

**Chapter 18.510**  
**SENSITIVE LANDS**

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**18.510.010 Purpose**

- A. Maintain integrity of rivers, streams, and creeks. Sensitive land regulations in this chapter are intended to maintain the integrity of the rivers, streams, and creeks in Tigard by minimizing erosion, promoting bank stability, maintaining and enhancing water quality and fish and wildlife habitats, and preserving scenic quality and recreation potential.
- B. Implement comprehensive plan and floodplain management program. The regulations of this chapter are intended to implement the comprehensive plan and the city’s floodplain management program as required by the Federal Emergency Management Agency (FEMA) through the National Flood Insurance Program, to help to preserve sensitive land areas from encroaching use, and to maintain the October 19, 2018, zero-foot rise floodway elevation.
- C. Implement Clean Water Service (CWS) design and construction standards. The regulations of this chapter are intended to protect the beneficial uses of water within the Tualatin River Basin in compliance with the CWS “Design and Construction Standards.”
- D. Implement the Metro Urban Growth Management Functional Plan. The regulations of this chapter are intended to protect the beneficial water uses and functions and values of resources within water quality and flood management areas and to implement the performance standards of the Metro Urban Growth Management Functional Plan.
- E. Implement Statewide Planning Goal 5 (Natural Resources). The regulations in this chapter are intended to address the requirements of Statewide Planning Goal 5 (Natural Resources) and the safe harbor provisions of the Goal 5 administrative rule pertaining to wetland and riparian corridors.
- F. Protect public health, safety, and welfare. Sensitive land areas are designated as such to protect the public health, safety, and welfare of the community through the regulation of these sensitive land areas.
- G. Location. Sensitive lands are lands potentially unsuitable for development because of their location within:

1. The special flood hazard area or 1996 flood inundation line, whichever is greater;
2. Natural drainageways;
3. Wetland areas that are regulated by the other agencies including the U.S. Army Corps of Engineers and the Division of State Lands, or are designated as significant wetland on the City of Tigard “Wetland and Stream Corridors Map”;
4. Steep slopes of 25 percent or greater and unstable ground; and
5. Significant fish and wildlife habitat areas designated on the City of Tigard “Significant Habitat Areas Map.” (Ord. 18-21 §2; Ord. 17-22 §2)

**18.510.020 Applicability**

- A. CWS stormwater connection permit. All proposed development must obtain a stormwater connection permit from CWS in compliance with its design and construction standards.
- B. Allowed uses with no approval required. Except as provided below and by Subsections 18.510.020.D, F, and G of this section, the following uses are allowed uses within drainageways, slopes that are 25 percent or greater, and unstable ground when the use does not involve paving. For the purposes of this chapter, the word “structure” excludes: children’s play equipment, picnic tables, sand boxes, grills, basketball hoops, and similar recreational equipment.
  1. Accessory uses such as lawns, gardens, or play areas; except in a water quality sensitive area or vegetated corridor, as defined in the CWS “Design and Construction Standards” or the Statewide Goal 5 vegetated corridor established for the Tualatin River, as defined in Section 18.510.080.
  2. Farm uses conducted without locating a structure within the sensitive land area; except in a water quality sensitive area or vegetative corridor, as defined in CWS “Design and Construction Standards” or the Statewide Goal 5 vegetated corridor established for the Tualatin River, as defined in Section 18.510.080.
  3. Community recreation uses, excluding structures; except in a water quality sensitive area or vegetated corridor, as defined in the CWS “Design and Construction Standards” or the Statewide Goal 5 vegetated corridor established for the Tualatin River, as defined in Section 18.510.080.
  4. Public and private conservation areas for water, soil, open space, forest, and wildlife resources.
  5. Removal of poison oak, tansy ragwort, blackberry, English ivy, or other noxious vegetation.
  6. Maintenance of floodway excluding re-channeling; except in a water quality sensitive area or vegetated corridor, as defined in the CWS “Design and Construction Standards” or the Statewide Goal 5 vegetated corridor established for the Tualatin River, as defined in Section 18.510.080.
  7. Fences; a water quality sensitive area or vegetated corridor, as defined in the CSW “Design and Construction Standards”; or the Statewide Goal 5 vegetated corridor established for the Tualatin River, as defined in Section 18.510.080.
  8. Accessory structures that are less than 120 square feet in size; a water quality sensitive area or vegetated corridor, as defined in the CSW “Design and Construction Standards”; or the Statewide

Goal 5 vegetated corridor established for the Tualatin River, as defined in Section 18.510.080.

9. Land form alterations involving up to 10 cubic yards of material; a water quality sensitive area or vegetated corridor, as defined in the CSW “Design and Construction Standards”; or the Statewide Goal 5 vegetated corridor established for the Tualatin River, as defined in Section 18.510.080.

C. Exemptions. When performed under the direction of the city, the following are exempt from the provisions of this section:

1. Responses to public emergencies, including emergency repairs to public facilities;
2. Stream and wetlands restoration and enhancement programs, except in special flood hazard areas when meeting the definition of development in Paragraph 18.510.040.R.1;
3. Non-native vegetation removal;
4. Planting of native plant species; and
5. Routine maintenance or replacement of existing public facilities projects, except in special flood hazard areas when meeting the definition of development in Paragraph 18.510.040.R.1.

