



# Oregon

Theodore R. Kulongoski, Governor

Department of Land Conservation and Development

635 Capitol Street, Suite 150

Salem, OR 97301-2540

(503) 373-0050

Fax (503) 378-5518

www.lcd.state.or.us

## NOTICE OF ADOPTED AMENDMENT

February 15, 2007

TO: Subscribers to Notice of Adopted Plan  
or Land Use Regulation Amendments

FROM: Mara Ulloa, Plan Amendment Program Specialist

SUBJECT: City of Hillsboro Plan Amendment  
DLCD File Number 006-06



The Department of Land Conservation and Development (DLCD) received the attached notice of adoption. A copy of the adopted plan amendment is available for review at the DLCD office in Salem and the local government office.

Appeal Procedures\*

### **DLCD ACKNOWLEDGMENT or DEADLINE TO APPEAL: March 5, 2007**

This amendment was submitted to DLCD for review 45 days prior to adoption. Pursuant to ORS 197.830 (2)(b) only persons who participated in the local government proceedings leading to adoption of the amendment are eligible to appeal this decision to the Land Use Board of Appeals (LUBA).

If you wish to appeal, you must file a notice of intent to appeal with the Land Use Board of Appeals (LUBA) no later than 21 days from the date the decision was mailed to you by the local government. If you have questions, check with the local government to determine the appeal deadline. Copies of the notice of intent to appeal must be served upon the local government and others who received written notice of the final decision from the local government. The notice of intent to appeal must be served and filed in the form and manner prescribed by LUBA, (OAR Chapter 661, Division 10). Please call LUBA at 503-373-1265, if you have questions about appeal procedures.

**\*NOTE: THE APPEAL DEADLINE IS BASED UPON THE DATE THE DECISION WAS MAILED BY LOCAL GOVERNMENT. A DECISION MAY HAVE BEEN MAILED TO YOU ON A DIFFERENT DATE THAN IT WAS MAILED TO DLCD. AS A RESULT YOUR APPEAL DEADLINE MAY BE EARLIER THAN THE ABOVE DATE SPECIFIED.**

Cc: Gloria Gardiner, DLCD Urban Planning Specialist  
Meg Fernekees, DLCD Regional Representative  
Amanda Punton, DLCD Natural Resource Specialist  
Valerie Counts, City of Hillsboro

<paa> ya/

**FORM 2**

**D L C D NOTICE OF ADOPTION**

This form **must be mailed** to DLCD **within 5 working days after the final decision** per ORS 197.610, OAR Chapter 660 - Division 18

(See reverse side for submittal requirements)

**DEPT OF**

**FFR 13 2007**

**LAND CONSERVATION AND DEVELOPMENT**

Jurisdiction: **City of Hillsboro** Local File No.: **ZOA 4-06**  
(If no number, use none)

Date of Adoption: **02/06/2007** Date Mailed: **02/12/2007**  
(Must be filled in) (Date mailed or sent to DLCD)

Date the Notice of Proposed Amendment was mailed to DLCD: **10/18/2006**

- Comprehensive Plan Text Amendment
- Land Use Regulation Amendment
- New Land Use Regulation
- Comprehensive Plan Map Amendment
- Zoning Map Amendment
- Other: \_\_\_\_\_  
(Please Specify Type of Action)

Summarize the adopted amendment. Do not use technical terms. Do not write see Attached.≡

**Zoning Ordinance Text amendments necessary to comply with Metro's Urban Growth Management Functional Plan (UGMFP), Title 13: Nature in Neighborhoods, and to implement the Tualatin Basin Fish & Wildlife Habitat Program.**

Describe how the adopted amendment differs from the proposed amendment. If it is the same, write same.≡ If you did not give notice for the proposed amendment, write AN/A.≡

**Same**  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Plan Map Changed from :  N/A  to  N/A

Zone Map Changed from:  N/A  to  N/A

Location:  N/A  Acres Involved:  N/A

Specify Density: Previous:  N/A  New:  N/A

Applicable Statewide Planning Goals:  Goal 5

Was an Exception Adopted? Yes:   No:  X

DLCD File No.:  006-06(15635)

ORDINANCE NO. 5729

**ZOA 4- 06: TEXT AMENDMENTS RELATED TO METRO FUNCTIONAL PLAN COMPLIANCE  
TITLE 13: NATURE IN NEIGHBORHOODS**

AN ORDINANCE AMENDING HILLSBORO ZONING ORDINANCE NO. 1945, AS AMENDED, INCLUDING CHANGES TO SEVERAL SECTIONS OF THE ZONING ORDINANCE NECESSARY TO COMPLY WITH THE ADOPTED REGION 2040 URBAN GROWTH MANAGEMENT FUNCTIONAL PLAN, TITLE 13: NATURE IN NEIGHBORHOODS.

WHEREAS, ORS 268.390 authorizes the Metropolitan Service District (hereinafter referred to as "Metro") to adopt functional plans and to require that local jurisdictions' comprehensive plans and implementing ordinances conform with such functional plans; and

WHEREAS, Metro has amended the *Urban Growth Management Functional Plan* (UGMFP) adding a new Title 13: Nature In Neighborhoods, that aims to protect regionally significant fish and wildlife, with which Hillsboro's comprehensive plan and implementing land use regulations must comply; and

WHEREAS, City staff have prepared the recommended HZO amendments, as directed by the Planning Commission, necessary to bring the City into compliance with Metro UGMFP requirements in Title 13: Nature In Neighborhoods as proposed in Exhibit "A", attached hereto, to HZO Sections 3, 20J, 86, 127, 131, 133, and a new Section 131B, Habitat Friendly Development; and

WHEREAS, on August 30, 2006, the Planning Commission held a work session regarding HZO amendments necessary to implement the Tualatin Basin Fish and Wildlife Program in order to comply with UGMF Title 13: Nature in Neighborhoods, and held a public hearing on this matter on January 10<sup>th</sup>, 2007; and

WHEREAS, the Planning Department has received no public comment on the proposed amendments, except for a letter from Metro, dated December 7, 2006, regarding Hillsboro Title 13 and Tualatin Basin Plan Compliance Review.

WHEREAS, the Planning Commission conducted a public hearing on the proposed amendments on January 10, 2007 at which no testimony on the proposed amendments was given, and

WHEREAS, based on the January 5, 2007 staff report and supporting materials, the Planning Commission voted to recommend to the City Council approval of the proposed amendments, adopting as supportive findings the Planning Department staff report dated January 5, 2007, with attachments, which is attached hereto as "Exhibit A", and

WHEREAS, at their regular meeting of February 6, 2007, the City Council gave due consideration to Planning Commission Resolution No. 1597-P and hereby adopts the Commission's recommendation regarding adoption of the proposed amendments to the Zoning Ordinance No. 1945, as amended, contained herein, and voted to adopt the findings of the Planning Commission as their own in regard to this matter.

NOW, THEREFORE, THE CITY OF HILLSBORO DOES ORDAIN AS FOLLOWS:

Hillsboro Zoning Ordinance No. 1945, as amended, is hereby further amended as follows:

Section 1. Zoning Ordinance No. 1945, as amended, is further amended in Section 3. Definitions to add two new definitions (35) Habitat Benefit Areas and (36) Habitat Friendly Development Practices, with existing definitions (35) through (100) renumbered accordingly; and existing definition (60) Minimum Residential Density amended to read as follows, and renumbered:

- (35) Habitat Benefit Areas. In accordance with the Tualatin Basin Fish & Wildlife Habitat Program, areas shown on Metro's Regionally Significant Fish and Wildlife Habitat Inventory map as containing Classes I, II, and III riparian corridors/wildlife habitat and Class A Upland Wildlife Habitat.
- (36) Habitat Friendly Development Practices. Includes a broad range of development techniques and activities that reduce the detrimental impact on fish and wildlife habitat relative to traditional development practices.
- (62) Minimum Residential Density. The minimum number of residential dwelling units required per net residential acre of developable land. The minimum residential density shall be at least 80% of the maximum number of dwelling units that can be built per net residential acre permitted by the zoning designation for the site. The minimum density permitted for a project is calculated by multiplying the minimum density standard by the net residential acres within the development site. However, in cases where significant natural resources are encountered within developable land, the minimum residential density may be limited to 50% of the maximum permitted by the zoning designation for the site in order to accommodate the protection of such significant natural resources including those identified within the City's Significant Natural Resource Overlay District, or within Habitat Benefit Areas included in Metro's Regionally Significant Fish and Wildlife Habitat Inventory.

Section 2. Zoning Ordinance No. 1945, as amended, is further amended in Section 20J. Sidewalk and Street Tree Standards to read as follows:

- (20J) Sidewalk and Street Tree Standards. In an R-6 zone, in a newly platted or replatted subdivision, property line sidewalks shall be installed with a minimum 4.5 foot wide planting strip between the curb and the sidewalk. Street trees shall be planted in the planting strip, concurrent with home construction, at two trees per lot for lots with fifty feet of frontage or greater and one tree per lot for lots with less than fifty feet of frontage. Where site conditions are favorable, the City encourages the provision of stormwater management facilities within the planting strip and other low impact development (LID) techniques and practices as described in Section 131B Habitat Friendly Development Practices. Street trees shall be planted in compliance with City standards.

Section 3. Zoning Ordinance No. 1945, as amended, is further amended in Section 86. General Provisions – Off-Street Parking and Loading, Subsection (9) Design requirements for parking lots, to revise subsection (a) to read as follows:

- (9) Design requirements for parking lots
  - (a) All code required parking areas located within any City zone shall have a durable, dust-free surfacing of asphaltic concrete, Portland Cement, or other approved materials. All code required parking areas shall be graded so as not to drain storm water over public sidewalks or onto any abutting public or private property. Where site conditions are favorable, the City shall encourage the use of pervious surfacing techniques and other low impact development (LID) techniques and practices as described in Section 131B. For the purposes of this Section, code required parking areas shall include parking spaces, parking aisles, loading areas and access drives.

Section 4. Zoning Ordinance No. 1945, as amended, is further amended in Section 127, Planned Unit Developments (PUD), Subsection (III) Standards and Criteria, to revise subsection E.; add a new subsection I.(6); and revise subsections K.1.b.(2); and L. to read as follows:

- E. The allowable residential density shall be established for the net development area of the subject property. This net area is calculated by subtracting the area set aside for non-residential uses (i.e. a school, commercial use, floodplain, wetlands, or wetland buffer) from the gross development area. All land areas intended for other uses such as parking and driveways, public utility easements, recreation, and open space, shall be included in the net development area figure. Except for projects located within or partially within the Significant Natural Resources Overlay (SNRO) District, allowable residential density shall be calculated by multiplying the net development acreage by the minimum units/acre of the density range next highest to that allowed according to the Hillsboro Comprehensive Plan Map designation for the property, to determine the number of units permitted. Allowable residential density for projects located within or partially within the SNRO District shall be calculated pursuant to Section 131A(14).

An increase in density above the minimum units/acre of the next highest designation specified by the Hillsboro Comprehensive Plan may be proposed and can be permitted. The applicant must justify increased density, and the burden of justification shall increase as the proposed density increases. At a minimum, the applicant must explain how the increase can be considered to be in conformance with the Plan designation for the site and demonstrate that any adverse impacts can be mitigated.

Pursuant to Comprehensive Plan Natural Resources, Open Space, Scenic and Historical Sites Policy (E) (5), in a proposed PUD containing Significant Natural Resource Sites, as shown on the SNRO District Map, the allowable densities shall be reduced within the Significant Natural Resources Overlay District, and may be transferred from the Significant Natural Resources Overlay District to the

remainder of the site, as specified in Section 131A. Density reductions and transfers may be allowed in the Tualatin Basin regional Goal 5 Program's Habitat Benefit Areas that are not within the Significant Natural Resource Overlay District.

- I. 6. Where site conditions are favorable to stormwater infiltration "green streets" designs may be utilized. In these cases, deviation from the street standards contained in Transportation Implementation Measure O and shown on the adopted street cross-sections may be permitted by the City. Permissible design elements and facilities include, but are not limited to, minimizing paving and/or using pervious paving materials, maximizing street tree coverage, using multi-functional open drainage systems in lieu of more conventional curb-and-gutter systems, reducing cul-de-sac radii and using vegetated islands in the center, and minimizing the negative effects of stream crossings.

- K.1.b.(2) the preservation of natural features or Habitat Benefit Areas which have been incorporated into the overall design of the project;

- L. Significant Natural Resource Sites.

Pursuant to Comprehensive Plan Natural Resources, Open Space, Scenic and Historical Sites Policy (E), applications for proposed PUD's containing Significant Natural Resource (SNR) Sites, as shown on a the Significant Natural Resources Overlay District Map, shall specifically address preservation of natural vegetation and wildlife habitat within the SNR Site. Applications for PUD's in the SNRO District shall be subject to the provisions in Section 131A. Preservation of Habitat Benefit Areas not within the SNRO District shall be addressed.

