



Bureau of Planning and Sustainability

Innovation. Collaboration. Practical Solutions.

MEMO

DATE: March 26, 2021

TO: Planning and Sustainability Commission

FROM: Mindy Brooks, City Planner
Daniel Soebbing, Associate Planner

CC: Andrea Durbin, Joe Zehnder, Sallie Edmunds

SUBJECT: Ezone Map Correction Project Follow Up to February 23, 2021 Hearing

This memo is intended to respond to questions raised by commissioners at the February 23, 2021 hearing on the Ezone Map Correction Project. There are three work sessions tentatively scheduled for April 13, May 4 and July 27, where we can discuss any of these and other topics further.

A. What is the definition of a stream and how are streams mapped?

Staff Response: The following definitions were developed for the *Natural Resources Inventory* (2012) and were used to map streams citywide in support of the *2035 Comprehensive Plan* (2018). The definitions were further clarified and included in Volume 3 of the proposed draft project report.

A **stream** is a channel that has a defined bed and bank and **carries water continuously for a week or more** during at least the wet season (October through April). Streams may be naturally occurring or may be a relocated, altered or created channel. Streams may contribute water into another waterbody or the water may flow into a pipe or culvert. Streams may include drainage from wetlands, ponds, lakes, seeps or springs, which may or may not form a defined bed and bank. Streams may also be called drainageways in other city plans or documents. **Streams are included in the Natural Resources Inventory and typically have an ezone applied to them.**

A **drainage** is an area on land that **conveys flowing water for only hours or days** following a rainfall. If a drainage drains water from a wetland, pond, lake, seep or spring, even if it does not have a defined bed and bank, then it is classified as a stream. **Drainages are not included in the Natural Resources Inventory nor do they typically have an ezone applied to them, unless associated with another feature such as a wetland that does have an ezone applied.**



City of Portland, Oregon | Bureau of Planning and Sustainability | www.portlandoregon.gov/bps
1900 SW 4th Avenue, Suite 7100, Portland, OR 97201 | phone: 503-823-7700 | fax: 503-823-7800 | tty: 503-823-6868

Printed on 100% post-consumer waste recycled paper.

A **roadside ditch** is a constructed channel typically parallel and directly adjacent to a public or private road. A roadside ditch is designed to capture and convey stormwater runoff from the road and is routinely cleaned to maintain conveyance capacity. Naturally occurring streams and drainages that have been relocated due to the construction of a road are not considered a roadside ditch. **Roadside ditches are not included in the Natural Resources Inventory nor do they typically have an ezone applied to them, unless associated with another feature such as a wetland that does have an ezone applied.**

Streams are mapped per the mapping protocol in the *Natural Resources Inventory* (Ordinance No. 185657) adopted as factual basis for the *2035 Comprehensive Plan*. In 2003, stream mapping was revised based on 2-foot contours, aerial photography, Bureau of Environmental Services stormwater system mapping and limited GPS surveys. The data was provided to Metro and was adopted as part of the *Regional Inventory of Riparian Corridors and Wildlife Habitat* (Title 13, Nature in Neighborhoods). Since then the stream mapping has been continuously revised to include new information, in particular LiDAR-derived elevation models and photogrammetric data (2-foot contours), which have vastly improved the accuracy of stream mapping.

References: Proposed Draft [Volume 3: Natural Resources Inventory](#), page 9
[Natural Resources Inventory](#) (2012), Appendix 6, page 167 (stream and drainageway mapping project)

B. When does someone need to survey a stream?

Staff Response: A survey to locate a stream centerline or top of bank is not required to comply with Oregon State Land Use Planning Goal 5 or Metro Title 13. The city zoning code requires a stream survey only under specific circumstances.

In 33.430, Environmental Zones, existing legal structures (e.g., house, driveway) and existing legal disturbances (e.g., yard, landscaped areas) are vested and exempt from the ezone regulations per 33.430.080.C.1-5. The location of stream centerlines and top of bank, as well as the location of the ezone boundaries, has no impact on the continued use, maintenance or replacement of existing legal structures and disturbances as long as the footprint of the structure/disturbance is not increased.