D. Jurisdictional wetlands. Landform alterations or developments that are only within wetland areas that meet the jurisdictional requirements and permit criteria of the U.S. Army Corps of Engineers, Division of State Lands, CWS, or other federal, state, or regional agencies, and are not designated as significant wetlands on the City of Tigard “Wetland and Streams Corridors Map,” do not require a sensitive lands review. The city will require that all necessary approvals from other agencies are obtained. All other applicable city requirements must be met, including sensitive land reviews for areas within the special flood hazard area, slopes of 25 percent or greater or unstable ground, drainageways, and wetlands that are not under state or federal jurisdiction.

E. Administrative sensitive lands review.

1. Administrative sensitive lands reviews within the special flood hazard area (excluding the floodway), drainageway, slopes that are 25 percent or greater, and unstable ground are processed through a Type I procedure, as provided in Section 18.710.050, for the following actions:
  - a. The repair, reconstruction, or improvement of an existing structure or utility, the cost of which is less than 50 percent of the market value of the structure prior to the improvement or the damage requiring reconstruction.
  - b. Actions within the special flood hazard area:
    - i. The construction of accessory structures up to 528 square feet in size; and
    - ii. Any landform alternation involving up to 50 cubic yards of material.
  - c. Actions within drainageways and slopes that are 25 percent or greater, and unstable ground:
    - i. Minimal ground disturbances or landform alterations involving 10 to 50 cubic yards of material; and

- ii. Building permits for accessory structures that are 120 to 528 square feet in size.
- 2. The approval authority will approve, approve with conditions, or deny a sensitive land review application using the standards and approval criteria Sections 18.510.040, 18.510.050, 18.510.070 and 18.510.080.

F. Sensitive lands approvals issued by the director.

- 1. Sensitive land reviews within drainageways, slopes that are 25 percent or greater or unstable ground, and wetland areas that are not regulated by other local, state, or federal agencies and are designated as significant wetlands on the City of Tigard “Wetland and Streams Corridors Map” are processed through a Type II procedure, as provided in Section 18.710.060, for the following actions:
  - a. Ground disturbance or land form alterations involving more than 50 cubic yards of material;
  - b. Repair, reconstruction, or improvement of an existing structure or utility, the cost of which equals or exceeds 50 percent of the market value of the structure prior to the improvement or the damage requiring reconstruction;
  - c. Residential and nonresidential structures intended for human habitation; and
  - d. Accessory structures that are greater than 528 square feet in size.
- 2. The approval authority will approve, approve with conditions, or deny a sensitive lands review application using the approval criteria provided in Section 18.510.070.

G. Sensitive lands approvals issued by the hearings officer.

- 1. Sensitive land reviews within special flood hazard areas are processed through a Type III-HO procedure, as provided in Section 18.710.070, for the following actions:
  - a. Ground disturbance or landform alterations in all floodway areas;
  - b. Ground disturbance or landform alterations in floodway fringe locations involving more than 50 cubic yards of material;
  - c. Repair, reconstruction, or improvement of an existing structure or utility, the cost of which equals or exceeds 50 percent of the market value of the structure prior to the improvement or the damage requiring reconstruction provided no development occurs in the floodway;
  - d. Structures intended for human habitation; and
  - e. Accessory structures that are greater than 528 square feet in size, outside of floodway areas.
- 2. The approval authority will approve, approve with conditions, or deny a sensitive lands review application using the approval criteria provided in Section 18.510.070.

H. Other uses. Except as explicitly authorized by other provisions of this chapter, all other uses are prohibited on sensitive land areas.

- I. Nonconforming uses. A use established prior to the effective date of this title, which would be prohibited by this chapter or that would be subject to the limitations and controls imposed by this chapter, shall be considered a nonconforming use. Nonconforming uses shall be subject to the provisions of Chapter 18.50, Nonconforming Circumstances. (Ord. 18-23 §2; Ord. 18-21 §2; Ord. 17-22 §2)

#### **18.510.030 Administrative Provisions**

- A. Interagency coordination. The approval authority will review all applications for a sensitive lands review to determine that all necessary approvals be obtained from those federal, state, or local governmental agencies, from which prior approval is also required.

As provided in CWS “Design and Construction Standards,” the necessary permits for all “development” must comply include a CWS service provider letter, which specifies the conditions and requirements necessary, if any, for an applicant to comply with CWS water quality protection standards and for the agency to issue a stormwater connection permit.

- B. Alteration or relocation of water course.

1. The director will notify communities adjacent to the affected area and the State Department of Land Conservation and Development prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Insurance Administration;
2. The director will require that maintenance is provided within the altered or relocated portion of a watercourse so that the flood-carrying capacity is not diminished.

- C. Applicable standards and criteria. The approval authority will apply the standards and criteria provided in this chapter when reviewing an application for a sensitive lands review.

- D. Elevation and floodproofing certification. The approval authority will require that the elevations and floodproofing certification required in Subsection 18.510.030.E be provided prior to permit issuance and verification upon occupancy and final approval.

- E. Maintenance of records.

1. Where base flood elevation data is provided through the flood insurance study, the building official will obtain and record the actual elevation (in relation to mean sea level) of the lowest floor (including basement) of all new or substantially improved structures, and whether or not the structure contains a basement;
2. For all new or substantially improved floodproofed structures, the building official will:
  - a. Verify and record the actual elevation (in relation to mean sea level); and
  - b. Maintain the floodproofing certifications required in this chapter.
3. The director will maintain for public inspection all other records pertaining to the provisions in this chapter. (Ord. 18-23 §2; Ord. 18-21 §2; Ord. 17-22 §2)

