DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEERS
1325 J STREET
SACRAMENTO CA 95814-2922

REPLY TO
ATTENTION OF

October 27, 2010

Regulatory Division (SPK-2009-00787)

Mr. David Cort
4725 226th Place NE
Arlington, Washington 98223

Dear Mr. Cort:

We are responding to Mr. Thomas Cavanaugh's September 15, 2010, Administrative Appeal decision for portions of our Clean Water Act approved jurisdictional determination for your Michigan Bar-Latrobe Road property. We have followed the instructions in that remand and reconsidered our determination in addressing each of the specific items. A copy of our October 15, 2010, further evaluation and consideration of information summary is enclosed.

Based on the available information, and as discussed in the enclosed document, we find our original jurisdictional determination to be in accordance with applicable guidance and regulations. Based on available information and our reconsideration the approximately 1.16 acres of wetland features depicted on the Figure 10. Potential Jurisdicational Features on the project site, revised June 2009, drawing prepared by Ruth Willson have a significant nexus to a Traditional Navigable Water and are waters of the United States. These waters are regulated under Section 404 of the Clean Water Act. Our November 5, 2009, verification remains valid for five years from the date of that letter, unless new information warrants revision of the determination before the expiration date.

Please refer to identification number 200900787 in any correspondence concerning this project. If you have any questions, please contact Mr. Michael Finan at Sacramento District's Regulatory Division, 1325 J Street, Room 1480, Sacramento, California 95814-2922, email *Michael.C.Finan@usace.army.mil*, or telephone 916-557-5324. For more information regarding our program, please visit our website at *www.spk.usace.army.mil/regulatory.html*.

Sincerely,

ORIGINAL SIGNED

Nancy A. Haley
Chief, California North Branch

Enclosure

Copies Furnished with enclosure:

Mr. Thomas Cavanaugh, South Pacific Division, U.S. Army Corps of Engineers, 1455 Market Street, San Francisco, California 94103-1399
Mr. Jeffery Little, Sycamore Environmental Consultants, Incorporated, 6355 Riverside Boulevard, Suite C, Sacramento, California 95831

Further evaluation and consideration of information provided by the Appellant pursuant to Administrative Appeal Decision, Clean Water Act , Michigan Bar Road Property, El Dorado County, California ,Sacramento District, File Number 200900787.
Date: October 15, 2010.

I. ***Correct errors related to watershed size and stream order and include a more complete description of downstream connections, relevant reaches and available information on flow regimes:***

Both Channels 1 and 2 (CH1 and CH2) are intermittent tributary streams which, along with several other similar streams, off of the subject property, form the headwaters of Clark Creek, which is an RPW which flows approximately 3 miles to the Cosumnes River which is a Traditional Navigable Water (TNW). Both are part of a wetland/seep complex which meanders towards and flows into the named creek. A portion of the wetland swale which flowed into the existing wetlands around CH1 upstream of the subject property was apparently filled and channelized by earthmoving activities about 10 years ago to construct a house, stables and horse riding arena. The feature labeled CH1 now originates in and below a seep- fed pond impoundment and wetland complex starting at the northern boundary of the property and meanders through an abutting seasonal wetland complex directly into Clark Creek , approximately 2800 feet below the project site. The wetland complex surrounding CH1, and the channel itself , have been variously ditched, channelized and re-routed to construct and maintain several residential/small agricultural ranchette-style developments and associated operations along its course. The northernmost of these on CH1, built a portion of the dwelling directly over the wetland/stream complex with an open culvert flowing under the foundation of the house. Downstream, CH1 and wetlands abutting it have been routed around or flow through livestock and mechanical equipment areas. CH1 also flows next to and then under several small dirt/gravel farm roads and larger paved roads, including a crossing through a large culvert under South Shingle Road, a 2+ -lane blacktop road which appears to undergo regular shoulder maintenance, including chemical herbicide application and or mechanical vegetation removal and carries normal rural vehicular traffic. CH1 also appears to receive storm water and augmented nuisance and irrigation water flows from developed areas east of and upslope of the property including runoff from Latrobe Road which appears to receive regular maintenance treatments, including chemical and mechanical shoulder clearing and road repair and painting, and carries regular truck and car traffic. CH1 is generally lower gradient and flatter and has more wetlands abutting it than CH2, and supports riparian trees in various locations.

CH2 originates in what appears to be a ground water discharge zone approximately 1000 feet above the subject property and flows through a separate complex of abutting wetlands directly into CH1 approximately 1900 feet above its confluence with Clark Creek. CH2 is generally unchannelized, but abuts a graded firebreak at the corner of a small cemetery. It also flows

under several more recently constructed dirt/gravel farm roads where obvious erosion and scouring is occurring at culverts. CH2 also flows under South Shingle road through a culvert approximately 500 feet west of CH1's crossing. CH2 generally flows through steeper terrain and has less adjacent wetlands then CH1, but also supports riparian trees in numerous locations.

