Memo on potential surface water connection of Wetland 1, as referenced in the NCE – Final Aquatic Resources Delineation Report for the Country Club Heights Erosion Control Project

USACE SPK-2016-00783

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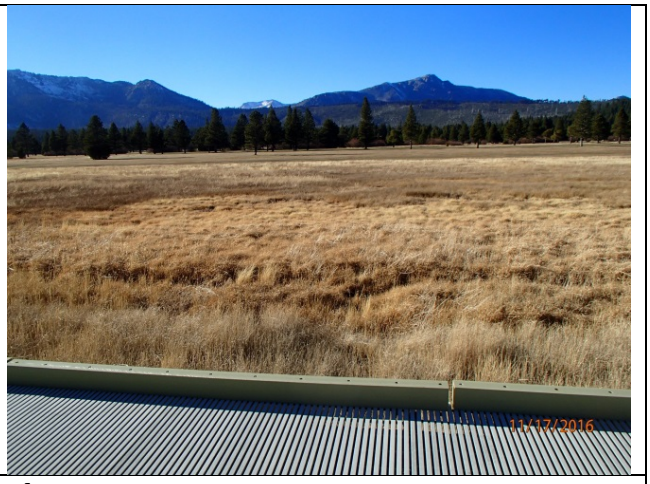
This memo provides further clarification on "Wetland 1", identified in the County Club Heights Erosion Control Project Final Aquatic Resources Delineation Report (Report), as a potentially jurisdictional feature. The area in question is located east of Highway 50, south of Meadowvale Drive and was estimated to be 0.014 acres in size (See Figure A). In the Report, NCE noted that "it appears in high water years, the wetland would discharge into the culvert (crossing under U.S. Highway 50) and into the Upper Truckee River. NCE did not confirm the surface water connection due to private land holdings." On November 17, 2016 El Dorado County (County) staff completed a site visit to assess the potential surface water connection of Wetland 1 to the Upper Truckee River or Myers Creek. Based on observations from this visit and the review of existing Lidar data, the County has determined that there is no surface water connection between Wetland 1 and either the Upper Truckee River or Myers Creek. The determination is supported by the observations documented below.

On November 17, 2016 staff from the County completed a site visit to Wetland 1. During this visit, County staff investigated possible drainage flow paths from the outfall of the Highway 50 culvert identified above. The two identified options for a possible surface water connection are either (1) to the west, under the bike path boardwalk, or (2) to the north in a shallow swale between the bike path and Highway 50. With respect to possible flow path (1) there was no evidence of channelized (or concentrated) flow to the west of the Highway 50 culvert outfall, as the existing grade below the bike path boardwalk is higher than the low point in an existing shallow swale which slopes to the north (Photo Points 1 and 2). If flows were to become high enough to flow beneath the boardwalk, they would have to cross the existing meadow system and the driving range in the golf course in order to have a surface water connection to Meyers Creek. Both the meadow system and driving range are flat with little to no topographic variability (Photo Point 4). With respect to possible flow path (2), the shallow swale trends north north-east between the bike path and Highway 50. After approximately 400 feet the shallow swale flattens out and there is no evidence of channelized or concentrated flow from this point on (Photo Point 3). Note that in both cases the flow paths occur within the boundaries of NRCS defined soil class 7431 – Celio Loamy Coarse Sand (shown in Figure A and presented below).

In both scenarios the local topography and constructed golf course complex act as barriers to any surface water connection to Meyers Creek or the Upper Truckee River.

Photos

Photo Point 1: At outlet of Highway 50 culvert looking west. Outlet with rock rip rap in foreground and bike path boardwalk in background.	Photo Point 2: Standing near end of rock rip in previous photo looking north at shallow swale. Bike path boardwalk on left side of photo and Highway 50 on right side of photo.

	
Photo Point 3: Approximately 400' north of rock rip rap where shallow swale flattens out. No evidence of concentrated flow from this point on. Bike path on left side of photo and Highway 50 on right side of photo.	Photo Point 4: Standing on bike path boardwalk shown in photo point 1, looking west. Meadow area in foreground and golf course (driving range and hole #1) in background.

Excerpt from NRCS Web Soil Survey
(http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx)

7431—Celio loamy coarse sand, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: 1sg31 *Elevation:* 6,220 to 6,480 feet *Mean annual precipitation:* 25 to 47 inches *Mean annual air temperature:* 41 to 45 degrees F *Frost-free period:* 25 to 75 days *Farmland classification:* Not prime farmland

Map Unit Composition

Celio and similar soils: 80 percent *Minor components:* 20 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Celio Setting

Landform: Outwash terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium and/or outwash

Typical profile

A1 - 0 to 8 inches: loamy coarse sand
A2 - 8 to 16 inches: gravelly loamy coarse sand
BA - 16 to 23 inches: gravelly loamy coarse sand
Bw - 23 to 45 inches: extremely gravelly coarse sand
2Bqm - 45 to 56 inches: material
2Bg - 56 to 80 inches: extremely gravelly coarse sand

Properties and qualities

Slope: 0 to 5 percent *Depth to restrictive feature:* 39 to 59 inches to duripan *Natural drainage class:* Somewhat poorly drained *Runoff class:* High *Capacity of the most limiting layer to transmit water (Ksat):* High (1.98 to 5.95 in/hr)
Depth to water table: About 12 to 30 inches *Frequency of flooding:* Rare *Frequency of ponding:* Occasional *Available water storage in profile:* Very low (about 1.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified *Land capability classification (nonirrigated):* 6s *Hydrologic Soil Group:* A/D *Ecological site:* Frigid Sandy Outwash Plain Gentle Slopes (F022AF001CA) *Hydric soil rating:* No

