

**Preliminary Development Plan Requirements**

**Exhibit #17.**

**Wetland Stream Analysis**



December 13, 2005

Chad Bala  
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RE: Wetland Stream Analysis – Greene Property, Ellensburg,  
Washington  
B-12 Wetland Consulting Job #A5-337

Dear Chad,

At your request we have conducted an inspection of the Greene property located north and south of Dry Creek Road and bordered by State Highway 10 on the southeast of Reecer Creek Road in unincorporated Kittitas County, Washington. The John Wayne Trail passes through the center of the site. The purpose of our investigation was to determine the approximate size and location of any jurisdictional wetlands, streams or buffers on the site.

#### 1.0 **METHODOLOGY**

B-12 Wetland Consulting, Inc. investigated the site in November of 2005, using methodology described in the **Washington State Wetlands Identification Manual** (WADOE, March 1997). This is the methodology currently recognized by Kittitas County and the City of Ellensburg for wetland determinations and delineations. Soil colors were identified using the 1990 Edited and Revised Edition of the **Munsell Soil Color Charts** (Kollmorgen Instruments Corp. 1990).

The *Washington State Wetlands Identification and Delineation Manual* and the *Corps of Engineers Wetlands Delineation Manual* both requires the

use of the three-parameter approach in identifying and delineating wetlands. A wetland should support a predominance of hydrophytic vegetation, have hydric soils and display wetland hydrology. To be considered hydrophytic vegetation, over 50% of the dominant species in an area must have an indicator status of facultative (FAC), facultative wetland (FACW), or obligate wetland (OBL), according to the National List of Plant Species That Occur in Wetlands: Northwest (Region 9) (Reed, 1988). A hydric soil is "a soil that is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part". Anaerobic conditions are indicated in the field by soils with low chromas (2 or less), as determined by using the Munsell Soil Color Charts; iron oxide mottles; hydrogen sulfide odor and other indicators. Generally, wetland hydrology is defined by inundation or saturation to the surface for a consecutive period of 12.5% or greater of the growing season. Areas that contain indicators of wetland hydrology between 5%-12.5% of the growing season may or may not be wetlands depending upon other indicators. Field indicators include visual observation of soil inundation, saturation, oxidized rhizospheres, water marks on trees or other fixed objects, drift lines, etc. Under normal circumstances, indicators of all three parameters will be present in wetland areas.

**NOTE:** The Ellensburg area has unique hydrologic conditions that make wetland delineation and identification difficult without cessation of site irrigation practices, and monitoring of the hydrology through the growing season (mid April through October 1). Generally, irrigated fields in this area have been flood irrigated for decades, and in many cases, over 100 years. This long term irrigation practice creates soils profiles that have hydric or wetland characteristics, as well as allows the growth of plants typically found in wetland areas. On many sites, only through shutting off the irrigation and monitoring the sites hydrology can it be determined if natural wetland conditions exist. If no evidence of inundation or saturation of the upper 12" of soil is found within the growing season, the area is not wetland regardless of the fact there may be wetland plants and hydric soils. This determination is made more complicated by the regional rise in the water table through the irrigation season, often peaking near in the mid-late summer. This regional rise, although itself created by the local use of irrigation (an artificial hydrology source), is considered to be a "natural" phenomenon and treated as a natural water source by the regulatory authorities such as the Corps of Engineers as well as Washington Department of Ecology. As a result, in order to make a definitive determination of the actual

presence of wetland in the area of the site, the sites irrigation must be shut off prior to the start of the irrigation season, and the site will need to be monitored for soil inundation or saturation within 12" of the surface through the entire growing season. It is our experience in this region that this is the only acceptable way to disprove areas that contain wetland soils and plants from being considered wetland.

## 2.0 OBSERVATIONS



The site is generally comprised of timothy fields with the exception of several agricultural outbuildings near the north end of the site bordering the Town Canal as well as homes and outbuildings on the north and south sides of Dry Creek road on the south half of the property.

Although the majority of the site was in timothy, one field of corn stubble was observed on the southeast portion of the site south of Dry Creek

was observed on the southeast portion of the site south of Dry Creek Road and bordered by Currier Creek on the east and Reecer Creek on the west. Both Reecer Creek and Currier Creeks pass through the site, Reecer running south through the middle of the site and Currier which passes through the east side of the northern half and forms the east border south of Dry Creek Road. Numerous irrigation ditches, pipes, and diversions are found along the property leading from the Town Canal as well as both creeks.

