoning as #5 above.
8. 29-5.1(b)(4): The preservation bonus for preservation of floodplain appears to be a good solution. The preservation bonus provided will serve residential development but does not provide incentives to other uses. Therefore, we recommend other forms of incentive be provided to encourage preservation of floodplain for commercial, office, industrial, and other non-residential uses.

For your ease of discussion, the attached amendment provides recommended language to be included in the code. We appreciate your time reviewing these proposed amendments.

Sincerely,



Matthew A. Kriete, P.E.

enclosures
cc: 1-ESS File

Proposed Text Revisions - Avoidance of Sensitive Areas
FEBRUARY 15, 2018

29-5.1(b) - Avoidance of Sensitive Areas.

Except under approved special safeguards, land shall be neither subdivided nor developed, where there is a finding by the Council that a proposed subdivision or development poses a threat to the safety, health and general welfare of inhabitants of the land or surrounding areas due to flooding, improper drainage, steep slopes, rock formations, adverse earth formations, topography, utility easements or other adverse conditions. Portions of the proposed subdivision or development that cannot be developed without damage to sensitive areas shall be set aside for such use as shall not pose an undue hazard to life and property.

(1) Land Analysis Map.

(i) Each application for subdivision or re-subdivision of a land area of five (5) acres or more, either alone or contiguous with another subdivision by the same applicant, shall prepare and submit a Land Analysis Map identifying sensitive lands to be protected from development. Such map shall be provided at the time of concept review for property proposed to be preliminarily platted regardless of the parcel size. In preparing such the Land Analysis Map, those areas shown on the Future Land Use Map of the City's Comprehensive Plan as "sensitive" shall be identified as well as other areas which through reasonable investigation should be known to be sensitive areas.

Comment:
Too early to deem it undevelopable, but the map should identify all potential areas.

Insert: "potential"

(ii) The Land Analysis Map shall identify ~~as~~ sensitive lands to be protected from development ~~all~~ of the following:

Insert: "a natural, undisturbed"

(A) Stream corridors, which shall include all land from top-of-bank to top-of-bank of any waterway, ~~that~~ shown as a solid blue or dashed blue line on the corresponding USGS 7.5 minute quadrangle map;

Insert: " thirty-three (33) percent or more and Height of ten (10) feet or greater"

(B) Steep slopes, which shall include all land with an average vertical slope of twenty-five (25) percent or more, measured from top-of-slope to foot-of-slope, plus an additional ten (10) feet or additional setback as required by Chapter 12A as it relates to stream buffers; and

Insert: ", "

~~(C)~~ Any lands designated as floodway on the Flood Rate-Insurance Maps (FIRMs) for the City of Columbia or FIRMs for unincorporated Boone County if the subject subdivision or re-subdivision is not inside the City's boundary, or lands contained within the FP-O Floodplain Overlay District.

Insert: "Insurance Rate"

~~(C)(iii)~~ The Land Analysis Map shall further identify that portion of a site located within the floodplain (i.e. flood fringe) shown on the Flood Rate-Insurance Maps (FIRMs) for the City of Columbia or FIRMs for unincorporated Boone County if the subject subdivision or re-subdivision is not inside the City's boundary. Such areas shall not be considered restricted from development; however, are subject to the development standards of the FP-O (Floodplain Overlay) district. Preservation and avoidance of such areas in the course of site development may qualify for a "preservation bonus" in accordance with the provisions of provided below.

Insert: ", or as modified/ammended by FEMA Letters of Map Amendment (LOMA), Conditional Letters of Map Amendment (CLOMA), Letters of Map Revision Based on Fill (LOMR-F), Conditional Letters of Map Revision Based on Fill (CLOMR-F), or other FEMA action."

Proposed Text Revisions - Avoidance of Sensitive Areas
FEBRUARY 15, 2018

Insert: ", and documentation from a Missouri Professional Engineer that development does not pose a threat to safety, health, and general welfare of the inhabitants of the land or surround

- (2) Avoidance of Sensitive Lands. The applicant shall lay out the subdivision or re-subdivision so that:

~~(iii)(i)~~ To the greatest degree practicable, no lot intended for development shall include land ~~features~~ designated as sensitive lands ~~unless on the Land Analysis Map and any if any lot contains sensitive lands~~, such inclusion shall be supported by written and graphical documentation that avoidance was not possible and inclusion of such features was required to meet other regulatory requirements of this Chapter. In no instance shall a lot include land located within the floodway as part of a lot proposed for development;

Insert: "from a previously undeveloped tract"

~~(iv)(ii)~~ If any lot intended for development includes designated sensitive lands, ~~the subdivision plat shall restrict~~ construction of permanent structures shall be restricted to a designated building envelope ~~area on that lot which~~ does not include any designated sensitive land areas. ~~The Such~~ sensitive lands on the lot shall be permanently protected by designation within a preservation easement; and

Insert: "development envelope that meets the conditions defined in section (i) above."