## **18.510.040 General Provisions for Special Flood Hazard Areas**

- A. Review. The approval authority will review all applications to determine whether proposed building sites will minimize the potential for flood damage.
- B. Special flood hazard. The areas of special flood hazard identified by FEMA in a scientific and engineering report entitled “The Flood Insurance Study for Washington County, Oregon and Incorporated Areas effective October 19, 2018” with accompanying Flood Insurance Map is hereby adopted by reference and declared to be a part of this ordinance.
- C. Base flood elevation data. When base flood elevation data has not been provided in compliance with Subsection 18.510.040.B, the approval authority will obtain, review and reasonably utilize any base flood elevation and floodway data available from a federal, state or other source, in order to administer Subsections 18.510.040.M and N.
- D. Test of reasonableness. Where elevation data is not available either through the flood insurance study or from another authoritative source, applications for building permits will be reviewed to assure that the potential for flood damage to the proposed construction will be minimized. The test of reasonableness is a local judgment and includes use of historical data, high water marks, photographs of past flooding, etc., where available. Failure to elevate at least 2 feet above grade in these sensitive land areas may result in higher insurance rates.
- E. Resistant to flood damage. All new construction and substantial improvements, including manufactured homes, must be constructed with materials and utility equipment resistant to flood damage.
- F. Minimize flood damage. All new construction and substantial improvements, including manufactured homes, must be constructed using methods and practices that minimize flood damage.
- G. Equipment protection. Electrical, heating, ventilation, plumbing, and air-conditioning equipment and other service facilities must be designed or otherwise elevated or located so as to prevent water from entering or accumulating within the components during conditions of flooding.
- H. Water supply systems. All new and replacement water supply systems must be designed to minimize or eliminate infiltration of floodwater into the system.
- I. Anchoring. All new construction, all manufactured homes and substantial improvements must be anchored to prevent flotation, collapse, or lateral movement of the structure.
- J. Sanitary sewerage systems. New and replacement sanitary sewerage systems must be designed to minimize or eliminate infiltration of floodwater into the systems and discharge from the systems into floodwater.
- K. On-site waste disposal systems. On-site waste disposal systems must be located to avoid impairment to them or contamination from them during flooding.
- L. Residential construction.
  - 1. New construction and substantial improvement of any residential structure, including manufactured homes, must have the lowest floor, including the basement, elevated at least 1 foot above base flood elevation;

2. Fully enclosed areas below the lowest floor that are subject to flooding are prohibited or must be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwater. Designs for meeting this requirement must either be certified by a registered professional engineer or architect, or must meet or exceed the following minimum criteria:
  - a. A minimum of 2 openings having a total net area of not less than 1 square inch for every square foot of enclosed area subject to flooding must be provided;
  - b. The bottom of all openings must be no higher than 1 foot above grade; and
  - c. Openings may be equipped with screens, louvers, or other coverings or devices, provided that they permit the automatic entry and exit of flood waters.
3. Manufactured homes must be securely anchored to an adequately anchored permanent foundation system to prevent flotation, collapse, and lateral movement during the base flood. Anchoring methods may include, but are not limited to, use of over-the-top or frame ties to ground anchors. Electrical crossover connections shall be a minimum of 12 inches above BFE.

M. Nonresidential construction. New construction and substantial improvement of any commercial, industrial, or other nonresidential structure must either have the lowest floor, including basement, elevated to the level of the base flood elevation, or together with attendant utility and sanitary facilities, must:

1. Be floodproofed so that below the base flood level the structure is watertight with walls substantially impermeable to the passage of water;
2. Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy;
3. Be certified by a registered professional engineer or architect that the design and methods of construction are in compliance with accepted standards of practice for meeting provisions of this subsection based on their development or review of the structural design, specifications and plans. Such certifications must be provided to the building official as provided in Paragraph 18.510.030.E.2; and
4. Nonresidential structures that are elevated, not floodproofed, must meet the same standards for space below the lowest floor as described in Paragraph 18.510.040.L.2. Applicants flood-proofing nonresidential buildings must be notified that flood insurance premiums will be based on rates that are 1 foot below the floodproofed level (e.g., a building constructed to the base flood level will be rated as 1 foot below that level).

N. Subdivisions and partitions in special flood hazard areas. Subdivisions and partitions in the special flood hazard area must meet the following criteria:

1. The design must minimize the potential for flood damage;
2. Public utilities and facilities such as sewer, gas, electrical, and water systems must be located and constructed so as to minimize flood damage;
3. Adequate drainage must be provided to reduce exposure to flood damage; and

4. For subdivisions or partitions that contain more than 50 lots or 5 acres and where base flood elevation data is not available from the Federal Emergency Management Agency (FEMA) or another authoritative source, the applicant must generate base flood elevation data to be reviewed as part of the application.
- O. Recreational vehicles. Recreational vehicles placed on sites within Zones A1-A30, AH, and AE on the flood insurance rate map either:
1. Are on the site for fewer than 180 consecutive days;
  2. Are fully licensed and ready for highway use:
    - a. Are on wheels or jacking system,
    - b. Are attached to the site only by quick disconnect type utilities and security devices, and have no permanently attached additions, or
    - c. Meet the requirements of Subsections 18.510.040.E, F, I, and L and the elevation and anchoring requirements for manufactured homes.
- P. Critical facilities. Construction of new critical facilities must be, to the extent possible, located outside of the limits of the special flood hazard area. Construction of new critical facilities are allowed within the special flood hazard area if no feasible alternative site is available. Critical facilities constructed within the special flood hazard area must have the lowest floor elevated 3 feet above base flood elevation or to the height of the 500-year flood, whichever is higher. Access to and from the critical facility should also be protected to the height utilized above. Floodproofing and sealing measures must be taken to ensure that toxic substances will not be displaced by or released into floodwaters. Access routes elevated to or above the level of the base flood elevation must be provided to all critical facilities to the extent possible.
- Q. Severability. If any section, clause, sentence, or phrase of the ordinance is held to be invalid or unconstitutional by any court of competent jurisdiction, then said holding will in no way affect the validity of the remaining portions of this chapter.
- R. Definitions. The following definitions are only applicable to this section:
1. Basement - Any area of the building having its floor subgrade (below ground level) on all sides
  2. Development - Any man-made change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations or storage of equipment or materials.
  3. Elevated Building – For insurance purposed, a non-basement building and that has its lowest elevated floor raised above ground level by foundation walls, shear walls, posts, piers, pilings, or columns.
  4. Flood Insurance Rate Map (FIRM) – The official map of a community, on which the Federal Insurance Administrator has delineated both the special hazard areas and the risk premium zones applicable to the community. A FIRM that has been made available digitally is called a Digital Flood Insurance Rate Map (DFIRM).
  5. Flood Insurance Study (FIS) - The official report provided by the Federal Insurance