Section 5. Zoning Ordinance No. 1945, as amended, is further amended in Section 127, Planned Unit Development (PUD), Subsection (IV) Preliminary Application, to revise subsection 3.(f) to read as follows:

- f. resource areas of the site including marsh, wetland, and wildlife Habitat Benefit Areas;

Section 6. Zoning Ordinance No. 1945, as amended, is further amended to add a new Section 131B. Habitat Friendly Development to read as follows:

**Section 131B. Habitat Friendly Development**

A key element of the adopted Tualatin Basin Fish & Wildlife Habitat Program is the encouragement of the use of habitat Friendly Development practices, including Low Impact-Development (LID) techniques, designed to reduce the environmental impacts of new development. and remove barriers to their utilization. The intent is to provide flexibility in the land development ordinances to encourage the protection of qualified Habitat Benefit Areas. The following table contains a number of recommended Habitat-friendly development practices that may be considered where technically feasible and appropriate.

## **Habitat Friendly Development Practices**

### **Design and Construction Practices to Minimize Hydrologic Impacts**

1. Amend disturbed soils to original or higher level of porosity to regain infiltration and stormwater storage capacity.
2. Use pervious paving materials for residential driveways, parking lots, walkways, and within centers of cul-de-sacs.
3. Incorporate stormwater management in road right-of-ways.
4. Landscape with rain gardens to provide on-lot detention, filtering of rainwater, and groundwater recharge.
5. Use green roofs for runoff reduction, energy savings, improved air quality, and enhanced aesthetics.
6. Disconnect downspouts from roofs and direct the flow to vegetated infiltration/filtration areas such as rain gardens.
7. Retain rooftop runoff in a rain barrel for later on-lot use in lawn and garden watering.
8. Use multi-functional open drainage systems in lieu of more conventional curb-and-gutter systems.
9. Use bioretention cells as rain gardens in landscaped parking lot islands to reduce runoff volume and filter pollutants.
10. Apply a treatment train approach to provide multiple opportunities for storm water treatment and reduce the possibility of system failure.
11. Reduce sidewalk width and grade them such that they drain to the front yard of a residential lot or retention area.
12. Reduce impervious impacts of residential driveways by narrowing widths and moving access to the rear of the site.
13. Use shared driveways.
14. Reduce width of residential streets, depending on traffic and parking needs.
15. Reduce street length, primarily in residential areas, by encouraging clustering and using curvilinear designs.
16. Reduce cul-de-sac radii and use pervious vegetated islands in center to minimize impervious effects, and allow them to be utilized for truck maneuvering/loading to reduce need for wide loading areas on site.
17. Eliminate redundant non-ADA sidewalks within a site (i.e., sidewalk to all entryways and/or to truck loading areas may be unnecessary for industrial developments).
18. Minimize car spaces and stall dimensions, reduce parking ratios, and use shared parking facilities and structured parking.
19. Minimize the number of stream crossings and place crossing perpendicular to stream channel if possible.
20. Allow narrow street right-of-ways through stream corridors whenever possible to reduce adverse impacts of transportation corridors.

### **Design and Construction Practices to Minimize Impacts on Wildlife Corridors and Fish Passage**

1. Carefully integrate fencing into the landscape to guide animals toward animal crossings under, over, or around transportation corridors.
2. Use bridge crossings rather than culverts wherever possible.
3. If culverts are utilized, install slab, arch or box type culverts, preferably using bottomless designs that more closely mimic stream bottom habitat.
4. Design stream crossings for fish passage with shelves and other design features to facilitate terrestrial wildlife passage.
5. Extend vegetative cover through the wildlife crossing in the migratory route, along with sheltering areas.

### **Miscellaneous Other Habitat-Friendly Design and Construction Practices**

1. Use native plants throughout the development (not just in Habitat Benefit Areas).
2. Locate landscaping (required by other sections of the code) adjacent to Habitat Benefit Areas.
3. Reduce light-spill off into Habitat Benefit Areas from development.
4. Preserve and maintain existing trees and tree canopy coverage, and plant trees, where appropriate, to maximize future tree canopy coverage.

Section 7. Zoning Ordinance No. 1945, as amended, is further amended in Section 133. Development Review, Subsection IV. Plans Required, to revise subsections B. and F. to read as follows:

- B. A landscaping plan, drawn to scale, showing the location and types of existing trees (eight inches or greater in caliper measured four feet above ground level) and vegetation proposed to be removed and to be retained on the site, the location and design of landscaped areas and storm water management facilities, the varieties, sizes and spacing of trees and plant materials to be planted on the site, the proposed types and locations of irrigation systems to maintain plant materials, and other pertinent landscape features.
- F. A storm water plan developed in accordance with the standards specified in the City's drainage master plan and the Clean Water Services Resolution and Order No. 91-47 as applicable within Hillsboro's city limits. The storm water plan shall identify the location of drainage patterns and drainage courses on and within 100 feet of the boundaries of the site.

Section 8. Zoning Ordinance No. 1945, as amended, is further amended in Section 133. Development Review, Subsection V. Standards A., to revise subsections 5. and 15. to read as follows:

- A. All construction and development shall comply with the following standards:
  - 5. Stormwater management shall be provided in accordance with City drainage master plan requirements and design standards. The Planning Director may impose conditions to ensure that waters are drained from the development site so as to limit degradation of water quality. The Clean Water Service's Resolution and Order No. 91-47 as applicable within Hillsboro's City limits or any other - drainage standards as may be subsequently adopted by the City Council. Stormwater plans shall be reviewed and approved by the City Engineer for conformance with the adopted City drainage or stormwater standards prior to construction.
  - 15. Adequate public water, sanitary sewer and storm drainage facilities sufficient to serve the level of development approved shall be provided. The applicant shall demonstrate that adequate facilities and services are presently available or can be made available concurrent with development construction. Service providers shall be presumed correct in the evidence which they submit relating to the adequacy and availability of such facilities and services to the development. All facilities shall be designed to comply with adopted City standards, and the use of habitat friendly development practices and techniques described in Section 131B is encouraged and facilitated where technically feasible and appropriate. A development may be required to extend, modify or replace an existing off-site public water, sanitary sewer or storm drainage facility or system to the extent necessary to provide adequate public facilities or services to the development site. The development applicant may request from the City System Development Charge credits and/or



City reimbursements for utility improvements or oversizing of facilities as may be required under this provision.

Section 9. Zoning Ordinance No. 1945, as amended, is further amended in Section 133. Development Review, Subsection VI. On-site pedestrian access, to revise subsection B. to read as follows:

- B. On-site pedestrian walkways shall be well drained, hard surfaced and at least five (5) feet in unobstructed width. Walkways shall be increased to seven (7) feet in width when bordering parking spaces other than parallel parking spaces, and surface material shall contrast visually with adjoining surfaces. If a raised walkway is used, the ends of the raised portions shall be equipped with curb ramps. Where site conditions are favorable, the City may approve, where technically feasible and appropriate, the use of pervious surfacing techniques and other habitat friendly development techniques and practices as described in Section 131B.

Within automobile parking areas, or when the pedestrian circulation system is parallel and adjacent to an auto travel lane, pedestrian safety shall be improved by raising the walkway or separating it from the auto travel lane by a raised curb, bollards, landscaping or other physical barrier. When crossing driveways and parking areas, pedestrian crossings and walkways may be built at the same elevation as the driveways and walkways if they are constructed of permanent materials, including paving or markings in a manner which contrasts and clearly delineates the crossing or walkway at any time of day or night.

Section 10. Zoning Ordinance No. 1945, as amended, is further amended in Section 133. Development Review, Subsection VIII. Special Standards for Pedestrian/Bicycle Accessways, to revise subsection C. 2.a. to read as follows:


- C. Development standards
  - 2. The length of pedestrian/bicycle accessways between public streets shall not exceed 300 feet. Such accessways shall be free of horizontal obstructions and have a nine (9) foot, six (6) inch high vertical clearance. To safely accommodate both pedestrians and bicycles, the right-of-way widths of such accessways shall be as follows:
    - a. The accessways shall have a minimum 15 foot wide right-of-way with a minimum 10 foot wide paved surface. Where site conditions are favorable, the City may approve, where technically feasible and appropriate, the use of pervious surfacing techniques and habitat friendly development techniques and practices as described in Section 131B.

Section 11. Except as herein amended, Zoning Ordinance No. 1945, as amended shall remain in full force and effect.

Passed by the Council this 6<sup>th</sup> day of February, 2007.

Approved by the Mayor this 6<sup>th</sup> day of February, 2007.

  
\_\_\_\_\_  
Mayor

ATTEST:   
\_\_\_\_\_  
City Recorder

## CITY OF HILLSBORO



---

**STAFF REPORT**

---

TO: Planning Commission

FROM: Planning Department  
Long Range Division

DATE: January 5, 2007

RE: **Proposed Text Amendments to the Hillsboro Comprehensive Plan, Zoning & Subdivision Ordinances related to implementation of the Tualatin Basin Fish & Wildlife Program to Comply with Metro Urban Growth Management Functional Plan, Title 13: Nature in Neighborhoods**

The Planning Commission is scheduled to conduct a Public Hearing on January 10<sup>th</sup>, 2007 to receive comment on a package of comprehensive plan and development code amendments which are necessary to comply with the regional Urban Growth Management Functional Plan (UGMFP), Title 13: Nature in Neighborhoods, and fulfill the City's obligation with respect to the intergovernmental agreement as a member of the Tualatin Basin Natural Resources Coordinating Committee. The Planning Commission previously received staff reports dated October 6<sup>th</sup> and December 6<sup>th</sup>, 2006 on this matter. The proposed amendments were initiated by the Commission on October 11<sup>th</sup>, 2006.

Enclosed are draft resolutions recommending City Council approval of amendments to the Hillsboro Comprehensive Plan, Zoning and Subdivision Ordinances. The proposed amendments consist of text modifications to the following documents: Hillsboro Comprehensive Plan (HCP) Sections 3, 6, 12, 13, 17, and 18; Hillsboro Zoning Ordinance (ZOA) Sections 20J, 86, 127 and 133, and addition of a new Section 131B, Habitat Friendly Development; and Hillsboro Subdivision Ordinance (SOA) Article I Section 3, and Article II Sections 5 and 6.

The attached amendments are legislative in nature, therefore the 120 day rule does not apply. However, under the terms of the intergovernmental agreement (IGA) between Metro and the Tualatin Basin Natural Resources Coordinating Committee (TBNRCC), the city is obligated to adopt provisions necessary to comply with UGMFP Title 13: Nature in Neighborhoods within 60 days of state Department of Land Conservation & Development acknowledgement of this new functional plan title. Finalization of the written order of State approval and acknowledgement of Title 13 is anticipated this month (January 2007).

## Background

### ▪ GOAL 5

Goal 5 is the statewide planning goal that requires the conservation of open space and protection of natural and scenic resources. Goal 5 specifies a process by which fish and wildlife habitats are inventoried, analyzed and protected. Trade-offs are allowed, as statewide planning goals recognize the need for balance in resource protection and the needs of urban development.

To comply with state Goal 5, the City adopted a Natural Resources Management Program in 2003. At that time, the City was also working with partner jurisdictions in the Tualatin Basin to address the regional Goal 5 effort, and it was recognized that amendments to the Hillsboro Comprehensive Plan and development code would likely be needed after the regional program was completed.

### ▪ TUALATIN BASIN FISH & WILDLIFE HABITAT PROGRAM

In 2002, the City of Hillsboro, together with Washington County, the cities of Beaverton, Cornelius, Durham, Forest Grove, King City, Sherwood, Tigard, and Tualatin, Clean Water Services and the Tualatin Hills Park and Recreation District agreed to form the Tualatin Basin Natural Resources Coordinating Committee (TBNRCC) and entered into an intergovernmental agreement with Metro to meet federal and state requirements for protecting natural resources in the Tualatin Basin. The collaboration is informally referred to as Partners for Natural Places.

The TBNRCC undertook a process that complied with statewide planning Goal 5 to inventory, analyze and protect fish and wildlife habitat. The phases of the process are detailed below:

- Phase I (completed in 2002) – conducted an inventory of fish and wildlife habitats, including information about resource location, quality and quantity (region-wide inventory conducted by Metro), then determined the significance of the resources identified.
- Phase II (completed spring 2004) – Identified the uses that may conflict with the resource, determined the impact areas around the resource. The TBNRCC conducted an economic, social, environmental and energy (ESEE) analysis to identify consequences that could result from allowing, limiting or prohibiting the conflicting uses. Decisions were then made whether to allow, limit or prohibit conflicting uses based on the ESEE analysis (congruent efforts by Metro and Partners).

- Phase III (winter 2004 – summer 2006) – TBNRCC Program developed to achieve resource protection (congruent efforts by Metro and Partners). All participating jurisdictions in the TBNRCC are currently carrying out Program implementation activities.

