Appendix K:

Wildlife Habitat Report – Wood Trails & Montevallo

PHOENIX DEVELOPMENT-WOOD TRAILS & MONTEVALLO

CITY OF WOODINVILLE WILDLIFE HABITAT REPORT

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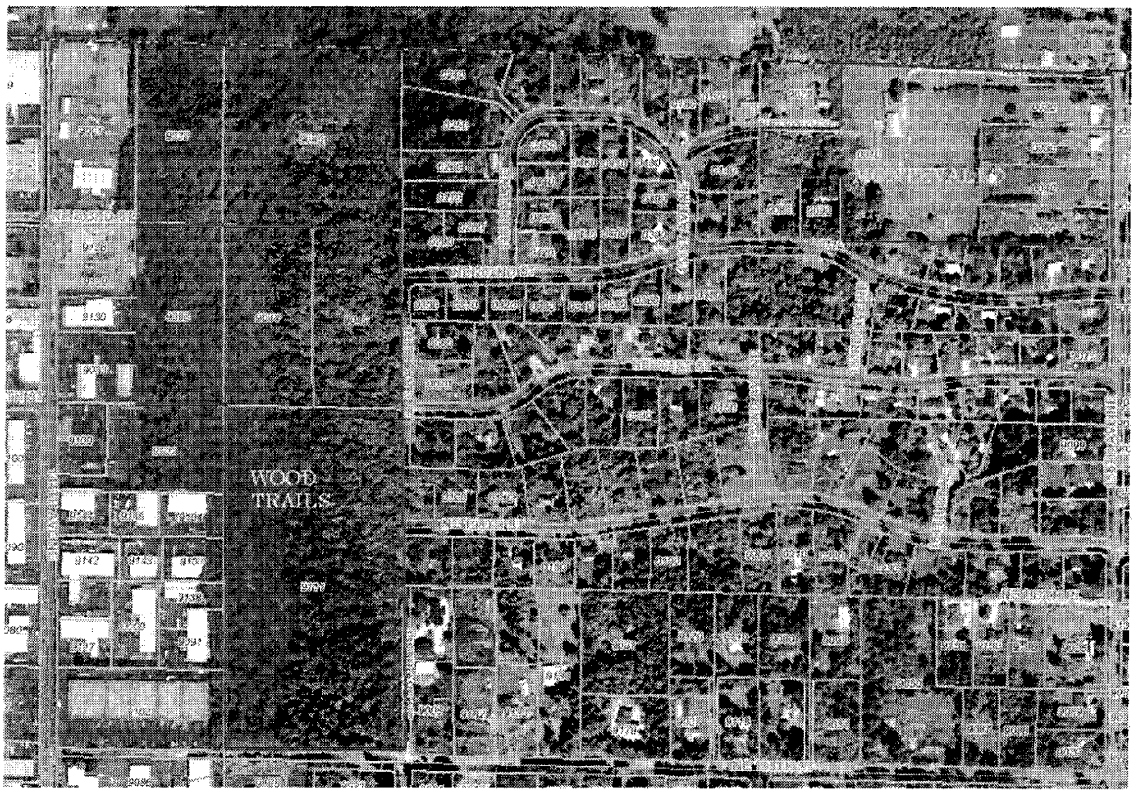
PHOENIX DEVELOPMENT – WOOD TRAILS & MONTEVALLO
CITY OF WOODINVILLE
WILDLIFE HABITAT REPORT

1.0 INTRODUCTION

1.1 Location

This report describes wildlife habitat and observations of wildlife, as well as mapped and recorded observations of listed species on two properties, one known as the proposed plat of Wood Trails, and the other, the proposed plat of Montevallo.



Wood Trails is located in the northeast and southeast ¼ of Section 3, Township 26 North, Range 5 East of the W.M. in King County Washington. More specifically, Wood Trails is a 38.7 acre

property located at the present terminus of NE 202nd Street, NE 201st Street, NE 198th Street and NE 195th Street and west of 148th Avenue NE within the City of Woodinville.

Wood trails is proposed to be subdivided into 66 single family residential lots.

Montevallo is a 16.48 acre property located in the northwest ¼ of Section 2, Township 26 North, Range 5 East of the W.M. in the City of Woodinville. Montevallo is located west of 156th Avenue NE and directly south of the King-Snohomish County line and the Wellington Hills Golf Course.

Montevallo is proposed to be subdivided into 66 single family residential lots.

2.0 METHODOLOGY

2.1 Wildlife Habitat

This wildlife study is an inventory of available habitat as well as observations of wildlife using the site.

Habitat cover types as well as significant habitat features and observations were mapped off an aerial photograph of the site taken in 2000 and obtained from the King County iMap website. Cover types were mapped off this photograph and then verified in the field. Field work was conducted on several early morning, mid day and dusk site visits in July and December of 2004 as well as January of 2005. Significant habitat features (snags, downed logs, large trees etc.) were also noted during our field reconnaissance. General observations were also made of species utilizing or likely to utilize the site.

Habitat cover types were inspected for tree, shrub and herb species as well as significant habitat features such as snags, caves old growth forest, large woody debris, cliffs and other habitats considered "Priority Habitats" by Washington Department of Fish and Wildlife.