Using the Strahler stream order classification system, CH2 is a 1st order stream. CH1 is a 1st order stream. The approximately 1900-foot stretch from their confluence to Clark Creek is a 2nd order stream, Clark Creek is a 3rd order stream which flows through one large pond into the Cosumnes River, a 4th order stream. The subject property and portions of the relevant reaches of both CH1 and CH2 are approximately 3 miles from the Cosumnes River. Both CH1 and CH2 are most accurately characterized as those portions of the wetlands swale/groundwater seep complexes in which flows are more concentrated, and as such, intermittently scoured as sediment flows downhill into large order streams. Both CH1 and CH2 and the wetland complexes surrounding them have direct unbroken hydrologic connections to Clark Creek, which has an unbroken direct hydrologic connection to the Cosumnes River.

Based on available information, remote sensing and a visual inspection of the surrounding area during site visits, the watershed for CH 1 is approximately 117 acres. The watershed for CH2 is approximately 80 acres. Based on available information using the size of the watersheds and average annual rainfall in this area, the amount of rain water falling into the watershed for CH1 and its system of wetlands and channels is approximately 293 acre-feet, or about 95 million gallons, over the course of one normal wet season. Based on available information and using similar calculations based on average annual rainfall of approximately 30 inches (which is a conservative estimate for this area) the amount of rain falling into the watershed for CH2 is approximately 200 acre-feet or 65 million gallons over the course of a normal rainy season. Although a portion of this is absorbed by the ground, taken up by plants and other organisms and/or lost due to evaporation, the amount of water conveyed downstream to Clark Creek and then to the Cosumnes River, particularly after the ground becomes saturated later in the wet season, is substantial and measureable. A clear and permanent pattern for both streams is visible on both aerial photography and on the ground formed by regular and repeated flow events over the course of the rainy season and potentially from dry season irrigation and nuisance water. Although there are no known gages on this portion of the tributary system, they could be installed to provide more precise flow and recurrence measurements.

Following examples in Corps/EPA guidance, the relevant reaches for both streams are the areas above their confluence. For CH1 that is approximately 2900 feet and for CH2 it is approximately 3800 feet.

From available information, including aerial photos and a site visit on 16 April 2010, several days after the last precipitation event, both CH1 and CH2 continue to flow and/or have inundated spilling pools for several or more weeks repeatedly over the wet season during and after precipitation events and they receive near surface groundwater from surrounding lands,

particularly during the wet season when the adjacent wetlands and surrounding upland becomes saturated. CH1 appears to flow for a longer duration and carries more water than CH2, as would be expected by the relative sizes and aspects of their watersheds and the relative number of groundwater seeps and wetlands flowing into them and by the relative amount of development and impervious surfaces adjacent to them. Both are connected to near-surface groundwater and both directly receive water from the wetlands they flow through and several wetland seeps above the main channels on and off of the subject property. The predominance of wetland plants, as well as the confirmed presence of hydric soils in the wetlands abutting CH 1 and CH2, indicates that they are saturated and/or inundated by water for substantially longer than any given precipitation event. Although it appears CH1 flows longer than CH2, both should be identified as "intermittent" and not "ephemeral" streams in accordance with accepted definitions. No known gage is present on these streams or Clark Creek, but a more accurate picture of flow regimes could be obtained by long-term multi-year monitoring.

II. Consider Appellant's assertion that Pond 3 and Wetland 6 are isolated waters:

The features labeled Wetland 6 and Pond 3 are more accurately described as wetlands as both features meet all three wetlands parameters in the Corps' 87 Wetland Delineation Manual and Regional Supplement (i.e., hydrophytic vegetation, wetland hydrology and hydric soils are present in both). Pond 3 may have been excavated in the past, and/or is a deeper wetland feature with greater groundwater discharges and inundated for longer periods than Wetland 6. These wetland features are located upslope (on an approximately 1:2 slope) and approximately 82 and 75 feet, respectively from CH1, During the wet season water from these wetlands flows downhill in an easterly direction into CH1 which, with abutting wetlands, forms the swale at the base of the hill. Based on the relative slope, proximity of these features to CH1, coupled with the lack of any hydrologic obstructions, surface and/or near-surface groundwater flow from Wetland 6 and Pond 3 into CH1 is relatively rapid during precipitation events in the rainy season in a normal water year. During the 16 April 2010, site visit, water was observed flowing from wetland 6 into CH1. Although no dye test was performed it could be done to further document hydrologic connectivity. Aerial imagery from December 2003 shows what appear to be wet swales connecting these features to CH1. Water from CH1 then continues into the Cosumnes River, following the path described above. Based on all available information these features are not isolated wetlands, but are part of the wetland complex which is tributary to and adjacent to CH1 and tributary to downstream waters, including the Cosumnes River, a TNW.