On April 4, 2005 the Tualatin Basin Program was adopted by the TBNRCC subject to the intergovernmental agreement entered into between Metro and the TBNRCC. Please find attached a copy of the staff report dated March 23, 2005 to the TBNRCC discussing the Tualatin Basin Goal 5 Final ESEE Analysis, Allow-Limit-Prohibit & Program Recommendations.

According to the goal statement of the TBNRCC's *Basin Approach* document, "...The overall goal is to conserve, protect and restore a continuous ecologically viable streamside corridor system, from the stream's headwaters to their confluence with other streams and rivers, and with their floodplains in a manner that is integrated with the surrounding urban landscape. This system will be achieved through conservation, protection and appropriate restoration of streamside corridors through time..."

The Tualatin Basin Program consists of four major components: revenue, regulations, voluntary or non-regulatory, and monitoring. The program is structured to achieve the following three objectives:

- Preserve the existing system through regulation (existing CWS Design & Construction standards/vegetated corridor requirements) of new development and landscape alteration activities in core resource areas, and requiring mitigation of disturbances;
- Enhance overall health of regional sites through capital improvements designed to restore the natural function of riparian corridors; and
- Mitigate new development impacts to significant resources throughout the Basin through encouraging the use of Low Impact Development (LID) practices, along with the removal of existing barriers to implementing those guidelines for LID approaches. Provide incentives to utilization of LID such as flexible development standards.

In addition to the above, the non-regulatory program component addresses non-development related activities, and includes the following elements:

- Education
- Stewardship Recognition
- Restoration Funds
- Tax Incentives
- Technical Assistance
- Promote Volunteer Activities

- Acquisition

There are no additional regulations being proposed for the Tualatin Basin Program, the regulatory component of the Program consists of existing CWS Design & Construction standards/vegetated corridor requirements applicable to proposed development and redevelopment activities within and adjacent to areas designated as Water Quality Sensitive Areas. The Program is intended to convey a benefit to the developer in exchange for the use of habitat-friendly development practices. It is not intended to increase development restrictions. Use of the habitat friendly development standards would be at the option of the developer / property owner.

In 2005, the TBNRCC submitted its Tualatin Basin Goal 5 Program to Metro for review. The Metro Council accepted the Tualatin Basin program as recommended, and incorporated it into the regional Goal 5 program (UGMFP) Title 13: Nature in Neighborhoods that was adopted by the Metro Council (Ordinance No. 05-1077C) on September 29, 2005. Title 13 was submitted to the state Department of Land Conservation and Development (DLCD) for state Goal 5 compliance review. After adoption by the Metro Council and acknowledgment by LCDC, the new Title 13 text becomes part of the Metro Code with which local governments in the region are required to comply. The Tualatin Basin jurisdictions, pursuant to the Metro-TBNRCC intergovernmental agreement, have committed to adopt local ordinances within 60 days of state Title 13 acknowledgement to comply with conditions described in Metro Ordinance No. 05-1077C.

The Metro Council concluded that the Tualatin Basin Goal 5 Program has the potential to improve regionally significant habitat conditions within the basin, provided that each city and county that is a member of the TBNRCC meets the provisions outlined in Section 3 and 6 of Metro UGMFP Title 13: Nature In Neighborhoods and the following six conditions are met:

- 1) Development and adoption of local ordinances implementing the provisions of the Basin Program as incorporated in the Metro Urban Growth Management Functional Plan. This step includes provision of public notice(s) and holding public hearings and other public involvement activities as appropriate.
- 2) Development of a model Low Impact Development (LID) ordinance for the basin providing tools designed to reduce environmental impacts of new development and removing barriers to their utilization. This step includes local adoption of LID guidelines;
- 3) Coordination with Clean Water Services for activities necessary for implementation of the Healthy Streams Action Plan (including all related capital projects as needed), as well as for local actions needed to support the updated Stormwater Management Plan;

- 4) Coordination with Metro on development of a regional bond measure supporting protection of regionally significant fish & wildlife habitat;
- 5) Coordination with CWS, Metro and others as necessary to develop and support the voluntary and educational components of the Basin Program;
- 6) Coordination with CWS, Metro and others as necessary to develop and support the monitoring and adaptive management components of the Basin Program.

▪ **HABITAT FRIENDLY DEVELOPMENT/Low Impact Development (LID)**

The Tualatin Basin Program encourages the use of environmentally sensitive site design and construction practices throughout the watershed in order to reduce the impact of new development on fish and wildlife habitat in the basin, and to aid in improving environmental health. These design and construction practices include a variety of techniques known collectively as Habitat Friendly Development. A subset of Habitat Friendly Development is Low Impact Development (LID) which includes methods of reducing stormwater runoff and the overloading of storm sewers through the integration of open space and pervious surfaces into new development or existing development through retrofitting.

The Tualatin Basin Goal 5 Program Report recognizes that most jurisdictions in the basin will need to remove barriers in their existing regulations in order to allow for a Habitat Friendly/LID approach to meeting stormwater management requirements. The proposed HCP, ZOA, and SOA amendments will fulfill Hillsboro's obligation under the TBNRCC's IGA with Metro to remove barriers to utilization of LID techniques and to encourage and facilitate the use of other habitat-friendly development practices.

The *Tualatin Basin Goal 5 Program Implementation Report* is being finalized for presentation to the Tualatin Basin Natural Resources Coordinating Committee at their January 16, 2007 meeting. The draft report was distributed to the Planning Commission prior to the August 30<sup>th</sup>, 2006 work session. The final report will include updated local adoption schedules and a summary of planned or completed implementation actions by the participating jurisdictions. Copies of adopted ordinances or ordinances currently in the review and hearing process will be added to the report appendices. An excerpt from the report including Hillsboro's updated adoption schedule and implementation actions are attached to this staff report for the Commission's review.

### **Planning Commission Work Sessions & Actions**

The Planning Commission held a work session on August 30<sup>th</sup>, 2006 to discuss implementation of the Tualatin Basin Fish & Wildlife Habitat Program, and directed staff to prepare the necessary amendments initiating modifications to the Hillsboro Comprehensive Plan and development code to achieve compliance with UGMFP Title 13: Nature in Neighborhoods. The proposed amendments were also discussed during a joint work session of the City Council, Planning Commission and Parks Commission on October 30<sup>th</sup>, 2006.

The Commission initiated the proposed text amendments at their October 11<sup>th</sup>, 2006 meeting and set the hearing for December 13<sup>th</sup>, 2006. At the request of staff, the hearing was postponed by the Commission until January 10<sup>th</sup>, 2007.

### Text Amendment Summary

- **PROPOSED HCP AMENDMENTS**

The proposed comprehensive plan amendments (see attached resolution) modify several sections of the comprehensive plan to achieve substantial compliance with the Metro Functional Plan requirements, Title 13: Nature In Neighborhoods. The modifications include text amendments to the following sections: Section 3. Housing, Policies; Section 12. Public Facilities and Services, Implementation Measures; several sections of Section 13. Transportation; Section 17. NE 28<sup>th</sup> Avenue/East Main Street Plan Area, Urban Design Policies; and Section 18. Hillsboro Tanasbourne Community Plan, Policies.

- **PROPOSED SOA AMENDMENTS**

The proposed subdivision ordinance amendments (see attached resolution) modify several sections of the subdivision ordinance to achieve substantial compliance with the Metro Functional Plan requirements, Title 13: Nature In Neighborhoods. The modifications include text amendments to Articles I and II.

- **PROPOSED ZOA ORDINANCE AMENDMENTS**

The proposed zoning ordinance amendments (see attached resolution) modify several sections of the zoning ordinance to achieve substantial compliance with the Metro Functional Plan requirements, Title 13: Nature In Neighborhoods. The amendments include text amendments to the following sections: Section 20J. Sidewalk and Street Tree Standards; Section 86. General Provisions – Off-Street Parking and Loading, Design requirements for parking lots; several sections of Section 127, Planned Unit Development (PUD); several sections of Section 133. Development Review/Approval of Plans; and addition of a new Section 131B. Habitat Friendly Development.

### Public Comment

The Planning Department has received no comments or inquires regarding the proposed amendments except for a letter from Metro, dated December 7<sup>th</sup>, 2006, regarding City of Hillsboro Title 13 and Tualatin Basin Plan Compliance Review. This letter addresses applicable requirements for compliance with Metro UGMF Title 13: Nature in Neighborhoods recommends several additional modifications to the City's comprehensive plan and development code to further strengthen the City's ability to encourage and facilitate habitat friendly development practices. A copy of this letter is attached for the Commission's review,



and is hereby formally entered into the public record in these proceedings as requested by Metro.

Responding to Metro’s suggestion on page 2, staff added the words “and facilitate” after the word “encouraged” to HZO, Section 133, Development Review, subsection V, Standards, A.15 as shown:

Section 133. Development Review is amended to revise Subsection V. Standards, A, subsection 15 to read as follows:

A. All construction and development shall comply with the following standards:

15. Adequate public water, sanitary sewer and storm drainage facilities sufficient to serve the level of development approved shall be provided. The applicant shall demonstrate that adequate facilities and services are presently available or can be made available concurrent with development construction. Service providers shall be presumed correct in the evidence which they submit relating to the adequacy and availability of such facilities and services to the development. All facilities shall be designed to comply with adopted City standards, **and the use of habitat friendly development practices and techniques described in Section 131B is encouraged and facilitated where technically feasible and appropriate.** A development may be required to extend, modify or replace an existing off-site public water, sanitary sewer or storm drainage facility or system to the extent necessary to provide adequate public facilities or services to the development site. The development applicant may request from the City System Development Charge credits and/or City reimbursements for utility improvements or over sizing of facilities as may be required under this provision.


With respect to the other comments and suggestions contained in the Metro letter, staff asserts that the proposed package of HCP, SOA and ZOA text amendments contained in the attached resolutions is adequate to achieve substantial compliance with UGMFP Title 13 and fulfills the City’s obligation under the terms of the Tualatin Basin Natural Resources Coordinating Committee IGA.

### **Request for Planning Commission Action**

The Planning Staff recommends the Commission open the public hearing on the proposed HCP, ZOA and SOA text amendments related to UGMFP Title 13: Nature in Neighborhoods compliance, and take comment from the public. Draft copies of resolutions recommending that the City Council approve and adopt the proposed amendments are attached for the Commission’s consideration.

Respectfully submitted,

CITY OF HILLSBORO PLANNING DEPARTMENT



Valerie Soilihi, AICP  
Planning Supervisor

Attachments: Draft Planning Commission Resolutions: HCP/ZOA/SOA  
Excerpts from Tualatin Basin Goal 5 Program Implementation Report  
Metro letter, dated December 7, 2006

**RESOLUTION NO. 1596-P**  
**HCP 1- 06: TEXT AMENDMENTS RELATED TO METRO FUNCTIONAL PLAN COMPLIANCE**  
**TITLE 13: NATURE IN NEIGHBORHOODS**

A RESOLUTION RECOMMENDING CITY COUNCIL ADOPTION OF AMENDMENTS TO HILLSBORO COMPREHENSIVE PLAN ORDINANCE NO. 2793, AS AMENDED, INCLUDING CHANGES TO SEVERAL SECTIONS OF THE COMPREHENSIVE PLAN NECESSARY TO COMPLY WITH THE ADOPTED REGION 2040 URBAN GROWTH MANAGEMENT FUNCTIONAL PLAN, TITLE 13: NATURE IN NEIGHBORHOODS.