Administration that includes flood profiles, the Flood Boundary-Floodway Map, and the water surface elevation of the base flood.

6. Lowest Floor - The lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access or storage in an area other than a basement area is not considered a building's lowest floor; Provided, that such enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements of Section 60.3.
7. Manufactured Home - A structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when attached to the required utilities. The term "manufactured" home does not include a "recreational vehicle."
8. Manufactured Home Park or Subdivision - A parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale
9. New Construction - For the purposes of determining insurance rates, structures for which the "start of construction" commenced on or after the effective date of an initial FIRM or after December 31, 1974, whichever is later, and includes any subsequent improvements to such structures. For floodplain management purposes, *new construction* means structures for which the *start of construction* commenced on or after the effective date of a floodplain management regulation adopted by a community and includes any subsequent improvements to such structures.
10. Recreational Vehicle - a vehicle which is: (a) Built on a single chassis; (b) 400 square feet or less when measured at the largest horizontal projection; (c) Designed to be self-propelled or permanently towable by a light duty truck; and (d) Designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use.
11. Start of Construction - Includes substantial improvement, and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, placement or other improvement was within 180 days of the permit date. The actual start means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling; nor does it include the installation of streets or walkways; nor does it include excavation for a basement, footings, piers, or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor, or other structural part of a building, whether or not that alteration affects the external dimensions of the building.
12. Structure - for floodplain management purposes, a walled and roofed building, including a gas or liquid storage tank, that is principally above ground.
13. Substantial Damage - means damage of any origin sustained by a structure whereby the cost of restoring the structure to its before-damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.
14. Substantial Improvement - Any reconstruction, rehabilitation, addition, or other improvement of a

structure, the cost of which equals or exceeds 50 percent of the market value of the structure either:

- a. Before the "start of construction" of the improvement; or
- b. If the structure has been damaged and is being restored, before the damage occurred.
- c. The term does not, however, include either:
  - i. Any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions; or
  - ii. Any alteration of a structure listed on the National Register of Historic Places or a State Inventory of Historic Places, provided that the alteration will not preclude the structure's designation as a "historic structure."

15. Violation - The failure of a structure or other development to be fully compliant with the community's flood plain management regulations. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance required in Section 60.3(b)(5), (c)(4), (c)(10), (d)(3), (e)(2), (e)(4), or (e)(5) is presumed to be in violation until such time as that documentation is provided.

- S. Disclaimer of liability. This section provides a reasonable degree of flood protection but does not imply total flood protection.
- T. Greater restriction. This section does not in any way impair or remove the necessity of compliance with any other applicable laws, ordinances, regulations, etc. Where this section imposes a greater restriction, the provisions of this section govern.
- U. New technical data. Notify FEMA within 6 months of project completion when an applicant has obtained a Conditional Letter of Map Revision (CLOMR) from FEMA, or when development altered a watercourse, modified floodplain boundaries, or modified Base Flood Elevations. This notification shall be provided as a Letter of Map Revision (LOMR). (Ord. 18-23 §2; Ord. 18-21 §2; Ord. 17-22 §2)

#### **18.510.050 General Provisions for Wetlands**

- A. Code compliance requirements. Wetland regulations apply to those areas classified as significant on the City of Tigard "Wetland and Streams Corridors Map," and to a vegetated corridor ranging from 25 to 200 feet wide, measured horizontally, from the defined boundaries of the wetland, as provided in "Table 3.1, Vegetated Corridor Widths," and "Appendix C, Natural Resource Assessments," of the CWS "Design and Construction Standards." Wetland locations may include but are not limited to those areas identified as wetlands in "Wetland Inventory and Assessment for the City of Tigard, Oregon," Fishman Environmental Services, 1994.
- B. Delineation of wetland boundaries. Precise boundaries may vary from those shown on wetland maps; specific delineation of wetland boundaries may be necessary. Wetland delineation will be done by qualified professionals at the applicant's expense. (Ord. 18-21 §2; Ord. 17-22 §2)

## **18.510.060 Approval Period and Extensions**

Expirations and extensions of approvals are provided in Subsection 18.20.040.G. (Ord. 18-28 §1; Ord. 18-23 §2; Ord. 18-21 §2; Ord. 17-22 §2)