A review of the existing data on file with Washington State Department of Natural Resources Natural Heritage Program and the Washington Department of Wildlife Nongame Data Systems was also conducted to identify any sensitive species or habitats known to be on or near the site.

3.0 OBSERVATIONS

3.1 Existing Site Documentation.

3.1.1 King County iMap website.

A review of the King County iMap website was conducted with the Wildlife Corridor overlay. No mapped wildlife corridors are depicted on or near the site.

3.1.2 Threatened and Endangered Species

Washington Department of Natural Resources Natural Heritage Program Search

A data search for threatened and endangered plant and animal species has been conducted for both the Montevallo and Wood Trails sites. A search of the data on file with Washington State Department of Natural Resources Natural Heritage Program revealed no records for rare plants or high quality ecosystems in the vicinity of the sites (see attached letter).

Washington Department of Fish and Wildlife Priority Habitats Data Search

A search of the data on file with the State of Washington Department of Wildlife (WDFW) Non-game Data Systems revealed only a small wetland located off-site to the southwest as a priority habitat (WDFW Habitats and Species Map Nov 15, 2004- Note WDFW will not allow publication of these maps or data). All wetlands are listed as "priority habitats" by WDFW. There are no listed threatened or endangered wildlife on or near the site. Little Bear Creek located approximately ¼ mile to the west of the site is the only feature of note within a 1 mile radius of the site.

3.2 Field Observations

3.2.1 General

Wood Trails

The Wood Trails site is situated between a residential subdivision and an industrial park. Specifically, residential properties abut the entire east and a portion of the south edge of the site. The remainder of the south edge of the site as well as the entire west edge abuts an industrial park. The north edge of the Wood Trails site abuts a small tract of forest that is located along the west side of the Wellington Hills Golf Course.

This site is located on a west sloping hillside with approximately 100' drop going from east to west. The eastern side of the site includes relatively flat areas interspersed with several steep sided ravine type features. A small stream is located just off-site to the north at the bottom of a steep forested ravine. The entire site is forested and includes numerous trails and footpaths cross the site including a utility corridor/gravel road feature extending from 201st across the site to the west into the industrial park.

Montevallo

The Montevallo site is surrounded by residential lots on both the south and west sides. The east side of the site is 156th Avenue NE also known as the Boston Road. The north side of the Montevallo site abuts an approximately 20 acre forested area on the east side of the Wellington Hills Golf Course.

The site is characterized as nearly completely developed with 4 single family residential homes on the east side of the site, and a single home near the west side of the site. There is also a large barn located just south of the western home. The rest of the site, excluding the wetland on the west side of the site is grazed pasture used by several horses.

The extreme western portion of the site includes a forested wetland and a small portion of forested upland.

A. Habitat – Wood Trails

The west side of the site is characterized by an overstory of 2nd and 3rd growth Douglas fir (*Psuedotsuga menziesii*), big leaf maple (*Acer macrophyllum*), bitter cherry (*Prunus emarginata*) and scattered western red cedar (*Thuja plicata*), and red alder (*Alnus rubra*). The eastern and northern sides of the site on the relatively flat plateau area have a younger deciduous forest comprised of patches of stump sprout origin big leaf maple, large bitter cherry and smaller Douglas firs ranging up to 18"dbh. A large area of intermediate size cedar is located near the north central portion of the property. This area has evidence of past soil disturbance and this area has a minimal shrub layer. The west side of the site on the northern half has an immature alder and maple overstory with scattered Douglas fir. The understory in these areas consists of patches of stinging nettle (*Urtica dioica*), salmonberry (*Rubus spectabilis*), Indian plum (*Oemlaria cerasiformis*), sword fern (*Polystichum munitum*), salal (*Gaultheria shallon*), Oregon grape (*Berberis nervosa*), hazelnut (*Corylus cornuta*) and Himalayan blackberry (*Rubus discolor*). Some large logs are found in this area but snags are not common.

A small (1,389sf) wetland is located in a natural ravine-like depression near the west property line. The area is characterized by a few scattered trees (cottonwood, alder and bitter cherry) and a dense shrub strata of Himalayan blackberry and salmonberry. Scattered elderberry and vine maple are also found in this area. The herb stratum is patchy and consists of nettle, some horsetail and some piggy back plant.