WHEREAS, ORS 268.390 authorizes the Metropolitan Service District (hereinafter referred to as "Metro") to adopt functional plans and to require that local jurisdictions' comprehensive plans and implementing ordinances conform with such functional plans; and

WHEREAS, pursuant to ORS 268.390(4) and Metro Code Sec. 3.07.810B the City is required to amend its Comprehensive Plan and implementing ordinances to comply with adopted Metro Urban Growth Management Functional Plans ("Functional Plan"); and

WHEREAS, the Regional Framework Plan provides that Metro will adopt programs to maintain and improve water quality and to protect fish and wildlife habitat in the region; and

WHEREAS, Metro adopted Title 3 to the Urban Growth Management Functional Plan in 1998 to maintain and improve water quality and protect people and property from flood hazards; and

WHEREAS, Title 3 also provides for Metro to study and develop a program for the protection and conservation of fish and wildlife habitat; and

WHEREAS, the City of Hillsboro adopted Title 3 provisions into the comprehensive plan, zoning ordinance and subdivision ordinance to substantially comply with Metro Title 3 in 2000; and

WHEREAS, Metro developed a fish and wildlife habitat protection program Statewide Planning Goal 5, which is intended "to protect natural resources and conserve scenic and historic areas and open spaces," and with Oregon Administrative Rules chapter 660, Division 23, adopted by the Land Conservation and Development Commission to implement Goal 5 (the "Goal 5 Rule"); and

WHEREAS, in 2002, the City of Hillsboro, together with Washington County, other cities in Washington County, Clean Water Services and the Tualatin Hills Parks and Recreation District agreed to form the Tualatin Basin Natural Resources Coordinating Committee (TBNRCC), and entered into an intergovernmental agreement with Metro to present a coordinated and effective basinwide habitat protection program; and

WHEREAS, Metro completed a region-wide inventory of regionally significant fish and wildlife habitat comprising 80,000 acres that has been identified and classified for its ecological value and mapped to provide an information base for the region; and

WHEREAS, the TBNRCC agreed to use Metro's inventory of regionally significant fish and wildlife habitat to as the basis for developing the Tualatin Basin Fish and Wildlife Habitat Program; and

WHEREAS, in 2004 the TBNRCC conducted their own analyses of the economic, social, environmental, and energy (ESEE) consequences of protecting or not protecting the inventoried habitat and developed the TBNRCC Program based on that analysis; and

WHEREAS, pursuant to the TBNRCC and Metro intergovernmental agreement the TBNRCC developed a Tualatin Basin Program to achieve basin-wide resource protection; and

WHEREAS, on April 4, 2005 the TBNRCC voted to send a recommendation to Metro for a Goal 5 Program designed to improve the environmental health of the Tualatin Basin; and

WHEREAS, in May 2005 the Metro Council accepted the Tualatin Basin Program as recommended by the TBNRCC; and

WHEREAS, on September 29, 2005 the Metro Council adopted the Nature in Neighborhoods Ordinance (Ordinance No. 05-1077C) that includes the Tualatin Basin Program as a component of the regional Goal 5 Program; and

WHEREAS, pursuant to the intergovernmental agreement between Metro and TBNRCC, all jurisdictions forming the TBNRCC must adopt ordinances no later than 60 days after acknowledgment of Metro's Title 13: Nature in Neighborhoods by the Department of Land Conservation and Development that comply with the requirements in UGMFP Title 13; and

WHEREAS, the proposed Comprehensive Plan amendments addressing UGMFP Title 13, Nature In Neighborhoods are proposed to reduce the barriers to utilization of habitat friendly development practices, including Low Impact Development (LID) techniques, and to encourage and facilitate the use of such practices and techniques where technically feasible and appropriate; and

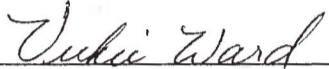
WHEREAS, on August 30, 2006, the Planning Commission held a work session regarding HCP amendments necessary to implement the Tualatin Basin Fish and Wildlife Program in order to comply with UGMFP Title 13: Nature in Neighborhoods, and held a public hearing on this matter on January 10<sup>th</sup>, 2007; and

WHEREAS, the Planning Department has received no public comment on the proposed amendments, except for a letter from Metro, dated December 7, 2006, regarding City of Hillsboro Title 13 and Tualatin Basin Plan Compliance Review.

NOW, THEREFORE BE IT RESOLVED by the Hillsboro Planning Commission that the Commission by and through this resolution hereby recommends that the City Council adopt the amendments to Comprehensive Plan Ordinance No. 2793, as amended, contained in Exhibit "A" attached hereto, to achieve compliance with UGMFP Title 13: Nature In Neighborhoods, and further adopts Planning Department staff reports on this matter, and the *Tualatin Basin Goal 5 Program Implementation Report*, as findings supporting this recommendation .

Introduced and passed this 10<sup>th</sup> day of January, 2007.

  
\_\_\_\_\_  
Vice President

ATTEST:   
\_\_\_\_\_  
Secretary

**EXHIBIT "A": Comprehensive Plan Amendments Intended to Remove Barriers to Utilization of, and to Encourage & Facilitate, Habitat Friendly Development Practices**

Proposed HCP text amendments are shown with new language in bold and underlined, and language to be deleted shown with strike through.

Section 1. HCP Section 3. Housing, Subsection (III) Policies, subsections (L) and (Y) are amended to read as follows:

**(III) Policies**

(L) New residential areas shall have ~~paved streets, curbs, pedestrianways,~~ water, sewers, storm drainage, street lights and underground utilities. **In addition, new residential areas shall have paved streets, curbs, and pedestrianways; and where site conditions are favorable to stormwater infiltration, the use of vegetated stormwater management facilities, pervious pavement and similar "green streets" elements is encouraged where technically feasible and appropriate.** The provision of such services in older residential areas shall be encouraged.

(Y) Residential land shall develop within the density range designated by the Comprehensive Plan. (Added by Ord. No. 3075/1-80 and Amended by Ord. No. 3450/3-84.) **However, density reductions and transfers may be allowed within the Significant Natural Resource Overlay (SNRO) District and within Habitat Benefit Areas that fall outside of the SNRO District.** (Amended by Ord. Nos. 3075/1-80, 4454/8-96, and 4901/5-00.)

Section 2. Section 6. Natural Resources, Open Space, Scenic and Historical Sites. (I) Goals (D) is amended to read as follows:

(D) Identify and provide appropriate protection for "significant" Goal 5 natural resource sites including wetlands, riparian corridors and wildlife habitat areas, **including Habitat Benefit Areas not within the Significant Natural Resource Overlay District.** throughout the City. (Added by Ord. No. 5066/9-01).

Section 3. Section 6. Natural Resources, Open Space, Scenic and Historical Sites. (II) a new definition (G) is added to read as follows:

**(G) Habitat Benefit Areas. In accordance with the Tualatin Basin Fish & Wildlife Habitat Program, areas shown on Metro's Regionally Significant Fish and Wildlife Habitat Inventory map as containing Classes I, II, and III riparian corridors/wildlife habitat and Class A Upland Wildlife Habitat.**

Section 4. Section 6. Natural Resources, Open Space, Scenic and Historical Sites. (III) Policies, a new policy (E) (6) is added to read as follows:

- E. (6) In accordance with the Tualatin Basin Fish & Wildlife Habitat Program, encourage land developers and property owners to incorporate habitat friendly practices in their site design where technically feasible and appropriate. Habitat friendly development practices include a broad range of development techniques and activities that reduce the detrimental impact on fish and wildlife habitat associated with traditional development practices

Section 5. Section 12. Public Facilities and Services, Subsection (V) Implementation Measures, E, Storm Drainage, subsections 2. and 6. are amended to read as follows:

E. **Storm Drainage**

2. CWS plans significant investment in the stormwater management system to address both conveyance and water quality needs. A portion of this investment will address drainage deficiencies in areas where drainage elements are undersized for meeting the area's design storm service standard. Other improvements will serve a combination of new and existing residents. The most significant improvements are for water quality enhancement facilities. The drainage system includes a network of pipes, culverts, ditches open channel stormwater facilities, and other natural drainage channels and stormwater facilities that eventually discharge into the Tualatin River.
6. All major land use actions shall provide for adequate storm drainage retention or removal, or a combination of these two conveyance and treatment per adopted standards.

Section 6. Section 13. Transportation, Subsection (II) a new definition (F) is added to read as follows:

- (F) Green Streets. Public or private streets designed to allow roadways to better manage stormwater runoff quantity and quality within the right-of-way over the long term. Design elements and facilities that can be used to accomplish this include, but are not limited to, minimizing paving and/or using pervious paving materials, maximizing street tree coverage, using multi-functional open drainage systems in lieu of more conventional curb-and-gutter systems, reducing cul-de-sac radii and using vegetated islands in the center.

Section 7. Section 13. Transportation, Subsection (III) Policies, (F) Livability, subsections (2), (3) and (4) are amended to read as follows:

(F) **Livability**

- (2) Relate the design of street capacity and improvements to their intended use, as well as to their impact on the natural and built environments.

A functional roadway classification system shall be developed for

Hillsboro which meets the City's needs and is coordinated with County, Regional and State Roadway classification systems. Appropriate design standards for roadways in the City should be coordinated and developed by the responsible jurisdiction.

- (3) Construct transportation facilities to comply with applicable City landscape and design standards.

Include aesthetic considerations **and community environmental best management practices where technically feasible and appropriate** in the design, maintenance and improvement of corridors and rights-of-way for all modes of travel. Any consideration of sound walls should meet criteria established by the City.

- (4) Avoid **or minimize** potential adverse environmental impacts associated with traffic and transportation system development through facility design and system management.

Inform the DEQ, EPA, Corps of Engineers and Division of State Lands of transportation system development projects that may affect their jurisdictional interests at the earliest opportunity to ensure identification of project-related environmental issues and to ensure compliance with federal and state air, water, wetland and noise standards. Design transportation systems that promote efficient use of energy. **Where technically feasible and appropriate, encourage the use of "green" streets, including bioswales and other vegetated stormwater management facilities.**

Section 8. Section 13. Transportation, (VII) Implementation Measures, subsections (O) (1) and footnote 3, (P) are amended, and a new section (U) is added, to read as follows:

(VII) Implementation Measures

(O) Street Standards for Public Roadways

- (1) **Cul-de-sac Streets**: These streets are intended to serve a maximum of 25 dwelling units and shall not exceed 200 feet in length. The cul-de-sac street is **to** be designed to **an a minimum** improvement width of 28 feet within a 50 foot right-of-way, with sidewalks on each side being a minimum of 5 feet wide. A minimum 5-foot wide landscape strip shall separate the sidewalks and roadway. Refer to Figure 13-1. The circular paved turning area must have a radius of at least 40 feet to the curb. Alternative radii and paved area turn around configurations may be considered by the Street Committee at the time of Development Review. With City Engineer approval, the cul-de-sac street may be constructed to 24 feet wide within a 46 foot right-of-way where no on-street parking will be provided and adequate off-street parking is available on the abutting properties. **Green Street design**



elements and facilities may be incorporated, such as reducing cul-de-sac radii and using vegetated islands in the center.

(footnote 3) "Improvement width" includes: travel lanes; the curb and gutter assembly; and, as permitted or required: the median (landscaped and/or left turn lane), bicycle lanes, and on-street parking space, and stormwater quality measures.

- (P) The street standards contained in Transportation Implementation Measure M O may be varied with City approval. Except where adjacent to properties designated or zoned for Mixed Use, the functional classification, projected volumes and bike path plan shall be accommodated in the variation. Standards for street sections adjacent to properties designated or zoned for Mixed Use may be adjusted to provide on-street parking, increased sidewalk width, or to substitute bicycle lanes and bicycle ways on street sections with reduced traffic speeds.
- (U) Where site conditions are favorable to stormwater infiltration "green streets" designs may be utilized. In these cases, deviation from the street standards contained in Transportation Implementation Measure O and shown on the adopted street cross-sections may be permitted by the City. Permissible design elements and facilities include, but are not limited to, minimizing paving and/or using pervious paving materials, maximizing street tree coverage, using multi-functional open drainage systems in lieu of more conventional curb-and-gutter systems, reducing cul-de-sac radii and using vegetated islands in the center, and minimizing the negative effects of stream crossings.

Section 9. Section 17. NE 28<sup>th</sup> Avenue/East Main Street Plan Area, Subsection (IV) Urban Design Policies, is amended to add a new subsection (A) (2), and to amend subsection (B) (1) to read as follows:

**(IV) Urban Design Policies**

(A) Site Design and Parking:

(2) Streets and parking areas within the NE 28<sup>th</sup> Avenue /East Main Street Plan Area may be designed to incorporate vegetated stormwater management facilities and other "green streets" design elements and facilities where technically feasible and appropriate.

(B) Pedestrian Network:

(1) Pedestrian amenities within streets and pedestrian travel ways are encouraged. Pedestrian amenities include wider sidewalks,

reduced curb cuts, continuous building lines, human-scale buildings, street trees, landscaping, **appropriately designed stormwater management facilities**, street furniture, weather protection such as awnings or canopies, pedestrian-oriented signs, pedestrian scale lighting and public spaces and facilities. Pedestrian amenities are encouraged along East Main Street and all the mixed-use blocks located along NE/SE 24<sup>th</sup> Avenue, NE 25<sup>th</sup> Avenue, SE 26<sup>th</sup> Avenue, NE 28<sup>th</sup> Avenue, SE 29<sup>th</sup> Avenue and NE 30<sup>th</sup> Avenue.

Section 10. Section 18. Hillsboro Tanasbourne Community Plan, Subsection (II) Policies, (A) (7) is amended to read as follows:

**(II) Policies**

- (A) Planning and development within the entire Tanasbourne Town Center Area shall occur in accordance with the following policies:
  - (7) Encourage a network of safe, convenient and beautiful streets and pathways that provide alternative travel routes and parking options, while facilitating walking, biking and wheelchair uses **and the use of “green streets” design elements and facilities where technically feasible and appropriate.**

**RESOLUTION NO. 1597-P**  
**ZOA 4- 06: TEXT AMENDMENTS RELATED TO METRO FUNCTIONAL PLAN COMPLIANCE**  
**TITLE 13: NATURE IN NEIGHBORHOODS**

A RESOLUTION RECOMMENDING CITY COUNCIL ADOPTION OF AMENDMENTS TO HILLSBORO ZONING ORDINANCE NO. 1945, AS AMENDED, INCLUDING CHANGES TO SEVERAL SECTIONS OF THE ZONING ORDINANCE NECESSARY TO COMPLY WITH THE ADOPTED REGION 2040 URBAN GROWTH MANAGEMENT FUNCTIONAL PLAN, TITLE 13: NATURE IN NEIGHBORHOODS.