~~(v)(iii)~~ Street crossings of sensitive land areas are minimized to the maximum extent practicable.

- (3) Adjustment of Minimum Lot Sizes.

If the avoidance of ~~designated~~ sensitive lands ~~designated other than except~~ floodways and ~~flood fringe areas~~ results in ~~the~~ subdivision containing fewer buildable parcels than ~~it~~ would have ~~been allowed~~ if sensitive lands were not avoided, the applicant may adjust the minimum lot size and/or lot width in the subdivision by up to fifteen (15) percent to recapture in order to include as many lots as would have been possible if sensitive lands were not avoided. This reduction shall not be combined with any other lot area or width reduction permitted elsewhere within this Chapter. No adjustment of minimum lot sizes or widths shall be made for avoidance of floodway or flood fringe areas.

(4) Preservation Bonus – Floodplain/Flood Fringe Avoidance

If a property owner/developer chooses to voluntarily restrict subdivision development from those areas shown on the Land Analysis Map as floodplain/flood fringe, in addition to those areas identified as "sensitive features", they shall be permitted to reduce the minimum lot size and/or lot width of each lot within the subdivision by twenty-five (25) percent. This reduction shall not be combined with any other lot area or lot width reduction permitted elsewhere within this Chapter. , or

They shall be permitted to reduce the required tree preservation area and/or required internal parking lot landscaping (area and trees) by twenty-five (25) percent, or
They shall be allowed to add an additional twelve (12) feet to the maximum allowed building height in all zoning districts, except R-1 and R-2.



3/21/2018

Re: Proposed text revisions 29-5.1(b) - Avoidance of Sensitive Areas.

Dear Planning and Zoning Commission,

I am writing on behalf of the Osage Group of the Sierra Club. The Sierra Club represents approximately 5790 members and supporters in Columbia, Missouri.

We request that the proposed increase to **33% (from 25%)** in the definition of **steep slope** in section (1)(ii)(B) **be removed** from the current proposal. That is a big change to be adding to a “housekeeping” amendment.

Definition and protection of steep slopes is a controversial issue that was left hanging when the Unified Development Code was passed last year. After the final vote, there was a statement that discussion of revisions would probably be in order after a few months.

This issue should be addressed in a thorough and transparent process by Planning and Zoning Commission as well as Environment and Energy Commission.

It may be accepted by engineers that a stable building can be built on slopes up to 33%, but what is possible structurally is very different from what is good or best practices. Developing on slopes greater than 15% allows more disturbance of natural topography, more loss of natural vegetation and habitat, and faster rates of stormwater run-off. In many settings, steep slopes provide scenic views for neighboring areas, trail users, etc. Disturbance can transform these intrinsic resources into visible eyesores.

We believe, based on documentation below, that the definition of steep slope should be amended to 15%.

From Columbia Imagined comprehensive plan (p. 33):

“Typically, slopes of 15 percent are considered “steep.” Slopes are considered moderate when between 8-10 percent. Slopes in this moderate range are the maximum allowable for local roadway construction on. Steep slopes commonly occur adjacent to creek cut banks and in association with stream buffers and floodplains, which are protected by existing City and County regulations that deter development of such areas. Steep slopes often coincide and contribute to highly erodible soil conditions. Under normal conditions, where these areas remain undisturbed, they are not typically highly erosive. However areas that have recently been cleared for development purposes are an exception.”

From Columbia’s Natural Resource Inventory:

Slopes >15% are only 2.6% of the Columbia Metropolitan Planning Area; slopes >25% make up only 1% of the area.

Steep slopes and erodible soils are primarily concentrated along the Missouri river bottoms and bluffs and major riparian corridors – including Hinkson and Perche .

“Areas with slopes greater than 15% present issues for site development and providing infrastructure such as streets, sewers, and electric service. The extensive alteration of hillside or steep slope can lead to increased erosion, landslides, and sedimentation. The removal of trees and vegetation on the areas of steep slopes expose the underlying soil to the erosion effects of wind and water.”

Please remove the 33% maximum slope from the proposed amendment at this time and consider a more in-depth public process on the issue. Questions may be addressed to Dee Dokken at 573-303-7696.

Sincerely,

Dee Dokken, Conservation Chair, Osage Group of the Sierra Club
804 Again St., Columbia MO 65203