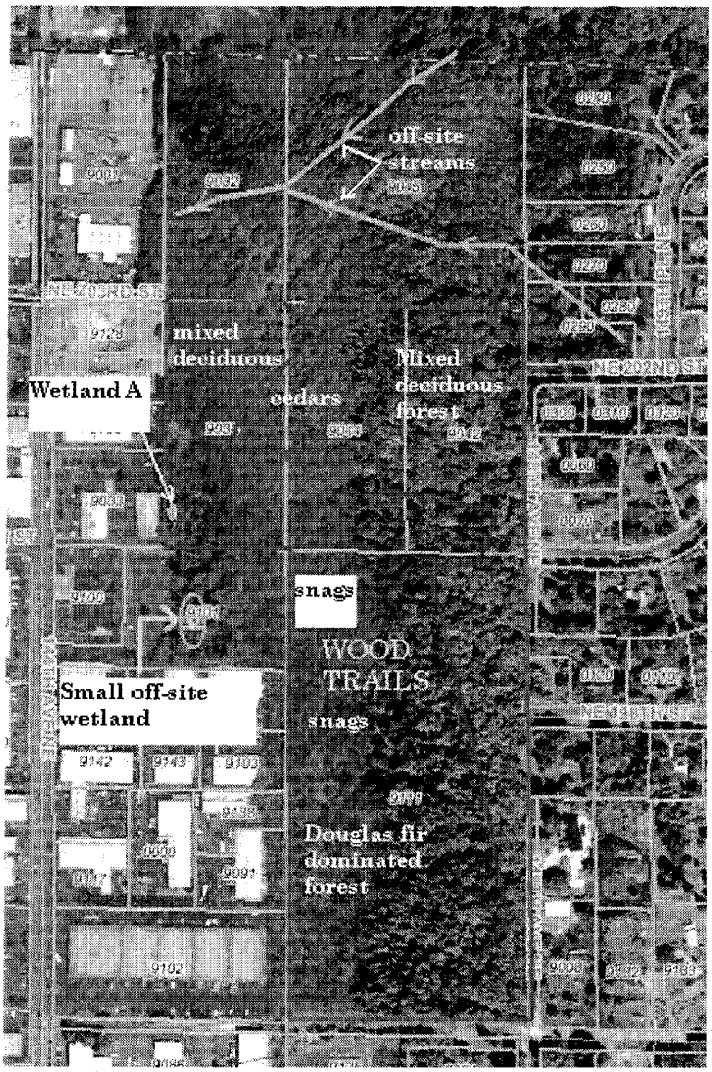
Soils in this area are mixed. On the lower end of the wetland there is an old logging roadbed that has mixed dark loamy soils that were found to be moist and had hydric characteristics. However, this soil graded into areas with clearly upland plants such as bitter cherry, red elderberry, Indian plum and sword fern. Uphill of the delineated area we found loamy sand with a dark (10YR 2/1.5) A horizon and a loamy sandy material B-horizon with a higher chroma of 3. Additionally,

one of our soil pits in the delineated area we discovered a piece of Styrofoam at a depth of 6". Clearly the area has been disturbed in the past so it is unclear whether the soils observed in this area reflect hydric conditions or not. The plant community in this area is only about 50% hydrophytic, so it is marginal at best. We did not observe any wetland hydrology in this area and had not on any previous site visits to the property. The Watershed Company reported some soil saturation in this area during an April 2005 site visit. We are not sure whether this soil saturation observed reflected the very wet April we had or it if it is a reflection of normal, spring conditions in this area. Therefore, we delineated the area which we found to have wetland vegetation at 50% or greater and hydric soils characteristics just uphill of the old roadbed and north of the existing water line. As we previously mentioned, we have not observed any wetland hydrology, so we are assuming it is present in the early growing season. It is clearly dry uphill and downhill of this area. This delineated area was flagged with flags A1-A7 and was found to be 1,389sf in size. The wetland includes one large black cottonwood as well as salmonberry, Himalayan blackberry and some nettle.

Wetlands >1,000sf in size are regulated by the City. This wetland best meets the criteria of a Class 3 wetland due to its small size and scrub-shrub wetland class. The wetland is a low function feature for several reasons. This wetland is on a slight slope so it has no stormwater storage value, receives no surface water or contaminated runoff to act as a nutrient contaminant sink, is not located along a riparian area so it provides no water to any downslope wetland or stream feature, and has little habitat value as most of it is a thicket of Himalayan blackberry which never appears to have any surface water. It is an area that appears to meet the criteria of a wetland but has little of the values normally associated with wetlands. It does provide a minimal amount of habitat, although its character is not any different than most of the blackberry thickets along the west side of the site.

A large ravine covered with a stump-sprout origin deciduous overstory of big leaf maple is located just off-site to the north and contains a stream which flows to the west. Several trails lead down to this stream from the site.

The ravines near the center of the site, and particularly the southwest portion of the site, have numerous mature 2nd growth 24"-36" dbh Douglas fir in the overstory. Understory in this area includes dense thickets of salal as well as Oregon grape, Indian plum, hazelnut and creeping blackberry (*Rubus ursinus*), oceanspray (*Holodiscus discolor*) and scattered holly (*Ilex* spp.). This area has numerous large conifers as well as a good interspersion of small and medium conifer snags. Most of these snags have numerous cavities excavated by pileated woodpeckers (*Dryocopus pileatus)*. A single pair of pileated woodpeckers was observed foraging during a single site visit in January of 2005, on the northwest side of the site just south of the off-site stream and ravine. The pair was foraging on small snags in this area. No pileated nests were observed on the site, although they could possibly exist. The ravine areas on the southern half of the site also have numerous mountain beaver (*Aplodontia rufa*) burrows scattered throughout the hillsides.



Above: Major habitat types and features on and near Wood Trails Site

The site has a very high noise level as a result of various work and machinery in the industrial park as well as the highway located to the west of the site. This is most noticeable on the western half of the property where slope aspect creates the most direct noise impact.