III. Include data or Observations that support final decision as to whether there is a significant nexus between waters on the property and the nearest TNW and explain statements in the administrative record concerning pollutants on the property and the degree to which waters on the property function in both the attenuation and conveyance of flow of pollutants to the nearest TNW:

Based on data provided by the appellant's consultant, review of aerial photography and other remote sensing data and several site visits which included on the ground inspections of both of the drainages both relative reaches of CH1 and CH2, in combination with their associated wetlands, have more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of the Cosumnes River and other downstream TNW's. Although the volume, duration and frequency of the flows from these waters is seasonally variable, both tributaries with their adjacent wetlands have the capacity to annually provide for groundwater discharge, to carry and reduce the amount of pollutants, sediment and flood waters going downstream, to provide habitat and life cycle support functions for fish and/or other species, and/or to export, reduce, transform and transfer nutrients and organic carbon supporting downstream food webs. During the wet season and rain events, CH1 and Ch2 and their associated wetlands and channels receive water and the substances it is carrying from surrounding areas as runoff and/or near-surface groundwater and pass some portion of it downstream to Clark Creek and the Cosumnes River. Some portion of the water is detained either physically in pond and channels and wetlands or by being absorbed into the substrate and/or vegetation and then released it over time into the system downstream. Since this occurs primarily during the wet colder season less of it leaves via evaporation and/or transpiration then occurs later in the spring and summer when temperatures are higher.

Both streams deliver groundwater from seeps, precipitation and surface runoff and near-surface groundwater to downstream waters and they originate and flow through areas impacted by human and animal uses. CH1 flows directly under several dwellings or other human and/or livestock use structures, including barns, stables and equipment storage areas. CH1 flows directly under at least one human dwelling and through or under other substantial structures. These appear to be older and in various states of maintenance. These buildings and use areas are sources of pollutants, including pesticides, herbicides, paint, corroding metal, petroleum products, eroding asphalt, fecal coliforms as well as excess nutrients from animals and lawn or garden fertilization. CH1, and CH2 to a lesser extent, and their associated wetlands are absorbing a portion of these as evidenced by lush vegetative growth and relatively clearer downstream water. A detailed inventory of benthic invertebrates would also provide for a more quantitative measure of how this filtration is affecting water quality and aquatic life..

In addition to providing observed habitat for invertebrates and amphibian species, CH1, CH2 and associated ponds and wetlands also act as settling basins and sinks for the runoff from human and animal use areas due to their position on the landscape and watershed. The wetlands on the site are located in swales which receive most of the runoff from human and animal use areas. Based on their structure and vegetated state both systems provide filtering and settling functions for the sediment, pesticide, nutrient, and biological pollution from these sources and, depending on season and relative flows, deliver or slow or stop the flow of these residues to entering Clark Creek and the Cosumnes River and downstream waters.

Large domestic animals including horses, cows and sheep and their waste were observed in and adjacent to both CH1 and CH2. CH1 originates in and directly receives runoff from a developed

area with a large house, horse arena, stable and roads. Both streams, particularly CH1, flow through other intensive human use areas including residential and stock animal and agricultural and mechanized equipment areas. CH1 and associated wetlands flow directly to, under and immediately next to several houses and animal and equipment shelter facilities and a scrap material storage yard with metal containers and other debris and waste. Both animal feces and human garbage was documented in and along these streams and wetlands. On April 16, 2010, the water in Pond 1, at the upper end of CH1, was somewhat turbid had suspended particulate material. At the point where it crosses South Shingle Road, the water was clearer and contained less sediment. CH2 similarly originates in a disturbed and developing area which includes a cemetery and dirt road crossings. Both streams flow through several other human and domesticated livestock use areas and down slope and next to and under roads in the relative reaches under consideration. In addition, the pollutants which are generated in the human and livestock use areas, the roads concentrate and contribute petroleum, hydrocarbons and other transportation and road material related pollutants, including regular roadside herbicide applications which flow directly or via roadside ditches into both CH1 and CH2. Erosion and sediment transport were observable at various locations, particularly at road crossings and recently disturbed areas within the relevant reaches for these streams. Based on observed substantial growth of wetland and other riparian vegetation in and along the streams, wetlands and seeps on the property, general water clarity and aquatic life in the relevant stream reaches, both CH1 and CH2 and associated wetlands, are removing and transforming nutrients, such as inorganic nitrogen derived from agricultural, human and animal uses, including waste before they reach downstream waters. This is having beneficial effects on downstream reaches, including Clark Creek, the Cosumnes River and other waters these streams flow into as transforming and removing nutrients and pollutants minimizes eutrophication, harmful algal blooms, and hypoxia in these waters. When flows exceed the ability of the wetland systems on both CH1 and CH2 to trap and retain these pollutants (which occurs seasonally during large storm events after the system is generally saturated) they are carried downstream into the creek and the Cosumnes River. However, under normal circumstances these wetlands would tend to capture and treat much of the pollutants carried by contributing water in first flush runoff and seepage.