## **18.510.070 Sensitive Lands Applications**

- A. Approval required. An applicant, who wishes to develop within a sensitive area, as defined in this chapter, must obtain approval in certain situations. Depending on the nature and intensity of the proposed activity within a sensitive area, either a Type II or Type III review is required, as provided in Subsections 18.510.020.F and G. The approval criteria for different types of sensitive areas are provided in Subsections 18.510.070.B–E.
- B. Within the special flood hazard area. The approval authority will approve or approve with conditions an application for sensitive lands review within the special flood hazard area when all of the following criteria are met:
1. Compliance with all of the applicable requirements of this title;
  2. Land form alterations must preserve or enhance the special flood hazard area storage function and maintenance of the zero-foot rise floodway must not result in any encroachments, including fill, new construction, substantial improvements and other development unless certified by a registered professional engineer that the encroachment will not result in any increase in flood levels during the base flood discharge;
    - a. If in the floodway and no-rise requirement is met, the development will comply with all applicable flood hazard reduction provisions.
  3. Land form alterations or developments within the special flood hazard area are allowed only in areas designated as commercial or industrial on the comprehensive plan land use map, except that alterations or developments associated with community service uses, utilities, or public support facilities are allowed on residentially zoned properties subject to applicable zoning standards;
  4. Where a land form alteration or development is allowed to occur within the special flood hazard area it will not result in any increase in the water surface elevation of the 100-year flood;
  5. The land form alteration or development plan includes a pedestrian or bicycle pathway in compliance with the adopted Transportation System Plan or Greenways Trail System Master Plan, unless the construction of said pathway is deemed as untimely;
  6. Pedestrian or bicycle pathway projects within the special flood hazard area must include a wildlife habitat assessment that shows the proposed alignment minimizes impacts to significant wildlife habitat while balancing the community's recreation and environmental educational goals;
  7. The necessary U.S. Army Corps of Engineers and State of Oregon Land Board, Division of State Lands, and CWS permits and approvals must be obtained; and
  8. Where land form alterations or development are allowed within and adjacent to the special flood hazard area, the city will require the consideration of dedication of sufficient open land area within and adjacent to the special flood hazard area in compliance with the comprehensive plan. This area must include portions of a suitable elevation for the construction of a pedestrian or

bicycle pathway within the special flood hazard area in compliance with the adopted Transportation System Plan or Greenways Trail System Master Plan.

C. With steep slopes. The approval authority will approve or approve with conditions an application for a sensitive lands review on slopes of 25 percent or greater or unstable ground when all of the following criteria are met:

1. Compliance with all of the applicable requirements of this title;
2. The extent and nature of the proposed land form alteration or development will not create site disturbances to an extent greater than that required for the use;
3. The proposed land form alteration or development will not result in erosion, stream sedimentation, ground instability, or other adverse on-site and off-site effects or hazards to life or property;
4. The structures are appropriately sited and designed to ensure structural stability and proper drainage of foundation and crawl space areas for development with any of the following soil conditions: wet or high water table; high shrink-swell capability; compressible or organic; and shallow depth-to-bedrock; and
5. Where natural vegetation has been removed due to land form alteration or development, the areas not covered by structures or impervious surfaces will be replanted to prevent erosion in compliance with CWS “Design and Construction Standards”.

D. Within drainageways. The approval authority will approve or approve with conditions an application for a sensitive lands review within drainageways when all of the following criteria are met:

1. Compliance with all of the applicable requirements of this title;
2. The extent and nature of the proposed land form alteration or development will not create site disturbances to an extent greater than that required for the use;
3. The proposed land form alteration or development will not result in erosion, stream sedimentation, ground instability, or other adverse on-site and off-site effects or hazards to life or property;
4. The water flow capacity of the drainageway is not decreased;
5. Where natural vegetation has been removed due to land form alteration or development, the areas not covered by structures or impervious surfaces will be replanted to prevent erosion in compliance with CWS “Design and Construction Standards”;
6. The drainageway will be replaced by a public facility of adequate size to accommodate maximum flow in compliance with Clean Water Services requirements and the city’s adopted stormwater master plan;
7. The necessary U.S. Army Corps of Engineers and State of Oregon Land Board, Division of State Lands, and CWS approvals must be obtained;
8. Where land form alterations or development are allowed within and adjacent to the special flood

hazard area, the city will require the consideration of dedication of sufficient open land area within and adjacent to the special flood hazard area in compliance with the comprehensive plan. This area will include portions of a suitable elevation for the construction of a pedestrian or bicycle pathway within the special flood hazard area in compliance with the adopted pedestrian bicycle pathway plan.

- E. Within wetlands. The approval authority will approve or approve with conditions an application for a sensitive lands review within wetlands when all of the following criteria are met:
1. Compliance with all of the applicable requirements of this title;
  2. The proposed land form alteration or development is neither on wetland in an area designated as significant wetland on the comprehensive plan special flood hazard area and wetland map nor is within the vegetative corridor as provided in “Table 3.1 Vegetative Corridor Widths” and “Appendix C: Natural Resources Assessments” of the CWS “Design and Construction Standards,” for such a wetland;
  3. The extent and nature of the proposed land form alteration or development will not create site disturbances to an extent greater than the minimum required for the use;
  4. Any encroachment or change in on-site or off-site drainage that would adversely impact wetland characteristics have been mitigated;
  5. Where natural vegetation has been removed due to land form alteration or development, erosion control provisions of the Surface Water Management program of Washington County must be met and areas not covered by structures or impervious surfaces will be replanted in like or similar species in compliance with CWS “Design and Construction Standards”;
  6. All other sensitive lands requirements of this chapter have been met;
  7. The necessary U.S. Army Corps of Engineers and State of Oregon Land Board, Division of State Lands, and CWS approvals must be obtained;
  8. Physical limitations and natural hazards, special flood hazard area and wetlands, natural areas, and parks, recreation and open space policies of the comprehensive plan have been met. (Ord. 18-28 §1; Ord. 18-23 §2; Ord. 18-21 §2; Ord. 17-22 §2)