WHEREAS, ORS 268.390 authorizes the Metropolitan Service District (hereinafter referred to as "Metro") to adopt functional plans and to require that local jurisdictions' comprehensive plans and implementing ordinances conform with such functional plans; and

WHEREAS, Metro has amended the *Urban Growth Management Functional Plan* (UGMFP) adding a new Title 13: Nature In Neighborhoods, that aims to protect regionally significant fish and wildlife, with which Hillsboro's comprehensive plan and implementing land use regulations must comply; and

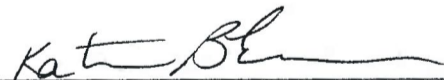
WHEREAS, City staff have prepared the recommended HZO amendments, as directed by the Planning Commission, necessary to bring the City into compliance with Metro UGMFP requirements in Title 13: Nature In Neighborhoods as proposed in Exhibit "A", attached hereto, to HZO Sections 3, 20J, 86, 127, 131, 133, and a new Section 131B, Habitat Friendly Development; and

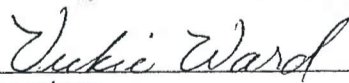
WHEREAS, on August 30, 2006, the Planning Commission held a work session regarding HZO amendments necessary to implement the Tualatin Basin Fish and Wildlife Program in order to comply with UGMF Title 13: Nature in Neighborhoods, and held a public hearing on this matter on January 10<sup>th</sup>, 2007; and

WHEREAS, the Planning Department has received no public comment on the proposed amendments, except for a letter from Metro, dated December 7, 2006, regarding Hillsboro Title 13 and Tualatin Basin Plan Compliance Review.

NOW, THEREFORE BE IT RESOLVED by the Hillsboro Planning Commission, by and through this resolution, hereby recommends that the City Council adopt amendments to Zoning Ordinance No. 1945, as amended, contained in Exhibit "A" attached hereto, to achieve compliance with the requirements in UGMFP Title 13: Nature In Neighborhoods, and further adopts Planning Department staff reports on this matter, and the *Tualatin Basin Goal 5 Program Implementation Report*, as findings supporting this recommendation.

Introduced and passed this 10<sup>th</sup> day of January, 2007.

  
\_\_\_\_\_  
Vice President

ATTEST:   
\_\_\_\_\_  
Secretary

**Exhibit "A"**

Proposed Hillsboro Zoning Ordinance text amendments are shown with new language in bold and underlined, and language to be deleted shown with strike through.

Section 1. Section 3, Definitions, two new definitions, **(35) Habitat Benefit Areas** and **(36) Habitat Friendly Development Practices**, are added, with existing definitions (35) through (100) renumbered accordingly; and existing definition (60) Minimum Residential Density amended to read as follows, and renumbered:

**(35) Habitat Benefit Areas. In accordance with the Tualatin Basin Fish & Wildlife Habitat Program, areas shown on Metro's Regionally Significant Fish and Wildlife Habitat Inventory map as containing Classes I, II, and III riparian corridors/wildlife habitat and Class A Upland Wildlife Habitat.**

**(36) Habitat Friendly Development Practices. Includes a broad range of development techniques and activities that reduce the detrimental impact on fish and wildlife habitat relative to traditional development practices.**

~~(60)~~**(62) Minimum Residential Density.** The minimum number of residential dwelling units required per net residential acre of developable land. The minimum residential density shall be at least 80% of the maximum number of dwelling units that can be built per net residential acre permitted by the zoning designation for the site. The minimum density permitted for a project is calculated by multiplying the minimum density standard by the net residential acres within the development site. However, in cases where significant natural resources are encountered within developable land, the minimum residential density may be limited to 50% of the maximum permitted by the zoning designation for the site in order to accommodate the protection of such significant natural resources **including those identified within the City's Significant Natural Resource Overlay District, or within Habitat Benefit Areas included in Metro's Regionally Significant Fish and Wildlife Habitat Inventory.** (Added by Ord. No. 4902/5-00.)

Section 2. Section 20J. Sidewalk and Street Tree Standards is amended to read as follows:

(20J) Sidewalk and Street Tree Standards. In an R-6 zone, in a newly platted or replatted subdivision, property line sidewalks shall be installed with a minimum 4.5 foot wide planting strip between the curb and the sidewalk. Street trees shall be planted in the planting strip, concurrent with home construction, at two trees per lot for lots with fifty feet of frontage or greater and one tree per lot for lots with less than fifty feet of frontage. **Where site conditions are favorable, the City encourages the provision of stormwater management facilities within the planting strip and other low impact development (LID) techniques and practices as described in Section 131B Habitat Friendly Development Practices.** Street trees shall be planted in compliance with City standards.

Section 3. Section 86. General Provisions – Off-Street Parking and Loading Subsection (9)(a) Design requirements for parking lots is amended to revise subsection (a) as follows:

- (9) Design requirements for parking lots
- (a) All code required parking areas located within any City zone shall have a durable, dust-free surfacing of asphaltic concrete, Portland Cement, or other approved materials. All code required parking areas shall be graded so as not to drain storm water over public sidewalks or onto any abutting public or private property. **Where site conditions are favorable, the City shall encourage the use of pervious surfacing techniques and other low impact development (LID) techniques and practices as described in Section 131B.** For the purposes of this Section, code required parking areas shall include parking spaces, parking aisles, loading areas and access drives.

Section 4. Section 127, Planned Unit Developments (PUD), Subsection (III) Standards and Criteria, subsection E. is amended; a new subsection I.(6) is added; subsection K.1.b.(2) is amended; and subsection L. is amended, to read as follows:

- E. The allowable residential density shall be established for the net development area of the subject property. This net area is calculated by subtracting the area set aside for non-residential uses (i.e. a school, commercial use, floodplain, wetlands, or wetland buffer) from the gross development area. All land areas intended for other uses such as parking and driveways, public utility easements, recreation, and open space, shall be included in the net development area figure. Except for projects located within or partially within the Significant Natural Resources Overlay (SNRO) District, allowable residential density shall be calculated by multiplying the net development acreage by the minimum units/acre of the density range next highest to that allowed according to the Hillsboro Comprehensive Plan Map designation for the property, to determine the number of units permitted. Allowable residential density for projects located within or partially within the SNRO District shall be calculated pursuant to Section 131A(14). (Amended by Ord. Nos. 3451/3-84 and 5269/5-03.)

An increase in density above the minimum units/acre of the next highest designation specified by the Hillsboro Comprehensive Plan may be proposed and can be permitted. The applicant must justify increased density, and the burden of justification shall increase as the proposed density increases. At a minimum, the applicant must explain how the increase can be considered to be in conformance with the Plan designation for the site and demonstrate that any adverse impacts can be mitigated.

Pursuant to Comprehensive Plan Natural Resources, Open Space, Scenic and Historical Sites Policy (E) (5), in a proposed PUD containing Significant Natural Resource Sites, as shown on the SNRO District Map, the allowable densities shall be reduced within the Significant Natural Resources Overlay District, and may be transferred from the Significant Natural Resources Overlay District to the remainder of the site, as specified in Section 131A. **Density reductions and transfers may be allowed in the Tualatin Basin regional Goal 5 Program's**

**Habitat Benefit Areas that are not within the Significant Natural Resource Overlay District.**

- I. 6. **Where site conditions are favorable to stormwater infiltration “green streets” designs may be utilized. In these cases, deviation from the street standards contained in Transportation Implementation Measure O and shown on the adopted street cross-sections may be permitted by the City. Permissible design elements and facilities include, but are not limited to, minimizing paving and/or using pervious paving materials, maximizing street tree coverage, using multi-functional open drainage systems in lieu of more conventional curb-and-gutter systems, reducing cul-de-sac radii and using vegetated islands in the center, and minimizing the negative effects of stream crossings.**

K.1.b.(2) the preservation of natural features or **Habitat Benefit Areas** which have been incorporated into the overall design of the project;

L. Significant Natural Resource Sites.

Pursuant to Comprehensive Plan Natural Resources, Open Space, Scenic and Historical Sites Policy (E), applications for proposed PUD's containing Significant Natural Resource (SNR) Sites, as shown on a the Significant Natural Resources Overlay District Map, shall specifically address preservation of natural vegetation and wildlife habitat within the SNR Site. Applications for PUD's in the SNRO District shall be subject to the provisions in Section 131A. **Preservation of Habitat Benefit Areas not within the SNRO District shall be addressed.**

Section 5. Section 127, Planned Unit Development (PUD), Subsection (IV) Preliminary Application 3.(f) is amended to read as follows:

- f. resource areas of the site including marsh, wetland, and wildlife **Habitat Benefit Areas**;

Section 6. A new Section 131B. Habitat Friendly Development is added, to read as follows:

**Section 131B. Habitat Friendly Development**

A key element of the adopted Tualatin Basin Fish & Wildlife Habitat Program is the encouragement of the use of habitat Friendly Development practices, including Low Impact-Development (LID) techniques, designed to reduce the environmental impacts of new development. and remove barriers to their utilization. The intent is to provide flexibility in the land development ordinances to encourage the protection of qualified Habitat Benefit Areas. The following table contains a number of recommended Habitat-friendly development practices that may be considered where technically feasible and appropriate.

### Habitat Friendly Development Practices

#### Design and Construction Practices to Minimize Hydrologic Impacts

1. Amend disturbed soils to original or higher level of porosity to regain infiltration and stormwater storage capacity.
2. Use pervious paving materials for residential driveways, parking lots, walkways, and within centers of cul-de-sacs.
3. Incorporate stormwater management in road right-of-ways.
4. Landscape with rain gardens to provide on-lot detention, filtering of rainwater, and groundwater recharge.
5. Use green roofs for runoff reduction, energy savings, improved air quality, and enhanced aesthetics.
6. Disconnect downspouts from roofs and direct the flow to vegetated infiltration/filtration areas such as rain gardens.
7. Retain rooftop runoff in a rain barrel for later on-lot use in lawn and garden watering.
8. Use multi-functional open drainage systems in lieu of more conventional curb-and-gutter systems.
9. Use bioretention cells as rain gardens in landscaped parking lot islands to reduce runoff volume and filter pollutants.
10. Apply a treatment train approach to provide multiple opportunities for storm water treatment and reduce the possibility of system failure.
11. Reduce sidewalk width and grade them such that they drain to the front yard of a residential lot or retention area.
12. Reduce impervious impacts of residential driveways by narrowing widths and moving access to the rear of the site.
13. Use shared driveways.
14. Reduce width of residential streets, depending on traffic and parking needs.
15. Reduce street length, primarily in residential areas, by encouraging clustering and using curvilinear designs.
16. Reduce cul-de-sac radii and use pervious vegetated islands in center to minimize impervious effects, and allow them to be utilized for truck maneuvering/loading to reduce need for wide loading areas on site.
17. Eliminate redundant non-ADA sidewalks within a site (i.e., sidewalk to all entryways and/or to truck loading areas may be unnecessary for industrial developments).
18. Minimize car spaces and stall dimensions, reduce parking ratios, and use shared parking facilities and structured parking.
19. Minimize the number of stream crossings and place crossing perpendicular to stream channel if possible.
20. Allow narrow street right-of-ways through stream corridors whenever possible to reduce adverse impacts of transportation corridors.

#### Design and Construction Practices to Minimize Impacts on Wildlife Corridors and Fish Passage

1. Carefully integrate fencing into the landscape to guide animals toward animal crossings under, over, or around transportation corridors.
2. Use bridge crossings rather than culverts wherever possible.
3. If culverts are utilized, install slab, arch or box type culverts, preferably using bottomless designs that more closely mimic stream bottom habitat.
4. Design stream crossings for fish passage with shelves and other design features to facilitate terrestrial wildlife passage.
5. Extend vegetative cover through the wildlife crossing in the migratory route, along with sheltering areas.

#### Miscellaneous Other Habitat-Friendly Design and Construction Practices

1. Use native plants throughout the development (not just in Habitat Benefit Areas).
2. Locate landscaping (required by other sections of the code) adjacent to Habitat Benefit Areas.
3. Reduce light-spill off into Habitat Benefit Areas from development.
4. Preserve and maintain existing trees and tree canopy coverage, and plant trees, where appropriate, to maximize future tree canopy coverage.

Section 7. Section 133. Development Review is amended to revise Subsection IV. Plans Required, subsections B. and F. to read as follows:

- B. A landscaping plan, drawn to scale, showing the location and types of existing trees (eight inches or greater in caliper measured four feet above ground level) and vegetation proposed to be removed and to be retained on the site, the location and design of landscaped areas **and storm water management**

**facilities**, the varieties, sizes and spacing of trees and plant materials to be planted on the site, the proposed types and locations of irrigation systems to maintain plant materials, and other pertinent landscape features.