As previously described, the majority of the site is planted and cropped in timothy hay (*Phleum pretense*). Timothy although a planted species on this site, is also considered a facultative wetland plant.

Soil pits excavated throughout the site in the areas identified in the Ellensburg UGA inventory as wetland did reveal clay loam soils with hydric (wetland) characteristics including dark (10YR 2/1) and the presence of redoximorphic concentrations. Contrasting to these areas, other portions of the site have higher chroma soils (10YR 2/1.5-2) with less clay and no redoximorphic features.

The site is currently under a flood irrigation program, note the Google Earth aerial photograph attached which clearly shows the sheet flow of water across the site. This flood irrigation covers the entire site and can create artificial wetland conditions. There are also several areas of the site that appear to have some natural spring or hydrologic sources. These include the area to the south of the John Wayne Trail and north of Dry Creek Road straddling the gravel farm road passing through the center of this field. Wetland hydrology was observed in these areas during our site visit and according to the owner, comes from springs in the area.

Additionally, the area bordering Reecer Creek north of the John Wayne as well as the small area on the south side of the site bordering State Route 10 Trail may have flooding or natural hydrology. Any wetlands that are found to exist on the site probably fall into the Category 3 or 4 rating, which in Kittitas County, currently have buffers that can range between a simple structure setback of less than 25' up to 80'. These will depend upon the proposed land use, potential for enhancement, slope and presence of any listed species. The buffer areas on site should lend themselves for minimum widths with potential enhancement as a trade

off. Any wetlands that are filled will need to be mitigated at a ratio of 1:1-1.5:1.

However, due to the long term irrigation practices which mask the natural hydrologic condition of ~~the site on the site~~, and our short term observations of the site, it is very difficult at this time to separate out natural hydrology supported wetlands and artificial irrigation supported wetlands. Only through a detailed monitoring program as described in Section 1.0 and cessation of the irrigation and tail water features can the actual presence of regulated wetlands on this site be determined.

#### *Reecer Creek & Currier Creeks*

Both Reecer and Currier Creeks appear to be Type 3 waters as both are known to contain fish species. In Kittitas County, Type 3 streams typically have a 20'-50' buffer measured from the ordinary high water mark of the streams. As with wetlands, the width of the buffer depends upon the intensity of land use, the use of enhancement as a way to reduce buffer width, slope and the presence of any listed species. The sites buffers, slopes and vegetation present a good opportunity to reduce buffer widths to minimums with the use of enhancement plantings.

### **3.0 REGULATIONS**

In addition to the wetland regulations previously described for wetlands and streams, certain activities (filling and dredging) within "waters of the United States" may fall under the jurisdiction of the US Army Corps of Engineers (ACOE). The ACOE regulates all discharges into "waters of the United States" (wetlands) under Section 404(b) of the Clean Water Act.

Discharges (fills) into isolated and headwater wetlands up to 0.5 (1/2) acre are permitted under the Nationwide 39 Permit (NWP 39). However, discharges that result in over 0.1 (1/10<sup>th</sup>) acre of fill (and less than 0.5 acres) will require "Notification" and mitigation at a ratio of 1:1 (minimum). Washington State Department of Ecology has placed Regional Conditions on the Nationwide 39 permit that are more restrictive than the national regulations. The limits of fill can be modified if the agencies conclude that ESA fisheries could be impacted by the proposed wetland or stream fill activities.

Due to the increasing emphasis on Endangered Species Act compliance for all fills of Waters of the United State and Waters of the State, both the Corps of Engineers and Washington Department of Ecology should be contacted regarding permit conditions, compliance, and processing prior to commitment to any fill of wetlands or streams.

*Further Study Requirements*

The site currently contains several areas that appear to meet wetland criteria. In order to break out the upland from the wetland on this site a detailed monitoring study as described in Section 1 of this report will be needed. All irrigation will need to cease for the duration of the monitoring period (April-Oct). This is the only way to definitively determine which portions of the site currently displaying wetland characteristics are truly natural wetland, or are artificial and only supported by irrigation, and as such, would not be regulated as wetlands.

If you have any questions in regards to this report or need additional information, please feel free to contact me at (253) 859-0515 or at [ed@b12assoc.com](mailto:ed@b12assoc.com) .

Sincerely,  
*B-12 Wetland Consulting, Inc.*



Ed Sewall  
Senior Wetlands Ecologist (PWS #212)