**18.510.080 Special Provisions within Locally Significant Wetlands and Along the Tualatin River, Fanno Creek, Ball Creek, and the South Fork of Ash Creek**

- A. In order to address the requirements of Statewide Planning Goal 5 (Natural Resources) and the safe harbor provisions of the Goal 5 administrative rule (OAR 666-023-0030) pertaining to wetlands, all wetlands classified as significant on the City of Tigard “Wetlands and Streams Corridors Map” are protected. No land form alterations or developments are allowed within or partially within a significant wetland, except as allowed or approved in compliance with Section 18.510.100.
- B. In order to address the requirements of Statewide Planning Goal 5 (Natural Resources) and the safe harbor provisions of the Goal 5 administrative rule (OAR 660-023-0030) pertaining to riparian corridors, a standard setback distance or vegetated corridor area, measured horizontally from and parallel to the top of the bank, is established for the Tualatin River, Fanno Creek, Ball Creek, and the South Fork of Ash Creek.

1. The standard width for “good condition” vegetated corridors along the Tualatin River is 75 feet, unless wider in compliance with CWS “Design and Construction Standards,” or modified in compliance with Section 18.510.100. If all or part of a locally significant wetland (a wetland identified as significant on the City of Tigard “Wetlands and Streams Corridors Map”) is located within the 75-foot setback area, the vegetated corridor is measured from the upland edge of the associated wetland.
2. The standard width for “good condition” vegetated corridors along Fanno Creek, Ball Creek, and the South Fork of Ash Creek is 50 feet, unless wider in compliance with CWS “Design and Construction Standards,” or modified in compliance with Section 18.510.100. If all or part of a locally significant wetland (a wetland identified as significant on the City of Tigard “Wetlands and Streams Corridors Map”) is located within the 50-foot setback area, the vegetated corridor is measured from the upland edge of the associated wetland.
3. The minimum width for “marginal or degraded condition” vegetated corridors along the Tualatin River, Fanno Creek, Ball Creek, and the South Fork of Ash Creek is 50 percent of the standard width, unless wider in compliance with CWS “Design and Construction Standards,” or modified in compliance with Section 18.510.100.
4. The determination of corridor condition is based on the natural resource assessment guidelines as provided in the CWS “Design and Construction Standards.”
5. The standard setback distance or vegetated corridor area applies to all development proposed on property located within or partially within the vegetated corridors, except as allowed below:
  - a. Roads, pedestrian or bike paths crossing the vegetated corridor from one side to the other in order to provide access to the sensitive area or across the sensitive area, as approved by the city in compliance with Section 18.510.070 and by CWS “Design and Construction Standards”;
  - b. Utility or service provider infrastructure construction (i.e. storm, sanitary sewer, water, phone, gas, cable, etc.), if approved by the city and CWS;
  - c. A pedestrian or bike path, not exceeding 10 feet in width and in compliance with the CWS “Design and Construction Standards”;
  - d. Grading for the purpose of enhancing the vegetated corridor, as approved by the city and CWS;
  - e. Measures to remove or abate hazards, nuisances, or fire and life safety violations, as approved by the regulating jurisdiction;
  - f. Enhancement of the vegetated corridor for water quality or quantity benefits, fish, or wildlife habitat, as approved by the city and CWS;
  - g. Measures to repair, maintain, alter, remove, add to, or replace existing structures, roadways, driveways, utilities, accessory uses, or other developments provided they are in compliance with city and CWS regulations, and do not encroach further into the vegetated corridor or sensitive area than allowed by the CWS “Design and Construction Standards.”
6. Land form alterations or developments located within or partially within the Goal 5 safeharbor

setback or vegetated corridor areas established for the Tualatin River, Fanno Creek, Ball Creek, and the South Fork of Ash Creek that meet the jurisdictional requirements and permit criteria of the CWS, U.S. Army Corps of Engineers, Department of State Lands, or other federal, state, or regional agencies, are not subject to this subsection B, except where the:

- a. Land form alterations or developments are located within or partially within a good condition vegetated corridor, as provided in Paragraphs 18.510.080.B.1 and 2;
- b. Land form alterations or developments are located within or partially within the minimum width area established for marginal or a degraded condition vegetated corridor, as provided in Paragraph 18.510.080.B.3.

These exceptions reflect instances of the greater protection of riparian corridors provided by the safe harbor provisions of the Goal 5 administrative rule. (Ord. 18-23 §2; Ord. 18-21 §2; Ord. 17-22 §2)

### **18.510.090 Density Transfer and Reductions**

A. Density transfer. Required residential density for apartments, rowhouses, and single detached houses may be transferred from sensitive lands using the following methods:

1. The units per acre calculated by subtracting land areas listed in Subparagraphs 18.40.020.A.1.a–c from the gross acres may be transferred to the remaining buildable land areas subject to the following limitations:
  - a. The number of units that can be transferred is limited to the number of units that would have been allowed on 25 percent of the unbuildable area if not for these regulations; and
  - b. The total number of units per site does not exceed 125 percent of the maximum number of units per gross acre allowed.
2. Units per acre calculated by subtracting land areas listed in Subparagraph 18.40.020.A.1.d from the gross acres may be transferred to the remaining buildable land areas on land zoned R-12, R-25, and R-40 subject to the following limitations:
  - a. The number of units that can be transferred is limited to the number of units that would have been allowed on the wetland area, if not for these regulations;
  - b. The total number of units per site does not exceed the maximum number of units per gross acre allowed.