The standards of 33.430.140 do not require survey of the stream centerline or top of bank. The site plan must include the location of any wetlands or water bodies on the site or within 50 feet of the site. The plan must indicate the location of the top of bank, centerline of stream, or wetland boundary as appropriate. But the requirement does not say that the centerline or top of bank must be surveyed.

In contrast, a survey of the top of bank is required by standard 33.430.170.A, Standards for Resource Enhancement Projects, when bank reconfiguration is proposed. “When reconfiguration of the bank is carried out in accordance with subsection .170.A, below, results in the top of bank shifting landward, the applicant may choose to measure the setback from the original top of bank. When this occurs, **a survey of the original top of bank line and the new top of bank line** must be submitted for verification and then recorded with the County recorder.”



If a proposal is not exempt and cannot meet standards, it must go through Environmental Review. 33.430.240.A, Supplemental Application Requirements state that the plans must include:

1. Existing conditions - "Topography shown by contour lines at two foot vertical contours in areas of slopes less than ten percent and at five-foot vertical contours in areas of slopes ten percent or greater;" and "Drainage patterns, using arrows to indicate the direction of major drainage flow;"
2. Proposed site plan - "A grading plan showing proposed alteration of the ground at two-foot vertical contours in areas of slopes less than ten percent and at five-foot vertical contours in areas of slopes ten percent or greater;"

Neither of these requires a survey of the stream centerline or top of bank. Bureau of Development Services does have the discretion to request additional information during a review. Often the property owner or developer chooses to survey the entire site to ensure accurate information is documented during a review.

A survey is also not required as part of a correction to the official zoning maps (see Question E below). 33.855.070.A.1. "A map line that was intended to follow a topographical feature does not do so. Topographical features include the tops and bottoms of hillsides, the banks of water bodies, and center lines of creeks or drainage ditches;". This does not require a survey; however, a survey of the stream centerline or top of bank may be provided by the property owner or may be performed by the city.

Other sections of the zoning code may require site surveys, including the Land Divisions and Planned Developments section 33.600.

References: [33.430](#), Environmental Overlay Zones; [33.855](#), Zoning Map Amendments [33.600](#), Land Divisions and Planned Developments

C. What is the definition of forest and woodland vegetation and how are they mapped?

Staff Response: The following definitions were developed for the *Natural Resources Inventory* (2012) and were used to map vegetation citywide in support of the *2035 Comprehensive Plan* (2018).

A vegetation patch is an area of contiguous vegetation greater than ½ acre in size containing a distinct pattern, distribution, and composition of vegetation relative to surrounding vegetated and non-vegetated areas. Vegetation patches are classified into the following four National Vegetation Classification System (NVCS) classes (Grossman et al., 1998):

Forest: Trees with their crowns overlapping, generally forming 60-100% of cover.

Woodland: Open stands of trees with crowns not usually touching, generally forming 25-60% of cover. Tree cover may be less than 25% in cases where it exceeds shrubland and herbaceous vegetation.

Shrubland: Shrubs generally greater than 0.5 m tall with individuals or clumps overlapping to not touching, generally forming more than 25% of cover with trees generally less than 25% of cover.



Shrub cover may be less than 25% where it exceeds forest, woodland, and herbaceous vegetation. Vegetation dominated by woody vines (i.e., blackberry) is generally included in this class.

Herbaceous: Herbs (graminoids, forbs, ferns and shrubs less than 0.5 m tall) dominant, generally forming at least 25% of cover. Herbaceous cover may be less than 25% where it exceeds forest, woodland and shrubland vegetation. This includes shrubs less than 0.5 m tall.

The species of vegetation is not used to classify forests, woodlands, shrublands or herbaceous areas. Presence of native, non-native or invasive species does not disqualify a ½ acre patch of 60% closed tree canopy from being a forest. In fact, the presence of the large structure trees is exactly what the ezones are intended to protect. Trees capture rainwater and hold soils in place thus reducing erosion and landslide risks. Trees filter pollutants from water, improving in-stream water quality. Trees provide structure (e.g., branches, leaves) to nearby rivers and streams improving stream complexity. Evapotranspiration and shade cools the air, reducing the impacts of heat island. This all occur regardless of if the understory is dominated by blackberries or ivy.