- F. A ~~drainage~~ storm water plan developed in accordance with the standards specified in the City's drainage master plan and the ~~Unified Sewerage Agency's~~ **Clean Water Services** Resolution and Order No. 91-47 as applicable within Hillsboro's city limits. The ~~drainage~~ **storm water** plan shall identify the location of drainage patterns and drainage courses on and within 100 feet of the boundaries of the site.

Section 8. Section 133. Development Review is amended to revise Subsection V. Standards, A, subsections 5 and 15 to read as follows:

- A. All construction and development shall comply with the following standards:
  - 5. ~~Drainage~~ **Stormwater management** shall be provided in accordance with City drainage master plan requirements and design standards. The Planning Director may impose conditions to ensure that waters are drained from the development site so as to limit degradation of water quality. The Clean Water Service's Resolution and Order No. 91-47 as applicable within Hillsboro's City limits or any other - drainage standards as may be subsequently adopted by the City Council. ~~Drainage~~ **Stormwater** plans shall be reviewed and approved by the City Engineer for conformance with the adopted City drainage **or stormwater** standards prior to construction.
  - 15. Adequate public water, sanitary sewer and storm drainage facilities sufficient to serve the level of development approved shall be provided. The applicant shall demonstrate that adequate facilities and services are presently available or can be made available concurrent with development construction. Service providers shall be presumed correct in the evidence which they submit relating to the adequacy and availability of such facilities and services to the development. All facilities shall be designed to comply with adopted City standards, **and the use of habitat friendly development practices and techniques described in Section 131B is encouraged and facilitated where technically feasible and appropriate.** A development may be required to extend, modify or replace an existing off-site public water, sanitary sewer or storm drainage facility or system to the extent necessary to provide adequate public facilities or services to the development site. The development applicant may request from the City System Development Charge credits and/or City reimbursements for utility improvements or oversizing of facilities as may be required under this provision.

Section 9. Section 133 Development Review is amended to revise Subsection VI. On-site pedestrian access B. to read as follows:

- B. On-site pedestrian walkways shall be well drained, hard surfaced and at least five (5) feet in unobstructed width. Walkways shall be increased to seven (7) feet in



width when bordering parking spaces other than parallel parking spaces, and surface material shall contrast visually with adjoining surfaces. If a raised walkway is used, the ends of the raised portions shall be equipped with curb ramps. **Where site conditions are favorable, the City may approve, where technically feasible and appropriate, the use of pervious surfacing techniques and other habitat friendly development techniques and practices as described in Section 131B.**

Within automobile parking areas, or when the pedestrian circulation system is parallel and adjacent to an auto travel lane, pedestrian safety shall be improved by raising the walkway or separating it from the auto travel lane by a raised curb, bollards, landscaping or other physical barrier. When crossing driveways and parking areas, pedestrian crossings and walkways may be built at the same elevation as the driveways and walkways if they are constructed of permanent materials, including paving or markings in a manner which contrasts and clearly delineates the crossing or walkway at any time of day or night.

Section 10. Section 133. Development Review is amended to revise Subsection VIII. Special Standards for Pedestrian/Bicycle Accessways C. 2.a. to read as follows:

- C. Development standards
- 2. The length of pedestrian/bicycle accessways between public streets shall not exceed 300 feet. Such accessways shall be free of horizontal obstructions and have a nine (9) foot, six (6) inch high vertical clearance. To safely accommodate both pedestrians and bicycles, the right-of-way widths of such accessways shall be as follows:
  - a. The accessways shall have a minimum 15 foot wide right-of-way with a minimum 10 foot wide paved surface. **Where site conditions are favorable, the City may approve, where technically feasible and appropriate, the use of pervious surfacing techniques and habitat friendly development techniques and practices as described in Section 131B.**

RESOLUTION NO. 1598-P

SOA 1-06: TEXT AMENDMENTS RELATED TO METRO FUNCTIONAL PLAN  
COMPLIANCE TITLE 13: NATURE IN NEIGHBORHOODS

A RESOLUTION RECOMMENDING CITY COUNCIL ADOPTION OF AMENDMENTS TO SUBDIVISION ORDINANCE NO. 2808, INCLUDING CHANGES TO SEVERAL SECTIONS OF THE SUBDIVISION ORDINANCE NECESSARY TO COMPLY WITH THE ADOPTED REGION 2040 URBAN GROWTH MANAGEMENT FUNCTIONAL PLAN, SPECIFICALLY TITLE 13: NATURE IN NEIGHBORHOODS.

WHEREAS, ORS 268.390 authorizes the Metropolitan Service District (hereinafter referred to as "Metro") to adopt functional plans and to require that local jurisdictions' comprehensive plans and implementing ordinances conform with such functional plans; and

WHEREAS, Metro has amended the *Urban Growth Management Functional Plan* ("Functional Plan") which includes Title 13: Nature In Neighborhoods, that aims to protect clean water and healthy natural areas for fish, wildlife and people with which Hillsboro's comprehensive plan and implementing land use regulations must comply; and

WHEREAS, pursuant to the intergovernmental agreement between Metro and TBNRCC, all jurisdictions forming the TBNRCC must adopt ordinances no later than 60 days after acknowledgment of Metro's Title 13: Nature in Neighborhoods by the Department of Land Conservation and Development that comply with the requirements in UGMFP Title 13; and

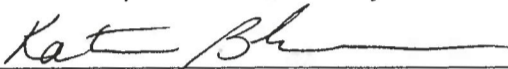
WHEREAS, the proposed Subdivision Ordinance amendments addressing UGMFP Title 13, Nature In Neighborhoods are proposed to reduce the barriers to utilization of habitat friendly development practices, including Low Impact Development (LID) techniques, and to encourage and facilitate the use of such practices and techniques where technically feasible and appropriate; and

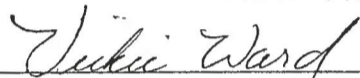
WHEREAS, on August 30, 2006, the Planning Commission held a work session regarding comprehensive plan and development code amendments necessary to implement the Tualatin Basin Fish and Wildlife Program in order to comply with UGMFP Title 13: Nature in Neighborhoods, and held a public hearing on this matter on January 10<sup>th</sup>, 2007; and

WHEREAS, the Planning Department has received no public comment on the proposed amendments, except for a letter from Metro, dated December 7, 2006, regarding City of Hillsboro Title 13 and Tualatin Basin Plan Compliance Review.

NOW, THEREFORE BE IT RESOLVED by the Hillsboro Planning Commission that the Commission by and through this resolution hereby recommends that the City Council adopt the amendments to Subdivision Ordinance No. 2808, as amended, contained in Exhibit "A" attached hereto, to achieve compliance with UGMFP Title 13: Nature In Neighborhoods, and further adopts by reference: Planning Department staff reports on this matter; and the *Tualatin Basin Goal 5 Program Implementation Report*, as findings supporting this recommendation .

Introduced and passed this 10<sup>th</sup> day of January, 2007.

  
\_\_\_\_\_  
Vice President

ATTEST:   
\_\_\_\_\_  
Secretary

**Exhibit "A": Subdivision Ordinance Amendments to Remove Barriers to Utilization of, and to Encourage & Facilitate Habitat Friendly Development**

Proposed Subdivision Ordinance text amendments are shown with new language in bold and underlined, and language to be deleted shown with strike through.

Section 1. Article I. Section 3. Definitions, new definitions, **(6) Green Streets and (7) Habitat Benefit Areas**, are added; existing definition (18) Pedestrian connection is amended, to read as follows, and existing definitions (6) through (29) are renumbered accordingly:

- (6) Green Streets. Public or private streets designed to allow roadways to better manage stormwater runoff quantity and quality within the right-of-way over the long term. Design elements and facilities that can be used to accomplish this include, but are not limited to, minimizing paving and/or using pervious paving materials, maximizing street tree coverage, using multi-functional open drainage systems in lieu of more conventional curb-and-gutter systems, reducing cul-de-sac radii and using vegetated islands in the center.**
- (7) Habitat Benefit Areas. In accordance with the Tualatin Basin Fish & Wildlife Habitat Program, areas shown on Metro's Regionally Significant Fish and Wildlife Habitat Inventory map as containing Classes I, II, and III riparian corridors/wildlife habitat and Class A Upland Wildlife Habitat.**
- (18) Pedestrian connection. A continuous, unobstructed, reasonably direct route between two points that is intended and suitable for pedestrian use. Pedestrian connections include but are not limited to sidewalks, pedestrian walkways, pedestrian/bicycle accessways, stairways and pedestrian bridges. On developed parcels, pedestrian connections are generally hard-surfaced. In parks and natural areas, pedestrian connections may be soft-surfaced pathways. (Added by Ord. No. 4466/8-96.) **Where site conditions are favorable to stormwater infiltration, the City encourages, where technically feasible and appropriate the use of pervious pedestrian pathway.**

Section 2. Article II. Section 5. Street and Pedestrian/Bicycle Design Standards, (G) and (I) are amended, and a new subsection (J) is added, to read as follows:

- (G) The use of Cul-de-sacs designs and closed street systems shall be limited to circumstances in which barriers such as topography, railroads, freeways, pre-existing development, or regulations implementing Title 3 of the adopted Metro Urban Growth Management Functional Plan or City Goal 5 Resource Protection requirements prevent full street extensions. When permitted, their use shall be consistent with the provision of safe

and convenient pedestrian and bicycle access from within the development to adjacent residential developments, transit stops and nearby neighborhood activity centers. Cul-de-sacs shall have a maximum length of 200 feet and shall serve no more than 25 dwelling units. (Amended by Ord. No. 4903/5-00.) **Green Street design elements and facilities may be incorporated, such as reducing cul-de-sac radii and using vegetated islands in the center.**

- (I) Sidewalks shall be built on both sides of streets within a subdivision and along private driveways serving seven (7) or more single family lots. The Planning Commission may reduce sidewalk requirements to one side of the development frontage for new streets **to avoid impacting Habitat Benefit Areas or** when physical or topographic features require a reduction in road standards.
- (J) **Where site conditions are favorable to stormwater infiltration “green streets” designs may be utilized. In these cases, deviation from the street standards contained in Transportation Implementation Measure O and shown on the adopted street cross-sections may be permitted by the City. Permissible design elements and facilities include, but are not limited to, minimizing paving and/or using pervious paving materials, maximizing street tree coverage, using multi-functional open drainage systems in lieu of more conventional curb-and-gutter systems, reducing cul-de-sac radii and using vegetated islands in the center, and minimizing the negative effects of stream crossings.**

Section 3. Article II. Section 6. Pedestrian/Bicycle Accessways, subsections (B)(1), (C)(2)(a) and (b), (C)(4), (C)(6)(b), and (C)(8) are amended to read as follows:

- (B) When required. Pedestrian/bicycle accessways shall be provided in the following situations:
  - (1) In areas where full street connections are not possible, bicycle and pedestrian connections on public easements or rights-of-way shall be provided with spacing of no more than 330 feet between connections except where barriers such as topography, railroads, freeways, pre-existing development, or regulations implementing Titles 3 and 13 of the adopted Metro Urban Growth Management Functional Plan, or City Goal 5 Resource Protection requirements prevent their construction. (Added by Ord. No. 4903/5-00.)
- (C) (2)(a) Accessways shall have a 15 foot wide right-of-way with a minimum 10 foot wide paved surface. Where pervious pavement is appropriate (e.g. in dense urban areas where little pervious surface exists, parking lots and where runoff is not highly contaminated), a deviation from this standard may be allowed per City Engineer approval.
- (b) If an accessway also provides secondary fire access or a public utility corridor, the right-of-way width shall be at least 20 feet with

a 15 foot wide paved surface. Where pervious pavement is appropriate (e.g. in dense urban areas where little pervious surface exists, parking lots and where runoff is not highly contaminated), a deviation from this standard may be allowed per City Engineer approval.

- (4) To enhance pedestrian and bicycle safety, accessways shall be lighted. Accessway lighting shall be provided by the developer to standards established by the City Engineer. Lighting shall be provided at both entrances and may also be required at intermediate points along the accessway, as appropriate for safety, as determined by the City Engineer. Lighting shall be directed as to avoid shining in fish and wildlife habitat areas.
- (6)(b) A minimum five (5) feet high fence with a row of three (3) to four (4) foot high evergreen shrubs or climbers planted along the fence (native shrubs are encouraged); if a wooden fence is used, then the fence shall be constructed with pressure-treated structural members including a pressure treated cap; or
- (8) Accessway surfaces shall be paved with all weather hard-surfaced materials and designed to drain stormwater runoff to the side or sides of the accessway. Where pervious pavement is appropriate (e.g. in dense urban areas where little pervious surface exists, parking lots and where runoff is not highly contaminated), a deviation from this standard may be allowed per City Engineer approval. Paving, storm drainage, shoulder treatment, and landscaping for accessways shall be as approved by the City Engineer and Planning Director.