Based upon tracks, trails, droppings and bedding areas, numerous mule deer and coyote use the west edge of the site and appear to stick to the ravines and the steep, more protected portions of the site. Game trails in this area traverse the topographic contours and generally cross the main trails at right angles. General wildlife migration through the site appears to be in a north-south direction. The main habitat feature that wildlife would pass through the site to access would be the stream located off-site to the north. Two immature mule deer (*Odocoileus hemionus*) bucks were observed in the southwest portion of the site approximately 200' south of the east-west

trail/utility crossing. These deer appear to be adapted to the heavy noise level on the site as well as the close proximity of the industrial and residential properties. Other than the species noted above and other common species listed at the end of this report, no species or habitat features of unique character or significance were noted on the site.

The Wood Trails site has no known recorded rare plant communities or listed plants according to a data search we had conducted by the Washington Department of Natural Resources Natural Heritage Program (see attached letter). In addition, there are no known identified or documented uses of the site by any state or federally listed threatened or endangered species based upon our site observations as well as a data search we had conducted by WDFW Priority Habitats Program.

Pileated woodpeckers are listed as a State "Candidate species" with the specific concern area being breeding locations or nests (Lewis & Azerrad, 2003). No specific or designated protections are given to this species at this time. Although a single pair of pileated woodpeckers were observed on the site foraging, no active nest cavities were observed on the site.

Pileated woodpeckers generally use trees with cavities hollowed out in them in the 20"-60" range for nesting purposes in Washington and there are many trees in that size category on the site. They prefer conifers and ideally western red cedar. Pileated woodpeckers generally use second growth and old growth forests, but stands as young as 40yrs of age (such as much of the forest on the site) are used for foraging habitat. Home ranges for pileated woodpeckers in the northwest are typically in the 1,000-2,000acre range for a breeding pair and larger for individuals or young pairs. While it is possible there is some nesting on the site, we only observed two individual birds on one of many site visits. If birds were nesting on the site it is likely we would have seen the pair more than once.

B. Habitat – Montevallo

As previously described, Montevallo is heavily disturbed and offers little in the way of wildlife habitat. The majority of the site is grazed pasture covered with typical pasture grasses and weedy species. The upland pasture offers habitat to human-tolerant species typically found in agricultural type properties and include raccoon (*Procyon lotor)*, opossum (*Didelphis virginiana)*, common crow (*Corvus caurinus)*, Norway rat (*Rattus norvegus*), house mouse (*Mus musculus*), European starling (*Sturnus vulgaris*), barn swallows (*Hirundo rustica)*, coyote (*Canis lutris)*, garter snake (*Thamnophis sirtalis)*, house sparrow (*Passer domesticus)* and mule deer. Occasionally red-tailed hawks (*Buteo jamaciensis*) and sharp shinned hawks (*Accipiter striatus*) may use the pasture for hunting. However, we did not observe any on or near the site.

The forested wetland and small amount of upland on the west side of the site has the highest value for habitat on the site. This forested and emergent wetland is located near the west side of the site comprising 71,567sf. This wetland (labeled as Wetland A/B) is located at the head of a

drainage that flows out of the wetland in wetter months in a dug ditch to the north. This wetland was flagged on the east edge with pink "Wetland Delineation" flagging labeled A-1 though A-13. The west side of the wetland was flagged with pink "Wetland Delineation" flagging labeled B-1 through B-11. The majority of flags A-1 through A-13 were located on the slope of the pasture. At the toe of the slope where the tree line and the pasture meet there is a small ditch that is oriented in a north south direction. Based upon visible topography, the ditch feature appears to flow to the north, although no surface flow was present during our site visit. To the west of the pasture portion of the wetland a small area of forested wetland is located.

Vegetation within Wetland A/B in the forested areas includes western red cedar (*Thuja plicata*), red alder, black cottonwood, salmonberry (*Rubus spectabilis*), slough sedge (*Carex obnupta*), and lady fern (*Athyrium Filix-femina*).

Soil pits excavated within Wetland A/B revealed a shallow muck layer with a soil color of 10YR 2/1 and an underlying B-horizon with a matrix color of 10YR 3/2 with both common, fine distinct and common, medium distinct redoximorphic features. During our site visit soils were saturated within 12-inches from the soil surface. Soils at the eastern edge of the wetland were only moist but are assumed to be wetter in the early growing season based upon the presence of hydrophytic vegetation and hydric soils.

Hydrology of Wetland A/B appears to be a mix of direct precipitation, road runoff from streets located to the south and west of the site, as well as roof runoff from the barn on-site. We also noted a drain draining water into the wetland with what appears to be gray water from a laundry machine or sinks in the western residence. This water drains directly into the wetland from a small culvert located within the pasture near the north side of the home.