Native forests, with diverse native understory, provide better habitat for native wildlife. However, non-native and even invasive plants do provide some habitat. For example, blackberries are a food source for wildlife including native birds. Blackberries and ivy provide nesting and denning opportunities for birds and small mammals. While not ideal, it is better than nothing and represents opportunities for enhancement and restoration; opportunities that are lost when the area is developed.

Vegetation is mapped per the mapping protocol in the *Natural Resources Inventory* (Ordinance No. 185657) adopted as factual basis for the *2035 Comprehensive Plan*. The mapping is based primarily on aerial photography and verified by site visits. In 2000, Metro began producing the *Regional Inventory of Riparian Corridors and Wildlife Habitat*. Metro used the same classification system as the City uses, and the mapping was based on aerial photography. Metro mapped vegetation patches one acre in size or larger that were located within ¼ mile of rivers, streams and wetlands. In 2005, Metro adopted Title 13, which included the regional inventory, and the State DLCDC determined that Title 13 was in compliance with State Land Use Goal 5. In 2009, the City revised Metro's mapped vegetation data. The City was able to reduce the patch size mapping from one acre to ½ acre due to better technology, including LiDAR, and expanded the mapping geography to all of Portland. Metro approved these revisions as substantially complying with Title 13 in 2012.

References: Proposed Draft [Volume 3: Natural Resources Inventory](#), page 13
[Natural Resources Inventory](#) (2012), Appendix 6, page 181 (vegetation mapping project)
[Metro Title 13 Compliance](#) (2012)

D. Is a permit needed for removal of trees that come down during a storm?

Staff Response: (This response was provided by Casey Jogerst, Urban Forestry.) Title 11, Tree code, permits are a component of the Tree Code in order to manage, conserve and enhance the urban forest. Permits are the tool the City utilizes to confirm trees that are removed are also replaced to ensure the longevity and sustainability of the City's tree infrastructure. When a tree falls and is



removed due to a storm, it impacts the City's tree canopy infrastructure and requires replacement to maintain and sustain the urban forest. The impact to the overall tree canopy is no different whether a tree is removed proactively by a property owner or as the result of a storm.

The Tree Code addresses storm-related tree failures/removals by allowing emergency removal under 11.40.020.D. This provision allows for permits to be issued retroactively once the tree work has already taken place and provides documentation to the City for urban forest management.

Allowing storm damaged trees to be removed without a permit would create a myriad of complications including, but not limited to:

1. Public safety – Incentivizing property owners to not maintain trees or obtain tree removal permits, resulting in property owners waiting until the trees fall into disrepair and fail.
2. Continued reduction of overall tree canopy – Without permits there is no method to ensure trees removed/failed during a storm are replaced.
3. Code compliance – Without permits the City would not know if a tree was removed as the result of a storm or illegal tree removal activity.

It may be helpful to put trees in the context of other City codes (building, zoning, plumbing, etc.). Buildings cannot be removed without a permit as a result of fire, storms, or other natural disasters. Trees are an integral part of the City's infrastructure and make up the urban forest. Similar to other infrastructure permitting requirements, tree permits provide for public health and safety and are required to appropriately manage the City's urban forest.

References: [Title 11, Trees](#); Contact trees@portlandoregon.gov for additional clarifications

E. What is the process for a zone boundary correction?

Staff Response: Anyone can request a zone boundary map correction at any time per 33.855. The request is made by filling an IQ form with BDS. If the request is for an ezone boundary correction, the form is sent to BPS Environmental Planning staff to review. If the request meets the criteria of 33.855.070.A (below), then the zoning boundary is corrected through a Type II process. There is no fee for a map correction. If the criteria below are not met, the ezone boundary maybe modified through Environmental Review; however, there is a fee for the review.

33.855.070.A. "A map error is found to exist if one of the two is true:

1. A map line that was intended to follow a topographical feature does not do so. Topographical features include the tops and bottoms of hillsides, the banks of water bodies, and center lines of creeks or drainage ditches; or
2. There is a discrepancy between maps and on balance there is sufficient evidence of legislative intent for where the line should be located."

References: [33.855](#), Zoning Map Amendments
[IQ form](#) for a Zone Map Error Correction request