**DRAFT**

**Tualatin Basin Goal 5**

**Program Implementation  
Report**

*Encouraging Habitat Friendly  
Development Practices*

Draft 3 prepared as a status report for:  
Metro

Prepared by:

Tualatin Basin Steering Committee

and

**Angelo**  
planning group

October, 2006

**Program Implementation Report  
Develop and Encourage Habitat Friendly Development Practices  
Table of Contents**

EXECUTIVE SUMMARY ..... i

CHAPTER 1 : INTRODUCTION ..... 1

    A. Background..... 1

    B. Public Outreach ..... 3

    C. Implementation of Habitat Friendly Development Practices in the Basin ..... 5

CHAPTER 2: DESCRIPTION OF APPROACHES AND METHODS..... 7

    A. Planning and Development Approaches..... 8

    B. Engineering and Design Approaches ..... 24

CHAPTER 3: IMPLEMENTATION RECOMMENDATIONS ..... 42

    A. Implementation Recommendations for Development Sites with Habitat..... 44

    B. Implementation Recommendations for Basin-Wide Approaches..... 49

CHAPTER 4: IMPLEMENTATION BY JURISDICTION ..... 54

    A. Clean Water Services ..... 55

    B. Beaverton ..... 56

    C. Cornelius ..... 62

    D. Durham ..... 66

    E. Forest Grove ..... 70

    F. Hillsboro ..... 80

    G. Sherwood ..... 86

    H. Tigard..... 92

    I. Tualatin..... 97

    J. Washington County..... 104

APPENDIX A: Public involvement documentation..... 108

APPENDIX B: Sample Delineation Methodology ..... 109

APPENDIX C: City of Beaverton Draft Code Language..... 112

NOTE: This document represents a working draft. The final version will not be completed until the end of the year. The final version will reflect all necessary changes and updates. In particular, the section "Summary of Planned Implementation" will be changed to "Summary of Implementing Actions" and copies of applicable ordinances will be attached. This document, in its final version, will then be submitted to Metro in fulfillment of the IGA requirement.



- Executive Summary: Tualatin Basin Goal 5 Program Implementation Report: (Draft #3)
  - page i
- 

## EXECUTIVE SUMMARY

### Background and Purpose

The purpose of Goal 5, Oregon Administrative Rule (OAR) 660-015-0000(5), is to protect natural resources and conserve scenic and historic areas and open spaces. The Tualatin Basin's coordinated Goal 5 effort is known as *Partners for Natural Places* (Partners). The Partners represent an alliance of eight<sup>1</sup> cities (Beaverton, Cornelius, Durham, Forest Grove, Hillsboro, Sherwood, Tigard and Tualatin) and Washington County working together with Metro, Tualatin Hills Parks and Recreation District and Clean Water Services to meet federal, state and regional requirements for protecting riparian corridors and wildlife habitat in the Tualatin Basin.

There are three basic steps for compliance with Goal 5:

- Creating an **Inventory** of Significant Regional Resources,
- Analyzing the Economic, Social, Environmental and Energy (**ESEE**) consequences of allowing, limiting or prohibiting conflicting uses in resource and impact areas, and
- Developing a **Program** to implement the allow/limit/prohibit (ALP) decision.

On September 29, 2005 the Metro Council voted to approve a regional Nature in Neighborhoods (Goal 5) program. This council action incorporated the Tualatin Basin Fish & Wildlife Habitat Program, as developed and recommended by the Tualatin Basin Partners for Natural Places. Applicable elements of the adopted Tualatin Basin Fish & Wildlife Habitat Program are required to be implemented within one year following the Metro Council's final decision (or within 60 days of LCDC's acknowledgement of Metro's Functional Plan provisions, whichever is later). These elements include:

- Providing tools designed to reduce environmental impacts of new development and removing barriers to their utilization, and
- Adopting provisions that facilitate and encourage the use of habitat-friendly development practices, where technically feasible and appropriate, in all areas identified as Class I and II riparian habitat areas.

An important feature of the Basin program is encouraging of land developers and property owners to incorporate habitat friendly practices in their site design. *Habitat friendly development practices* include a broad range of development techniques and activities that reduce the detrimental impact on fish and wildlife habitat relative to traditional development practices. The ***Program Implementation Report to Develop and Encourage Habitat Friendly Development Practices*** outlines a draft

---

<sup>1</sup> There were ten cities participating in the initial phases, which included the cities of King City and North Plains.

- Executive Summary: Tualatin Basin Goal 5 Program Implementation Report: (Draft #3)
  - page ii
- 

program to implement the ALP decision within significant riparian corridor and wildlife habitat resources and their impact areas within the Tualatin Basin Study Area.

### **Public Outreach**

The Partners, working with other interested parties, have undertaken a lengthy series of outreach efforts, beginning in 2003 and continuing to the present. Highlights of the public outreach program include the following:

- Numerous open houses were held at different stages of the project to share Goal 5 progress to date with the general public, the results of the ESEE analysis and the proposed Allow-Limit-Prohibit maps, and the proposed Tualatin Basin Goal 5 program.
- The Partners produced a panel television show under the auspices of Tualatin Valley Television (TVTV) which was broadcast throughout the late winter and early spring of 2004.
- Tualatin Basin staff spoke before the Washington County Medical Society, the Westside Economic Alliance (WEA), Citizen Participation Organizations (CPOs), the Tualatin River Watershed Council, Commercial Real Estate Economic Coalition (CREEC), Raindrops to Refuge open house, Audubon Society of Portland, the Tualatin Riverkeepers and others.
- Media releases and editorial briefings resulted in stories in the major newspapers, as well as in the newsletters of all the Partners, including the CPOs. Information was also available at many community events and on the County's Planning web site.
- Public Hearings were held on the Basin Program and, as outlined this report, each participating jurisdiction has been conducting public worksessions and hearings to address the code amendments needed for full implementation of the recommendations for Habitat Friendly / Low-Impact Development practices.

### **Approaches and Methods**

The report identifies those approaches and methods which potentially could be used within the Tualatin Basin to develop and encourage habitat friendly development practices. The potential benefits and challenges associated with each approach (including any technical issues and/or regulatory barriers) are noted. For example, some of the approaches and methods will have limited applicability in the Basin due to soil conditions. For each, the answers to the following key questions are summarized:

- Does the approach "help avoid and/or minimize impacts?"
- Is the approach "applicable basin-wide or adjacent to resource area?"
- Are "new or amended regulations required" to implement the approach?
- Does this approach provide "tools to reduce effective impervious area (EIA)?"
- Is the approach "Recommended for basin?"

- Executive Summary: Tualatin Basin Goal 5 Program Implementation Report: (Draft #3)
  - page iii
- 

The approaches presented in this report are divided into three general categories:

- **Planning and development.** These approaches include methods that are typically associated with land use planning and development reviews such as site design, parking design and lighting design.
- **Engineering and design.** These approaches include methods that typically require a more innovative approach to engineering and may require the adoption of new design specifications and public works standards. They may require detailed geotechnical analysis and design for on-site soil suitability and slope stability. Within public rights-of-way, how these approaches affect emergency response access, utility access, roadway structure, and road maintenance costs will require careful evaluation.
- **Building design.** These approaches include methods that affect the building itself and may necessitate modifications to the building and/or plumbing code, for example green roofs.

### Implementation Recommendations

The report then more specifically identifies those concepts that could be included in local comprehensive plans and development codes in order to implement and encourage habitat friendly practices. The recommended approaches fall within two general categories:

- 1) Some of the recommended approaches could only be effective on sites within or immediately adjacent to habitat areas;
- 2) Others could be effective anywhere within the basin (*including within or adjacent to habitat areas*) as a mean of reducing effective impervious area (EIA).

**Implementation Recommendations for Site-Specific Approaches.** The approaches that are recommended for development sites with habitat are intended to convey an advantage to the developer in exchange for the use of habitat friendly development practices. They are not intended to increase development restrictions. Use of these approaches would be at the option of the developer/property owner. However, the advantages should only be available to projects that provide habitat benefits above and beyond what is otherwise required by current regulations. Local jurisdictions should consider providing flexibility in their land development ordinances to encourage the protection of qualified Habitat Benefit Areas. The report suggests the following guidelines:

- *Process.* Discretionary processes represent increased time, money, and risk for the developer. Jurisdictions should evaluate their codes to determine if their review processes are appropriate to encourage the use of habitat friendly practices.
  - *Land Division.* This includes consideration of on-site density transfers/lot size averaging, allowing lot dimensional standard reductions, and waiving minimum density requirements for these areas.
-

- Executive Summary: Tualatin Basin Goal 5 Program Implementation Report: (Draft #3)
  - page iv
- 

- *Site Design.* Setbacks, lot coverage and building height standards should both be flexible in order to accommodate habitat benefit areas.
- *Parking.* Parking ratios and stall dimensions should be decreased, shared parking and on-street parking credits should be encouraged and compact parking spaces should be increased up to 40%.
- *Landscaping/Hardscape Design.* A reduction in parking lot landscaping equal to the size of the habitat benefit areas and reduction in sidewalk width should be considered.
- *Street Design.* Alternative pervious paving should be considered.
- *Stream crossing and street connectivity standards.* Minimizing the number and/or width of stream crossings and use of habitat sensitive designs should be considered. Healthy Streams culvert projects should be permitted out right.

**Implementation Recommendations for Basin-Wide Approaches.** In addition, the adopted Basin program is intended to provide tools designed to reduce environmental impacts of new development and removing barriers to their utilization. This effort is closely tied to Clean Water Services goal of reducing Effective Impervious Area (EIA) within the Basin. Suggested guidelines include:

- *Shared driveways and parking areas.* Codes should be evaluated for opportunities to reduce the need for paved areas by permitting shared driveways and parking areas where practicable.
- *Increased use of pervious paving materials.* Amendments to remove barriers to, and encourage the use of, pervious paving materials in parking areas and low traffic private streets should be considered
- *Increased use of native plants / preservation of existing trees and maximize forest canopy.* Encouraging or requiring that a certain percent of mitigation trees be native species; or as an incentive, jurisdictions could allow somewhat smaller specimens to be planted if native species are used.
- *Improved soil amendment.* The use of soil amendments to improve the permeability of soils within landscaped areas should be encouraged.
- *Maximize street tree usage.* Jurisdictions should document their existing standards to ensure that they are requiring street trees be planted appropriately.
- *Use multi-functional open drainage systems / vegetated stormwater management facilities / modify drainage practices.* CWS and the Basin jurisdictions should consider developing and adopting Basin-wide standards for the construction and maintenance of stormwater management facilities.
- *Underground detention and/or treatment.* While underground detention and treatment facilities do not provide any habitat benefits on-site, by helping to improve water quality

- Executive Summary: Tualatin Basin Goal 5 Program Implementation Report: (Draft #3)
- page v

they do serve to benefit in-stream habitat within the watershed. Jurisdictions should address when it is appropriate to allow these facilities.

- *Encourage green roofs (eco-roofs).* CWS and the Basin jurisdictions should consider developing and adopting Basin-wide standards for the construction and maintenance of green roofs.
- *Disconnect downspouts / Use rain barrel or cistern system.* Technical design specifications will need to be adopted Basin-wide to facilitate the use of these methods.

### Implementation by Jurisdiction

Each Basin jurisdiction is responsible for drafting and adopting local comprehensive plan and/or development code amendments necessary for implementation of habitat friendly practices. The final chapter of this report outlines the steps Clean Water Services and each of the Basin jurisdictions has taken, or plans to take, to implement these recommendations. Because most of the Basin jurisdictions already implement some practices which reduce the detrimental impact of development on fish and wildlife, all of the suggested changes may not be necessary in all cases. The table below summarizes the general timeframe for adoption for all of the jurisdictions.

2006 Proposed Adoption Schedule

	PC Worksessions	PC Hearings	City Council or BOCC Worksessions	City Council or BOCC Hearings
Beaverton	7/19, 8/25, 9/6	10/11, 10/18	10/23	11/13 or 11/20
Cornelius	TBD	TBD	TBD	TBD
Durham	See jurisdiction summary			
Forest Grove	9/5*	11/6	9/5*	11/27, 12/11
Hillsboro	8/30, 10/30**	1/10/07	10/30	2/6/07
Sherwood	3/14, 4/25, 6/27, 8/8	9/12, 10/24		11/7
Tigard	7/31, 9/25	10/16		TBD
Tualatin	7/15, 8/10	9/14		10/9 or 10/23
Washington County	9/6	9/6	9/19, 9/26, 10/03, 10/17, 10/24	9/19, 9/26, 10/03, 10/17, 10/24***
* Joint PC/CC worksession				
** Initiate amendments				
*** Adopted October 24, 2006				

- Tualatin Basin Goal 5 Program Implementation Report: (Draft #3)
  - Page 80
- 

## **F. Hillsboro**

The City of Hillsboro adopted its Natural Resources Management program in 2003 to comply with state Goal 5. The City conducted the required inventory of potential Goal 5 resources within the City in the summer and fall of 2000 in accordance with OAR 141-86-180 through 141-86-240 and OAR 660-023-0090 through 660-023-0110. The results of this inventory are contained in the "*City of Hillsboro Goal 5 Natural Resource Inventory and Assessment Report*" which includes a Local Wetlands Inventory and Assessment, and Riparian Corridor and Upland Wildlife Habitat Inventories and Assessments.