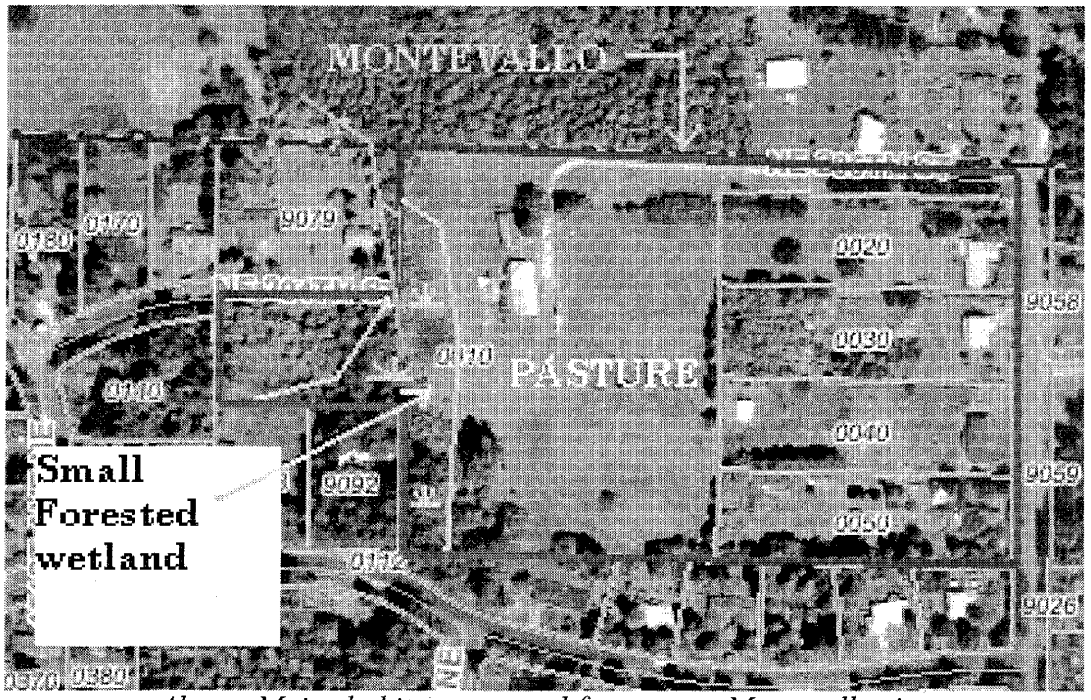
According to the United States Fish and Wildlife (USFWS) wetland classification method (Cowardin et al. 1979), Wetland A/B would consist of areas that would be considered palustrine, forested, broad-leaved deciduous, seasonally flooded (PFO1C) and palustrine, scrub-shrub, broad-leaved deciduous, seasonally flooded (PSS1C).

According to the Woodinville Municipal Code (WMC §21.06.710) Wetland A/B would be considered a Class 2 wetland due to its size >1 acre and forested wetland class. Typically Class 2 wetlands have a 50-foot buffer measured from the wetland edge (WMC §21.24.310).

The northeast side of the site contains a row of 25' pines (*Pinus* spp.) and sitka spruce (*Picea sitchensis*), apparently planted as a screen. The center of the site contains a small patch of 10-20 year old alder with a sparse understory that has been disturbed by past livestock grazing.

No distinct or unique habitat features are located on the site. The small forested wetland on the west side of the site acts as a headwater to a small ditched channel that eventually joins an apparently perennial stream located on the golf Course property to the north and west. This

wetland is surrounded by residential development and has been heavily impacted by past disturbance and conversion of buffer to lawn and pasture.



Above: Major habitat types and features on Montevallo site.

The site has some vegetated cover along this ditched riparian corridor. Additionally, the immature forest to the north along the golf course, although itself confined by roads and development, does offer some habitat for human tolerant wildlife. This forest off-site to the north appears to have been logged of conifers 20-30 years ago and has since grown up with an alder/cottonwood (*Populus balsamifera*) overstory. Sapling stage confers have started to regenerate within the understory of the deciduous overstory. This area has a shrub strata comprised of salmonberry, thimbleberry (*Rubus parviflorus*), Indian plum, stinging nettle and dense patches of Himalayan blackberry. No unique habitat features were noted within this forest area abutting the site.

Evidence (tracks scat, nests etc.) of several species of wildlife were observed within this wetland and on the site itself. Species observed include European starling, common crow, winter wren (*Troglodytes troglodytes)*, black capped chickadee (*Parus atricapillus)*, mule deer, coyote, opossum, Norway rat, eastern gray squirrel, (*Sciurus carolinensis*) tree frog (*Hylla regilla*), common garter snake and raccoon. Many more human tolerant species undoubtedly use the site although we did not observe them. A list of species potentially using the site is listed at the end of this report.

The Montevallo site has no known recorded rare plant communities or listed plants according to a data search we had conducted by the Washington Department of Natural Resources Natural Heritage Program (see attached letter). In addition, there are known identified or documented uses of the site by any state or federally listed threatened or endangered species based upon our site observations as well as a data search we had conducted by WDFW Priority Habitats Program.

The sites suburban character and level of past disturbance as well as its isolation by residential homes on three sides and the golf course on the north limit its ability to support any wildlife but common, human tolerant species typically seen in this area of Western Washington. The sites most valuable habitat feature is the wetland located on the west side of the property. This wetland provides hydrologic support to streams of higher order located to the west of the site draining to the Little Bear Creek drainage. These streams within the Little Bear Creek drainage located off-site to the west of the site and west of SR 522 are important fisheries streams. The hydrologic support that the onsite wetland provides to these off site features, although not large is important in maintaining summer flows. The site also has the ability to allow wildlife to get to and from the wetland from the immature forest to the north as well as the golf course area. Based upon tracks within the wetland the main species passing through the site primarily early in the morning and at night) and the neighborhood to the south and west are coyote, raccoon and mule deer.