Minor Components Meeks, stony

Percent of map unit: 7 percent *Landform:* Moraines *Landform position (two-dimensional):* Backslope, summit, shoulder *Landform position (three-dimensional):* Side slope *Down-slope shape:* Convex *Across-slope shape:* Linear *Ecological site:* Frigid, Sandy, Moraines And Hill Slopes (F022AE007CA) *Hydric soil rating:* No

Tahoe, gravelly

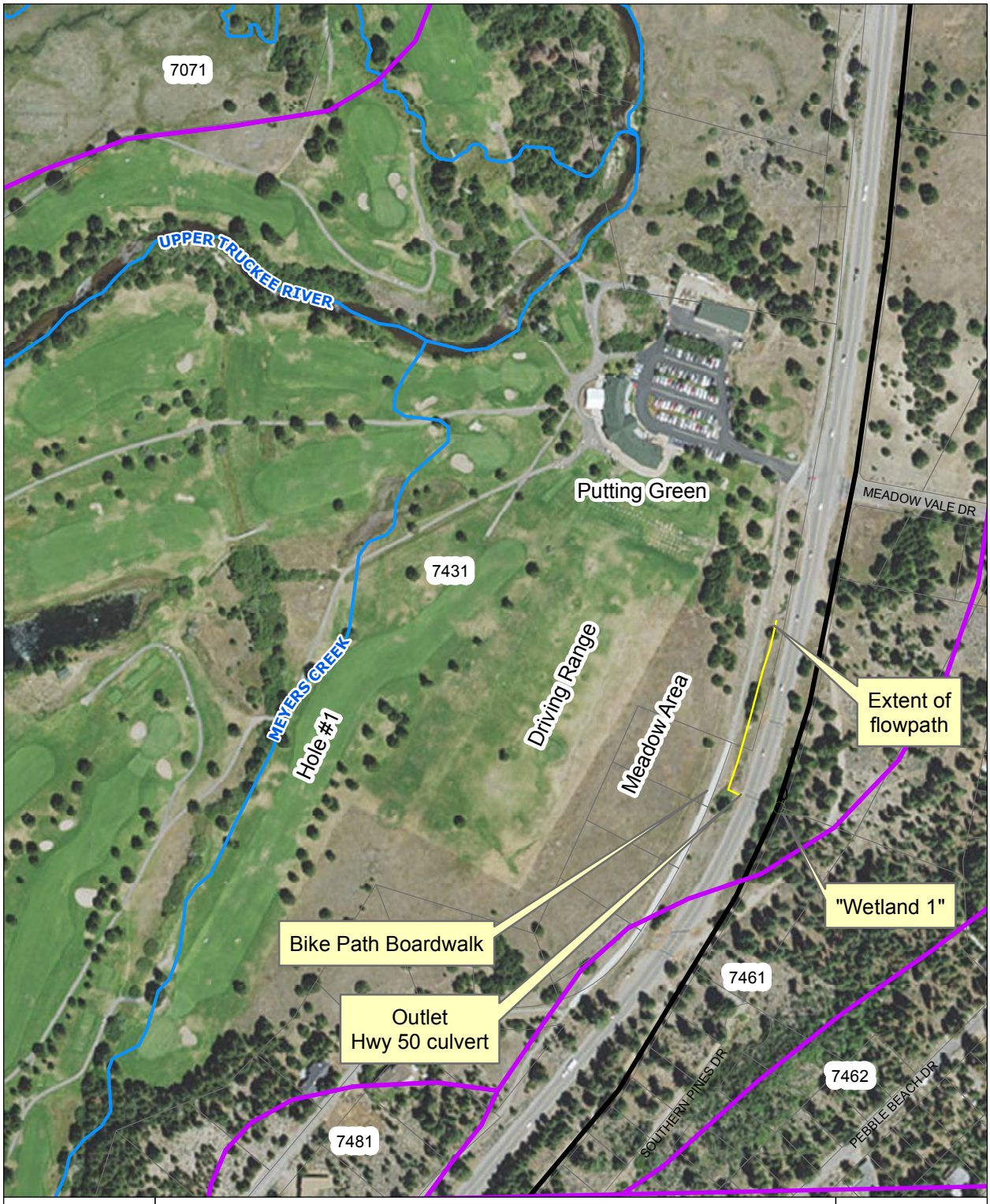
Percent of map unit: 5 percent *Landform:* Valley flats, flood plains *Landform position (two-dimensional):* Backslope *Landform position (three-dimensional):* Talf *Down-slope shape:* Linear *Across-slope shape:* Concave *Ecological site:* Frigid C Channel System (R022AX107CA) *Hydric soil rating:* Yes

Marla

Percent of map unit: 4 percent *Landform:* Valley flats, outwash terraces *Landform position (two-dimensional):* Backslope *Landform position (three-dimensional):* Tread, talf *Down-slope shape:* Linear *Across-slope shape:* Linear *Ecological site:* Frigid, Sandy, Moist, Outwash Fan (F022AX100CA) *Hydric soil rating:* Yes

Watah

Percent of map unit: 4 percent *Landform:* Valley flats, fens, flood plains *Landform position (two-dimensional):* Backslope *Landform position (three-dimensional):* Talf *Down-slope shape:* Linear *Across-slope shape:* Concave *Ecological site:* Frigid E-C Meadow System (R022AX102CA) *Hydric soil rating:* Yes



Legend

- Project Boundary
- Streams
- Soil Map Units
- Visible Flow Path
- Data Point 3

Country Club Heights ECP

Wetland Outlet

1:4,000

0 210 420 ft.

N

Credits: ESRI; El Dorado County; TRPA

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Figure A

NCE