The inventory of significant riparian and upland resources was completed incorporated into the Hillsboro Comprehensive Plan in 2001, and subsequently, a Significant Natural Resources Overlay District (SNRO) was created indicating the appropriate levels of resource protection as determined through the ESEE analysis to implement goals and policies of the program.

A new Section 131A was added to the Hillsboro Zoning Ordinance (HZO) in 2003 which regulates development activities within the SNRO and specifies mitigation requirements. The SNRO code specifies permitted uses that are allowed within the district to the extent that they are not prohibited by the provisions of the underlying zone or any applicable conditions of approval, and are otherwise in compliance with applicable Federal, State and local requirements. Uses requiring a Significant Natural Resources Permit (SNRP) are also identified, with different levels of permitting requirements and review procedures required dependant on proposed uses and scale of impact. In addition, certain uses are designated "Prohibited" throughout the district.

HZO Section 131A(8), Standards Governing Approvals in the SNRO District is structured to minimize, minimize to the extent practicable and avoid potential adverse impacts of development activities within a resource site based on level of protection and proposed use and size of disturbance. Compensatory mitigation standards are based on level of protection, area of disturbance, with ratios for enhancement being twice that required for replacement.

In the case of residential land divisions on property contained within the SNRO district, adjustments to standards for minimum lot width, depth and area, and to minimum densities are allowed, provided consideration is given to the potential impacts on neighboring properties. Where a proposed land division would create twelve or more lots, and 50% or more of the site is within the SNRO district, the development proposed must be reviewed as a Planned Unit Development pursuant to HZO Section 127. In cases where otherwise developable land is contained within the SNRO district, residential density within the SNRO district cannot exceed 50% of the maximum

- Tualatin Basin Goal 5 Program Implementation Report: (Draft #3)
- Page 81

permitted by the underlying zone. The surplus density may be transferred to developable portions of a lot. This transfer is intended to permit densities equivalent to 80% of the maximum otherwise allowed in the SNRO to be developed elsewhere on the site.

To complement and enhance the effectiveness of the existing SNRO district regulations, and to achieve the goals and objectives of the Tualatin Basin Fish & Wildlife Program, the City is considering amendments to the Comprehensive Plan, Zoning Ordinance, and Subdivision Ordinance that will remove regulatory barriers, and further encourage and facilitate the use of Habitat Friendly Development and Low Impact Development practices and techniques. A new HZO Section 131B is proposed that incorporates Metro's Title 13, Table 1-1, Habitat Friendly Development Practices, to provide a menu of techniques that a developer may consider when designing and building projects within or near the SNRO or Habitat Benefit Area.

### 1. Adoption/Public Involvement Schedule

Task	2006						2007
	Jul	Aug	Sep	Oct	Nov	Dec	Jan
PC Worksession		8/30					
Initiate amendments				10/11			
PC Hearing							1/10
City Council Adoption							2/6

### 2. Summary of Planned Implementation

A. Planning and development approaches	
1. Land Division Design	
Clustering/lot size averaging, on-site density transfers	Lot size averaging and on-site density transfers permitted for properties with a Significant Natural Resource. Amended Hillsboro Comprehensive Plan (HCP) Section 1.3. (III)(Y) and Hillsboro Zoning Ordinance (HZO) Section 4.127 PUD (III)(E)(5) to allow density transfers within HBA's. Section 131B Habitat Friendly Development added to the HZO to encourage the use of Habitat Friendly Development practices including the use clustering.
Reduction of lot dimensional standards;	Currently allow adjustments from the structural setbacks and lot coverage standards (minimum and maximum) of the underlying zone, provided consideration is given to potential impacts to neighboring properties. HZO Section 131 A allows adjustments to the required lot width and depth in SNR Areas.

- Tualatin Basin Goal 5 Program Implementation Report: (Draft #3)
- Page 82

Allow for waiver of minimum density requirements (Metro);	An adjustment to the min. required density is allowed through the SNRP process. Amended HCP Section 1. 3. (III)(Y) and HZO Section 4. 127 PUD (III)(E)(5) to allow density reductions within HBA's.
<b>2. Site Design</b>	
Increased flexibility for setbacks	Code standards currently allow adjustments from the structural setbacks and lot coverage standards (minimum and maximum) of the underlying zone, provided consideration is given to potential impacts to neighboring properties. The city may consider HBA conservation as an exception criterion to support increased flexibility for setbacks when preserving HBAs and/or using habitat friendly development practices. HZO Section 131 A allows adjustments to the required setbacks in SNR Areas.
Increased flexibility for lot coverage	Code standards currently allow adjustments from the minimum and maximum structural setbacks and minimum and maximum lot coverage standards of the underlying zone, provided consideration is given to potential impacts to neighboring properties. The city may consider increased flexibility for lot coverage when preserving HBAs and/or using habitat friendly development practices. HZO Section 131 A allows adjustments to the minimum lot coverage standards for SNR Areas.
Increased flexibility for building heights	Planning Commission may grant an exception through the PUD process. The city may consider incorporating Building Height flexibility (such as one-story bonus over base building heights) to facilitate avoidance and protection of the HBA.
<b>3. Parking Design</b>	
Reduced parking ratios	Allowed through the PUD process. The city may consider HBA conservation as an exception criterion. Section 131B Habitat Friendly Development was added to the HZO to encourage the use of Habitat Friendly Development practices including reduced parking ratios.
Shared driveways and parking areas; On-street parking credit	The city does not preclude shared parking areas; requires commission or committee approval in some cases. Section 131B Habitat Friendly Development was added to the HZO to encourage the use of Habitat Friendly Development practices including the use of shared driveways and parking areas.



- Tualatin Basin Goal 5 Program Implementation Report: (Draft #3)
- Page 83

Flexibility in parking lot landscaping / Additional parking lot landscaping	When preserving HBAs and/or using habitat friendly development practices, the city may consider allowing a 15% reduction of the required parking lot landscaping square footage; provided that the square footage does not exceed the size of the HBA. Section 131B Habitat Friendly Development was added to the HZO to encourage the use of Habitat Friendly Development practices including encouraging landscaping in parking areas be located adjacent to HBA's.
Smaller car spaces and stall dimensions	Current Zoning Ordinance allows up to thirty (30) percent of the minimum number of off-street automobile parking spaces required may be constructed as compact spaces. Section 131B Habitat Friendly Development was added to the HZO to encourage the use of Habitat Friendly Development practices including minimizing the required number of parking spaces and stall dimensions.
Increased use of pervious materials	Section 3 (86) General Provisions – Off-Street Parking and Loading (9a) of the HZO was amended to encourage the use of pervious surface techniques. Section 131B Habitat Friendly Development was added to the HZO to encourage the use of Habitat Friendly Development practices including the use of pervious paving materials.
<b>4. Landscaping/Hardscape Design</b>	
Locating landscaping adjacent to habitat areas	Section 131B Habitat Friendly Development was added to the HZO to encourage the use of Habitat Friendly Development practices including encouraging landscaping in parking areas be located adjacent to HBA's.
Increased use of native plant	Section 3. Article II. Section 6 Pedestrian/Bicycle Accessways (C) (6)(b) of the Subdivision Ordinance was amended to encourage the planting of native shrubs along fences. Section 131B Habitat Friendly Development was added to the HZO to encourage the use of Habitat Friendly Development practices including the use of native plants throughout the development.
Improved soil amendment	Section 131B Habitat Friendly Development was added to the HZO to encourage the use of Habitat Friendly Development practices including use of improved soil amendment.
Reduction of non-ADA sidewalk widths within a site	Section 131B Habitat Friendly Development was added to the HZO to encourage the use of Habitat Friendly Development practices including reduction of sidewalk width and the elimination of non-ADA sidewalks.

- Tualatin Basin Goal 5 Program Implementation Report: (Draft #3)
- Page 84

Increased use of habitat-friendly fencing	Section 3. Article II. Section 6 Pedestrian/Bicycle Accessways (C) (6)(b) of the Subdivision Ordinance was amended to encourage the planting of native shrubs along fences.
Preservation of existing trees and maximize forest canopy	Section 131B Habitat Friendly Development was added to the HZO to encourage the use of Habitat Friendly Development practices including the preservation and maintenance of existing trees and canopy, as well as the planting of new trees.
<b>5. Lighting Design</b>	
Re-directed outdoor lighting, reducing light spill-off	For development near SNR, a permit is required that limits types, sizes and intensities of lights. Section 3. Article II. Section 6 Pedestrian/Bicycle Accessways (C) (4) of the Subdivision Ordinance was amended to encourage the direction of lighting away from HBAs.
<b>6. Density Reduction for Regionally Significant Habitat</b>	
Modified definition of net buildable areas	The City currently subtracts out wetlands, wetlands buffer and floodplains (most of the HBA) when the gross development area.
Reduced minimum buildable lot sizes	HZO Section 131 A allows adjustments to the minimum lot coverage standards in SNR Areas.

<b>B. Engineering and Design Approaches</b>	
<b>1. Street design</b>	
Minimize paving	Section 4 (127) PUD (I.6) added to the HZO allowing for street standards that minimize paving.
Use pervious paving materials	Section 4 (127) PUD (I.6) added to the HZO allowing for the use of pervious paving materials.
Maximize street tree usage	Street tree standards for PUDs; Section 4 (127) PUD (I.6) added to the HZO allows the maximization of street tree coverage. Currently conducting inventory to become recognized as a Tree City USA and to provide the foundation for an Urban Forestry Management Program
Use multi-functional open drainage systems / modify drainage practices	Section 4 (127) PUD (I.6) added to the HZO allowing for the use of multi-functional open drainage systems.

- Tualatin Basin Goal 5 Program Implementation Report: (Draft #3)
- Page 85

2. Stream crossing and street connectivity standards	
Minimize the number of stream crossings/place crossings perpendicular	Status: For SNR Permit approval process, city uses standards for bridge types. The number of crossing shall be minimized through the use of shared access for abutting lots and access through easements for adjacent lots. Section 4 (127) PUD (I.6) added to the HZO allowing for street standards that minimize the negative effects of stream crossings.
Allow narrow paved widths through stream corridors	Status: For SNR Permit approval process, design rights-of-way, roadways, driveways and pathways to be the minimum width necessary within the SNR Site while also allowing for safe passage of vehicles, bicycles and/or pedestrians. Section 4 (127) PUD (I.6) added to the HZO allowing for street standards minimizing the negative effects of stream crossings.
Use habitat sensitive bridge and culvert designs	Status: Through SNRP, use bridges and culverts with a natural bottom. Section 131B Habitat Friendly Development was added to the HZO to encourage the use of Habitat Friendly Development practices including the use of habitat sensitive bridge and culvert designs.
3. Stormwater management facility design	
Use vegetated stormwater management facilities	Amended HCP Section 1. 3. (III)(L); Section 2 Section 12(V)(E)(2) and Section 3 Section 12(V)(E)(6); Section 4. Section 13 (I)& (H); Section 5 Section 13(II)(F); Section 9 Section 13(III)(F)(4); Section 13 Section 13(VII)(U); Section 14 Section 17(IV)(A)(2); Section 16 Section 18(II)(A)(7) to encourage the use of vegetated stormwater facilities. Amended HZO Section 2. Section 20J and Section 4 Section 127 PUD (I) (6) to encourage the use of vegetated stormwater facilities. Section 131B Habitat Friendly Development was added to the HZO to encourage the use of Habitat Friendly Development practices including the use of vegetated stormwater facilities. Subdivision Ordinance Section 2. Article II. Section 5. (j) Street and Pedestrian/Bicycle Design Standards was added to encourage the use of "green streets" designs.
Use detention ponds	Requires detention facilities for all projects. Uses CWS standards. Section 131B Habitat Friendly Development was added to the HZO to encourage the use of Habitat Friendly Development practices including the use of detention ponds.

- Tualatin Basin Goal 5 Program Implementation Report: (Draft #3)
- Page 86

Use of underground detention and/or treatment	The city requires installation for all projects using CWS Design & Construction Standards.
---	--

<b>C. Building Design Solutions</b>	
Encourage Green roofs (eco-roofs)	Section 131B Habitat Friendly Development added to the HZO to encourage the use of Habitat Friendly Development practices including the use of green roofs.
Disconnect downspouts	Section 131B Habitat Friendly Development added to the HZO to encourage the use of Habitat Friendly Development practices including the use of disconnected downspouts. Technical design specifications may need to be adopted Basin-wide to facilitate the use of this method. Specifications should address site suitability criteria and additional steps needed for sites that are not highly suitable in terms of soil permeability.
Use rain barrel or cistern system	Section 131B Habitat Friendly Development added to the HZO to encourage the use of Habitat Friendly Development practices including the use of rain barrels. Technical design specifications may need to be adopted Basin-wide to facilitate the use of this method. Specifications should address site suitability criteria and additional steps needed for sites that are not highly suitable in terms of soil permeability.