C. Off-site Habitat

As discussed previously, most of the land adjacent to the Wood Trails and Montevallo sites has been developed for residential and industrial purposes. Consequently, there is little nearby area of relatively undisturbed land that can provide habitat for terrestrial wildlife. A large wooded ravine with a deciduous overstory of big- leaf maple and a stream that flows west toward Little Bear Creek is located just to the north of the Wood Trails site. Similarly, there is an immature forest area to the north of the Montevallo site on the golf course property that offers some habitat for human-tolerant wildlife. This forest appears to have been logged of conifers 20 to 30 years ago and has since grown up with an alder/cottonwood overstory. Sapling-stage conifers have started to regenerate within the understory of the deciduous overstory. This area has a shrub stratum composed of salmonberry, thimbleberry (*Rubus parviflorus*), Indian plum, stinging nettle and dense patches of Himalayan blackberry. No unique habitat features were noted within this forest area.

There is some off-site aquatic habitat of local or regional significance, however. Little Bear Creek is located approximately one-half mile to the west from the Wood Trails site and three-quarters of a mile from the Montevallo site. Little Bear Creek is an important fish-bearing stream that contains most species of salmon and trout, including threatened Puget Sound chinook salmon (A Catalog of Washington Streams Vol 1. Washington Dept. Fisheries Nov 1975). These species are sensitive to changes in water quality, quantity and flow rates, as well as increases in

sedimentation which can affect redds and juvenile survival. Stormwater runoff from both sites currently discharges eventually to Little Bear Creek via a small tributary from Montevallo, and from much of the Wood Trails site via the City's stormwater system.

6.0 CONCLUSION

No state or federally listed threatened or endangered plant or wildlife species were observed on the site, nor are they known to use either the Wood Trails or Montevallo sites according to WDNR & WDFW data records. Wetlands are considered Priority Habitats by WDFW.

The Wood Trails site does provide good habitat for many common wildlife species that have adapted to living in and around heavy amounts of noise and development. Most of these species utilize the more protected ravine areas on the western half of the Wood Trails site and avoid the numerous footpaths crossing the site.

Proposed Alternative Development Plans – Wood Trails

The four (4) proposed alternatives for the Wood Trails site include the following;

Alternative #1-Develop site into 66 single family detached residential lots
Alternative #2 -Develop site into 23 single family lots under existing R-1 Zoning
Alternative #3 -Develop site into 85 town home units
Alternative #4- No change or development.

Alternative #1 includes the development of three contiguous lot lobes extending from the east side of the site. All of this development is within the areas vegetated primarily with mixed deciduous species. This avoids the conifer forest with the most habitat value along the southwest portion of the site. This site layout includes a storm pond located at the west side of the site on the north half of the site. This includes several rockeries that terrace above the pond. Since wildlife appears to move primarily across the site from north to south in this area this pond layout could impact this corridor through the site.

There would be permanent displacement of wildlife utilizing the areas to be cleared and developed. These species will most likely re-locate to areas of the site to the west that will not be developed or north of the site into the undeveloped ravine and forest areas.

There are a large number of snags throughout the site. These are valuable wildlife habitat features for pileated woodpeckers using the site. Most of the larger snags are in the area proposed to be left as open space. The eastern portion of the site proposed to be cleared has numerous small snags which appear to be suitable only for foraging.

WDFW has some general management recommendations for pileated woodpeckers in urban/suburban areas. This includes maintaining as much forest as possible as well as maintaining and creating snags. In urban areas large patches (74acres+) of forest are ideal, but often not present. Where large patches are not available smaller patches should be maintained that are no less than 7 acres in size. Forest patches with high densities of existing snags and live trees are preferential and the creation of snags or decaying live trees can be beneficial for pileated woodpeckers in these areas. Retention of trees in the largest class sizes are most preferential.

The proposed Wood Trails project is leaving a 57% of the site or 21 acres as a contiguous forested tract. This is the area with the greatest density of high value large habitat trees on the site that are ideal for pileated woodpeckers. Many larger snags are also found in this area which provide good foraging and potential nesting and roosting sites for this species.

Removal of the forest on the eastern portion of the site will remove primarily numerous smaller foraging snags that are present as well as some large live trees. However, the majority of the site will remain as forest and will be in a medium size forest patch range that will still support pileated woodpeckers. There is some loss of foraging area from the proposed project. However, several mitigative measures can be used to off-site losses of forage trees and improve the remaining habitat for pileated woodpeckers on the site. This includes transfer of large woody debris from clearing operations such as logs and stumps to the western portion of the remaining site for use as foraging habitat materials.

Additionally, some selective snag creation could be provided on the 21 acres of remaining open space through girdling of specific trees which would provide good potential snags.

Alternative #2 covers the same rough footprint as Alternative #1 but does not include the storm pond tract. This layout is less impactive to habitat on the site as it leaves a continuous unbroken corridor from north to south through the site. However, these homes unlike Alternative #1, would be serviced by individual septic systems.

Alternative #3 Has the greatest number of living units of all three alternatives but its overall footprint and impact are nearly identical to Alternative #1.

Alternative #4 is the No change alternative. Under this alternative no impacts to wildlife or habitat would occur.