B. Density reduction. The minimum number of residential units required in a development may be reduced if necessary to ensure that impacts on habitat areas are minimized. The amount of reduction in the minimum density is calculated by subtracting the square footage of inventoried significant habitat that is permanently protected from the total square footage used to calculate the minimum density requirement. The approval authority may impose any reasonable condition necessary to mitigate identified impacts resulting from development on otherwise unbuildable land.

The approval authority will approve, approve with conditions, or deny the density reduction provided that the proposal will directly result in the protection of significant habitat areas through placement in a non-buildable tract or protected with a restrictive easement. (Ord. 18-28 §1; Ord. 18-23 §2; Ord. 18-

**18.510.100 Plan Amendment Option**

- A. Comprehensive plan amendment. Any owner of property affected by the Goal 5 safeharbor (1) protection of significant wetlands or (2) vegetated areas established for the Tualatin River, Fanno Creek, Ball Creek, and the South Fork of Ash Creek may apply for a comprehensive plan amendment as provided in Chapter 18.790, Text and Map Amendments. This amendment must be based on a specific development proposal. The effect of the amendment would be to remove Goal 5 protection from the property, but not to remove the requirements related to the CWS Stormwater Connection Permit, which must be addressed separately through an alternatives analysis, as described in Section 3.02.5 of the CWS “Design and Construction Standards.” The applicant must demonstrate that such an amendment is justified by either of the following:
  - B. ESEE analysis. The applicant may prepare an environmental, social, economic and energy (ESEE) consequences analysis prepared in compliance with OAR 660-23-040.
    - 1. The analysis must consider the ESEE consequences of allowing the proposed conflicting use, considering both the impacts on the specific resource site and the comparison with other comparable sites within the Tigard Planning Area;
    - 2. The ESEE analysis must demonstrate to the satisfaction of the city council that the adverse economic consequences of not allowing the conflicting use are sufficient to justify the loss, or partial loss, of the resource;
    - 3. In particular, ESEE analysis must demonstrate why the use cannot be located on buildable land, consistent with the provisions of this chapter, and that there are no other sites within the Tigard Planning Area that can meet the specific needs of the proposed use;
    - 4. The ESEE analysis must be prepared by a team consisting of a wildlife biologist or wetlands ecologist and a land use planner or land use attorney, all of whom are qualified in their respective fields and experienced in the preparation of Goal 5 ESEE analysis;
    - 5. If the application is approved, then the ESEE analysis must be incorporated by reference into the Tigard Comprehensive Plan, and the “Tigard Wetland and Stream Corridor Map” be amended to remove the site from the inventory.
- C. Demonstration of change. In this case, the applicant must demonstrate that the sensitive area site no longer meets the applicable significance threshold defined by the Goal 5 administrative rule, relative to other comparable resources within the Tigard Planning Area.
  - 1. Significance thresholds are described and applied in the addendum to the City of Tigard Local Wetlands Inventory adopted by reference as part of this chapter.
  - 2. To approve this claim, the city council must find that the decline in identified resource values did not result from a violation of this title. (Ord. 18-23 §2; Ord. 18-21 §2; Ord. 17-22 §2)

**18.510.110 Significant Habitat Areas Map Verification Procedures**

- A. Applicants who concur that the significant habitat areas map is accurate must submit the following information to serve as the basis for verifying the boundaries of inventoried habitat areas:

1. Submission requirements.
    - a. A detailed property description;
    - b. A scale map of the property showing the locations of significant habitat areas, any existing built area, wetlands or water bodies, Clean Water Services' vegetated corridor, the special flood hazard area, the 1996 flood inundation line, and contour lines (2-foot intervals for slope less than 15 percent and 10-foot intervals for slopes 15 percent or greater); and
    - c. A current aerial photograph of the property.
  2. The approval authority's decision will be based on consideration of submitted information, site visit information, and other factual information. Should the applicant disagree with the determination on the location of significant habitat areas on the property, the precise boundaries must be verified by the applicant in compliance with the detailed delineation methodology outlined in Subsection 18.510.110.B.
- B. Applicants who believe that the map is inaccurate must submit a detailed delineation conducted by a qualified professional in compliance with the following methodology to verify the precise boundaries of the inventoried habitat areas by means of a Type II procedure.
1. Verifying boundaries of inventoried riparian habitat. Locating habitat and determining its riparian habitat class is a 4-step process:
    - a. Locate the water feature that is the basis for identifying riparian habitat.
      - i. Locate the top of bank of all streams, rivers, and open water within 200 feet of the property.
      - ii. Locate the special flood hazard area or 1996 flood inundation line, whichever is greater, within 100 feet of the property.
      - iii. Locate all wetlands within 150 feet of the property. Identified wetlands on the property must be further delineated consistent with methods currently accepted by the Oregon Division of State Lands and the U.S. Army Corps of Engineers.
    - b. Identify the vegetative cover status of all areas on the property that are within 200 feet of the top of bank of streams, rivers, and open water, are wetlands or are within 150 feet of wetlands, and are flood areas and within 100 feet of flood areas.
      - i. Vegetative cover status must be as identified on the metro vegetative cover map.
      - ii. The vegetative cover status of a property may be adjusted only if (a) the property was developed prior to the time the regional program was approved; or (b) an error was made at the time the vegetative cover status was determined. To assert the latter type of error, applicants must submit an analysis of the vegetative cover on their property using summer 2002 aerial photographs and the following definition of vegetative cover types in Table 18.510.1.