Because of their relatively small size and the presence of adjacent wetlands, the aquatic features on the subject property are better able to more rapidly uptake and transformation inorganic nitrogen as compared to other more permanent water features, like lakes or perennial streams. The interface between open or flowing water and the wetlands is closer and more extensive than in open waters with little or no adjacent wetlands. CH1 and CH2 and their adjacent wetlands help maintain water quality despite their lack of continuous flow because fertilizers and other pollutants are generally washed into them during storms and times of high runoff, which is during the growing season when these plant communities are most actively growing are most efficiently taking up and processing nutrients, organic waste materials and potential pollutants.

Aquatic plants and algal material observed in these streams also supports this, although later in the summer and fall much of this material may be gone through decomposition or consumption by animals. As they dry down for the season, nutrients and other pollutants will stay in the stream channels and/or will be trapped in adjacent wetlands which is directly observable as suspended and trapped sediment during the dry season is evident in the channels and wetlands.

Streams CH1 and CH2 and their abutting and adjacent wetlands are also regulating water flow and reducing erosion and sedimentation by absorbing runoff and reducing the velocity of water moving over the landscape, not only allowing for increased infiltration, but also reducing the ability of moving water to erode stream banks and carry sediment downstream. Review of aerial photographs and ground observation indicates these streams are retaining a substantial amount of sediment from road cuts and other earthmoving disturbances in and around them, despite and because of their seasonal nature. These streams are also apparently helping recharge groundwater systems that support springs and aquifers and base flow for downstream creeks and rivers.

IV. Further explain the relationship of waters on the property to spawning habitat:

Although no fish were directly observed in either CH1 or CH2, the associated ponds, pools, wetlands and these streams themselves clearly support smaller plants and animals which in turn support juvenile and adult fish in their downstream spawning habitats. In addition, many fish species rely on headwater streams for habitat through one or all of their life stages. The TNW receiving water for CH1 and CH2 is the Cosumnes River. Chinook Salmon, an important commercial fish, and steelhead, an important recreational fish, both live and spawn in the parts of the river at, and up and downstream from the location where Clark Creek flows into the river and they may move up into the creek itself during seasonal high water periods. Various trout, minnow, and small sunfish species reside in headwater streams, moving in and out as the stream system expands and contracts. Other species reside in larger, downstream systems but use small streams like Clark Creek for spawning and as nurseries. Small streams also provide feeding grounds for migrants from higher-order waters. High levels of detritus, primary productivity, and retention capacity as evidenced in both CH1 and CH2, result in rich food sources for primary consumers such as crustaceans and mollusks, which are in turn preyed upon by both resident and migrant vertebrates. Research has shown that intermittent and ephemeral streams and wetlands substantially contribute to both the size and mass of salmon in downstream waters. These small streams also help maintain biodiversity in downstream waters by providing both movement corridors for plants and animals across the landscape and a source of colonists for recovery of downstream systems following a disturbance. Insect larva, aquatic invertebrates and tadpoles of unknown amphibian species were directly observed in Pond 1 and downstream wetlands and channels. CH1 and CH2 and associated wetlands provide a clear movement corridor for juvenile and adult aquatic invertebrates and amphibian species. There is also an approximately 1.3-acre

pond/impoundment of Clark Creek approximately 9000 feet below its confluence with CH1 which receives flows containing micro and macro invertebrates and other nutrients from the streams on the subject property. This perennial feature apparently supports use by a small boat and has spawning and other life stage habitat for warm water recreational and catchable fish in it and may support trout during the colder wet season.

V. ***Clearly reference the status of jurisdictional determinations on adjacent properties that it relies on in its final decision:***

Two separate jurisdictional determinations, one approved and one preliminary (for an additional parcel of land subsequently added to the project) have been made for the adjacent Rancho Victoria property, identification number 200600816, where CH2 originates. A large portion of CH2, upstream and downstream of the portion on the subject property was identified as seasonal wetlands and seeps by the applicant's wetland consultant and verified by the Corps as a water of the United States. On the Rancho Victoria site CH2consists of seepages, natural springs, and wetlands and an intermittent channel. Both of those Corps' determinations are currently effective, accepted by the property owner/applicant for that project, and are being used in permitting considerations for development on that site.