Proposed Alternative Development Plans – Montevallo

The four (4) proposed alternatives for the Montevallo site include the following;

Alternative #1 -Develop site into 66 single family detached residential lots

Alternative #2 -Develop site into 14 single family lots under existing R-1 Zoning
Alternative #3 -Develop site into 47 town home units
Alternative #4- No change or development.

All three development alternatives (Alternatives 1-3) cover the exact same footprint on the site. The majority of the site that is proposed to be developed under all three alternatives is a mix of grazed pasture and residential yards and homes. The removal of livestock from the wetland and buffers under these alternatives will improve water quality in the wetland through removal of the effluent source, and allow the plant community to re-establish where it is currently trampled and grazed. Minor temporary impacts to the wetland and its buffer will occur due to the required placement of the storm sewer system through the wetland. The requirements to tie the sewer system into the City's sewer on the west side of the wetland, as well as the City's requirement for a path to cross from the site to 204th street require some permanent and some temporary impacts to the wetland and buffer. Alterations of wetlands and buffers for City required sewer impacts are allowed as long as restoration is proposed as described in 21.24.320.6.

The sewer line tie in will require a temporary impact to the wetland of 2,920sf (600sf of forested wetland and 2,320sf of emergent wetland) and a temporary impact of 5,866sf of buffer (*see attached B-12 Wetland Consulting Inc. - Montevallo Concept Mitigation Plan*). In addition, a narrow pedestrian walkway will cross the wetland. The walkway will be placed upon pin piles which require no fill of wetlands (from a US Army Corps perspective) or impacts to wetland hydrology. The use of pin piles also allows small animals and amphibians to migrate through the area of the path unencumbered. However, it is still considered a permanent impact by the City. This impact equates to 385sf of wetland impact and 695sf of buffer impact.

The proposed project will be constructed on the narrowest construction corridor possible and it is likely less wetland and buffer will be temporarily impacted than the total width of the easement. Following construction of the sewer line and footpath, the wetland and its buffer will be re-graded to original grades, hydroseeded with a native grass mix, and in the areas of existing woody vegetation, re-planted with a mix of native trees and shrubs.

To compensate for the permanent impact to 385sf of wetland, the City requires a mitigation ratio of 2:1 for Category 2 wetlands. Therefore 772sf of wetland will be created out from the edge of the existing wetland near the east side sewer crossing. This area will be excavated down to match wetland grades and replanted with a mix of native shrubs. To compensate for the 695sf of buffer impact, 695sf of buffer will be added to the wetland buffer on the west side of the wetland using buffer averaging as well as enhancement of 1,390sf of buffer.

The final plans will include details on the sewer line construction (including the use of impervious dams in the trench to prevent dewatering of the wetland) as well as the stockpiling of soil and revegetation, plant placement, specifications, performance standards, monitoring

methods and contingency measures. This area will be monitored for 3 years as required by Code to insure successful restoration of the wetland and buffer.

Following approval of this concept, a Final Detailed Mitigation Plan will be prepared for review and approval by the City.

Under the No Change alternative (#4) there will also be no impact to any habitat on the site. However, continued degradation of water quality and plant community in the wetland will occur from ongoing grazing activity in the buffer and wetland. Currently, livestock effluent flows untreated into the wetland and ditch as runoff crosses the pasture from east to west.

Evaluation of potential indirect impacts from the proposed Montevallo development on off-site aquatic habitat involves the same types of actions and issues as discussed previously for Wood Trails. The stormwater system for Montevallo has also been designed to maintain existing flow rates and quantities from the site. Roof drains from lots abutting the wetland buffer will discharge to the wetland buffer area to maintain hydrology through the entire on-site wetland. Accordingly, no changes to the hydrologic characteristics of the wetland, the drainage discharge from the wetland or Little Bear Creek, the eventual off-site receiving water body, are anticipated as a result of this development. Habitat for fish and other aquatic organisms in Little Bear Creek would not be affected by water quantity changes associated with the Montevallo project.

Similarly, the Montevallo stormwater system has been designed to include both biofiltration and leaf compost filters for the discharge from the stormwater pond. These water quality features will add another layer of treatment for stormwater contaminants in general and specifically for zinc, which has been identified as a problem contaminant in Little Bear Creek. In addition, the livestock will be removed from the wetland and buffer, eliminating a direct source of pollutants to the natural drainage system. Therefore, the quality of stormwater runoff from the Montevallo site with the Proposed Action would likely be better than the current condition, and the project would have no adverse effect on aquatic habitat in Little Bear Creek.

The Proposed Action includes extension of public sanitary sewer service to the Montevallo site. Extension of sewer service would provide properties adjacent to the sewer route with the opportunity to connect to the sewer system. Conversion of many or most of the existing residences from on-site septic systems to the public sewer system could reduce the coliform load from the soil and water table, and thereby reduce coliform contamination that eventually flows to Little Bear Creek. The long-term result of providing sewer service to the area, and the high level of water quality treatment for stormwater runoff from Montevallo, could be a net improvement in water quality for flows draining to Little Bear Creek. The aquatic habitat in Little Bear Creek would benefit from any such improvement in water quality.

If you have any questions in regards to this report or need additional information, please feel free to contact me at (253) 859-0515.