**Table 18.510.1  
Definitions of Vegetative Cover Types**

Type	Definition
Low structure vegetation or open soils	Areas that are part of a contiguous area 1 acre or larger of grass, meadow, croplands, or areas of open soils located within 300 feet of a surface stream (low structure vegetation areas may include areas of shrub vegetation less than 1 acre in size if they are contiguous with areas of grass, meadow, croplands, orchards, Christmas tree farms, holly farms, or areas of open soils located within 300 feet of a surface stream and together form an area of 1 acre in size or larger).
Woody vegetation	Areas that are part of a contiguous area 1 acre or larger of shrub or open or scattered forest canopy (less than 60 percent crown closure) located within 300 feet of a surface stream.
Forest canopy	Areas that are part of a contiguous grove of trees 1 acre or larger in area with approximately 60 percent or greater crown closure, irrespective of whether the entire grove is within 200 feet of the relevant water feature.

- c. Determine whether the degree that the land slope upward from all streams, rivers, and open water within 200 feet of the property is greater than or less than 25 percent (using the vegetated corridor measurement methodology as provided in Clean Water Services Design and Construction Standards; and
- d. Identify the riparian habitat classes applicable to all areas on the property using Table 18.510.2 and Table 18.510.3.

**Table 18.510.2  
Method for Locating Boundaries of Class I and II Riparian Areas**

Distance in feet from water feature	Development/Vegetation Status[1]			
	<i>Developed areas not providing vegetative cover</i>	<i>Low structure vegetation or open soils</i>	<i>Woody vegetation (shrub and scattered forest canopy)</i>	<i>Forest canopy (closed to open forest canopy)</i>
Surface streams				
0-50	Class II	Class I	Class I	Class I
50-100		Class II [2]	Class I	Class I
100-150		Class II [2] if slope > 25 percent	Class II [2] if slope > 25 percent	Class II [2]
150-200		Class II [2] if slope > 25 percent	Class II [2] if slope > 25 percent	Class II [2] if slope > 25 percent
Wetlands (Wetland feature itself is a Class I Riparian Area)				
0-100		Class II [2]	Class I	Class I
100-150				Class II [2]
Flood Areas (Undeveloped portion of flood area is a Class I Riparian Area)				
0-100			Class II [2]	Class II [2]

[1] The vegetative cover type assigned to any particular area was based on 2 factors: the type of vegetation observed in aerial photographs and the size of the overall contiguous area of vegetative cover to which a particular piece of vegetation belonged. As an example of how the categories were

assigned, in order to qualify as a “forest canopy” the forested area had to be part of a larger patch of forest land at least 1 acre in size.

- [2] Areas that have been identified as habitats of concern, as designated on the Metro Habitats of Concern Map, will be treated as Class I riparian habitat areas in all cases, subject to the provision of additional information that establishes that they do not meet the criteria used to identify habitats of concern as described in Metro’s Technical Report for Fish and Wildlife. Examples of habitats of concern include: Oregon white oak woodlands, bottomland hardwood forests, wetlands, native grasslands, riverine islands or deltas, and important wildlife migration corridors.

<b>Table 18.510.3 Tualatin Basin “Limit” Decision [1]</b>				
<b>Resource Category</b>	<b>Conflicting Use Category</b>			
	<i>High Intensity Urban</i>	<i>Other Urban</i>	<i>Future Urban (2002 and 2004 additions)</i>	<i>Non-Urban (outside UGB)</i>
Class I & II Riparian inside vegetated corridor	Moderately Limit	Strictly Limit	Strictly Limit	N/A
Class I & II Riparian outside vegetated corridor	Moderately Limit	Moderately Limit	Moderately Limit	Moderately Limit
All other Resource Areas	Lightly Limit	Lightly Limit	Lightly Limit	Lightly Limit
Inner Impact Area	Lightly Limit	Lightly Limit	Lightly Limit	Lightly Limit
Outer Impact Area	Lightly Limit	Lightly Limit	Lightly Limit	Lightly Limit

[1] Vegetated corridor standards are applied consistently throughout the District; in HIU areas they supersede the “limit” decision.

2. Verifying boundaries of inventoried upland habitat was identified based on the existence of contiguous patches of forest canopy, with limited canopy openings. The “forest canopy” designation is made based on analysis of aerial photographs as part of determining the vegetative cover status of land within the region. Upland habitat is as identified on the Significant Habitat Areas Map unless corrected as provided in this subsection.
  - a. The only allowed corrections to the vegetative cover status of a property area as follows:
    - i. To correct errors made when the vegetative status of an area was determined based on analysis of the aerial photographs used to inventory the habitat. The perimeter of an area delineated as “forest canopy” on the Metro Vegetative Cover Map may be adjusted to more precisely indicate the dripline of the trees within the canopied area provided that no areas providing greater than 60 percent canopy crown closure are de-classified from the “forest canopy” designation. To assert such errors, applicants must submit an analysis of the vegetative habitat cover on their property using the aerial photographs that were used to inventory the habitat and the definitions of the different vegetative cover types provided in Table 18.510.1; and
    - ii. To remove tree orchards and Christmas tree farms from inventoried habitat; provided, however, that Christmas tree farms where the trees were planted prior to 1975 and have not been harvested for sale as Christmas trees may not be removed from the habitat inventory.

- b. If the vegetative cover status of any area identified as upland habitat is corrected in compliance with Subparagraph 18.510.110.B.2.a to change the status of an area originally identified as “forest canopy,” then such area will not be considered upland habitat unless it remains part of a forest canopy opening less than 1 acre in area completely surrounded by an area of contiguous forest canopy. (Ord. 18-23 §2; Ord. 18-21 §2; Ord. 17-22 §2) ■