Sincerely,
B-12 Wetland Consulting, Inc.

Ed Sewall
Senior Biologist

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BIRDS OBSERVED OR POTENTIALLY USING THE WOOD TRAILS & MONTEVALLO SITES

ACCIPITRADAE:	Sharp-shinned Hawk	*Accipiter striatus*
	Cooper's Hawk	*Accipiter cooperii*
	Red-tailed Hawk	*Buteo jamaicensis*
TETRAONIDAE:	Ruffed Grouse	*Bonasa umbellus*
COLUMBIDAE:	Mourning Dove	*Zenaidura macroura*
STRIGIDAE:	Western Screech Owl	*Otus asio*
	Great Horned Owl	*Bubo virginanus*
	Northern Saw-whet Owl	*Aegolius acadicus*
	Barn Owl	*Tyto alba*
PICIDAE:	Red-breasted Sapsucker	*Sphyrapicus varius*
	Hairy Woodpecker	*Picoides villosus*
	Northern Flicker	*Colaptes auratus*
	Downy Woodpecker	*Picoides pubescens*
	Pileated Woodpecker	*Dryocopus pileatus*
TYRANNIDAE:	Olive-sided Flycatcher	*Nuttallornis borealis*
	Western Wood-pewee	*Contopus sordidulus*
	Western Flycatcher	*Empidonax difficilis*
HIRUNDINIDAE:	Violet-green Swallow	*Tachycinata thalassina*
	Barn swallow	*Hirundo rustica*
CORVIDAE:	Stellar's Jay	*Cyanocitta stelleri*
	Crow	*Corvus caurinus*
PARIDAE:	Black-capped Chickadee	*Parus atricapillus*
SITTIDAE:	Red-breasted Nuthatch	*Sitta canadensis*
CERTHIIDAE:	Brown Creeper	*Certhia familiaris*

TROGLODYTIDAE:	Winter Wren	*Troglodytes troglodytes*
	House Wren	*Troglodytes aëdon*
TURDIDAE:	Hermit Thrush	*Catharus guttatus*
	American Robin	*Turdus migratorius*
	Varied Thrush	*Ixoreus naevius*
SYLVIIDAE:	Golden-crowned Kinglet	*Regulus satrapa*
	Ruby-crowned Kinglet	*Regulus calendula*
BOMBYCILLIDAE:	Cedar Waxwing	*Bombycilla cedrorum*
STURNIDAE:	European Starling	*Sturnus vulgarus*
VIREONIDAE:	Solitary Vireo	*Vireo solitarius*
	Hutton's Vireo	*Vireo huttoni*
	Warbling Vireo	*Vireo gilvis*
PARULIDAE:	Yellow-rumped Warbler	*Dendroica coronata*
	Townsend's Warbler	*Dendroica townsendi*
PLOCEIDAE:	House Sparrow	*Passer domesticus*
ICTERIDAE:	Brown-headed Cowbird	*Molothrus ater*
THRAUPIDAE:	Western Tanager	*Piranga ludoviciana*
FRINGILLIDAE:	Cassin's Finch	*Carpoolacus cassinii*
	Evening Grosbeak	*Hesperiphona vespertina*
	House Finch	*Carpodacus mexicanus*
	American Gold Finch	*Spinis tristis*
	Lincoln Sparrow	*Melospiza lincolnii*
	Chipping Sparrow	*Spizella passerina*
	Fox Sparrow	*Passerella iliaca*
	Song Sparrow	*Melospiza melodia*
	Rufous sided towhee	*Pipilo erythrophthalmus*
	Dark-eyed Junco	*Junco hyemalis*

MAMMALS OBSERVED OR POTENTIALLY USING THE WOOD TRAILS & MONTEVALLO SITES

MARSUPIALS:	Common Opossum	*Didelphis virginiana*
INSECTIVORES:	Masked Shrew	*Sorex cinereus*
	Pacific Mole	*Scapanus orarius*
BATS:	Little Brown Myotis	*Myotis lucifugus*
	Hoary Bat	*Lasiurus cinereus*
RODENTS:	Mountain Beaver	*Aplodontia rufa*
	Townsend's Chipmunk	*Eutamius townsendii*
	Deer Mouse	*Peromyscus maniculatus*
	Townsend Vole	*Microtus townsendii*
	House Mouse	*Mus musculus*
	Bushy-tailed Wood Rat	*Neotoma cinera*
	White footed mouse	*Peromyscus leucopus*
	Norway rat	*Rattus norvegus*
CARNIVORES:	Raccoon	*Procyon lotor*
	Short-tail Weasel	*Mustela erminea*
	Coyote	*Canis lutris*
	Black Bear	*Ursus americanus*
UNGULATES:	Mule Deer	*Odocoileus hemionus*

REPTILES, AMPHIBIANS, AND FISH OBSERVED OR POTENTIALLY USING THE WOOD TRAILS & MONTEVALLO SITES

SNAKES:	Common Garter Snake	*Thamnophis sirtalis*
FROGS AND TOADS:	Western Toad	*Bufo boreas*
	Pacific Tree Frog	*Hyla regilla*
SALAMANDERS:		
	Ensatina	*Ensatina eschscholtzi*
	Red-backed Salamander	*Plethodon vehicu*