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REVISED FINDING OF NO SIGNIFICANT IMPACT
TENNESSEE VALLEY AUTHORITY

WETLAND IMPACTS AND MITIGATION - COLBERT ASH POND 4 SEISMIC PROJECT (CANE CREEK RELOCATION & BUTTRESS PLACEMENT)
Colbert Fossil Plant, Colbert County, Alabama

December 2022

In September 2021, the Tennessee Valley Authority (TVA) issued a Finding of No Significant Impact (FONSI) related to its proposal to improve post-earthquake stability of the 500-foot-long portion of the east dike of the Ash Pond 4 facility at TVA's Colbert Fossil Plant (COF). The FONSI was based on TVA's environmental analysis in an environmental assessment (EA) also completed in September 2021. In May 2022, TVA issued a revised FONSI addressing disturbances to additional areas needed by TVA for stock piling soils and materials on the COF reservation to support project activities.

While TVA was coordinating with the U.S. Army Corps of Engineers to comply with permitting requirements under the Clean Water Act, TVA specialists revisited the project area and made the determination that wetlands exist in the project area. TVA is issuing a revised FONSI to address previously undocumented wetland impacts in the project area and outline remediation measures.

I. Background

COF is located in northwestern Alabama, approximately 14 miles west of Muscle Shoals in Colbert County. TVA ceased all coal-fired power generation at COF on March 23, 2016. TVA manages coal combustion residuals (CCR or coal ash) in closed on-site units, including in Ash Pond 4, which is located on TVA property south of COF and north of U.S. Highway 72. Ash Pond 4 is approximately 52 acres in area and is enclosed by a perimeter dike system that is approximately 6,700 feet in total length. Ash Pond 4 was closed and capped in early 2018.

Section 1.1 of the 2021 EA, which is incorporated herein by reference, describes the purpose and need for the proposed project. The Ash Pond 4 facility has undergone multiple slope stability evaluations since 2009 and remediation efforts to improve safety factors in accordance with federal and state safety factor criteria. This proposed action is a continuation of those efforts.

TVA's need for the proposed action derives from the anomalous foundation condition along a 500-foot-long portion of the ash pond east dike. The primary objective of the proposed action is to improve stability of the dike and reduce the risk that a design earthquake (i.e., 2,500-year return period) could cause during or after the earthquake. Although the likelihood of a seismic

event occurring at any given time is very low, TVA considers the probability of an earthquake-induced failure of the dike to be a concern that warrants upgrades to the 500-foot area of the dike. Completing the upgrades to the dike at this time would allow TVA to avoid potential significant environmental and economic impacts that may result from a potential earthquake. The primary design constraint in developing a proposal has been the proximity of Cane Creek running along the toe of the east dike.

Under TVA's Proposed Action Alternative, analyzed in detail in the 2021 EA, a portion of Cane Creek would be relocated to east of its present alignment. The old creek bed (consisting of a 2.6-acre area) would be filled and a buttress would be placed against the east dike within the anomaly area. The Cane Creek stream channel relocation would eliminate a 1,700-linear-foot portion of the stream as it flows through the project site, affecting the water flow, stream banks, the stream channel, wetlands, and the aquatic habitat along this stretch of Cane Creek. TVA would excavate a new stream channel of approximately the same length and realign the creek to allow for installation of a buttress.

II. Updated Wetland Information

As described in Section 3.1 of the September 2021 EA, wetlands were not identified to be present in the project area or its vicinity. Because TVA determined that there were no wetlands in the project area, TVA did not consider the potential effects of the proposed action to this environmental resource in the 2021 EA. TVA did analyze impacts to aquatic ecology and water quality in the EA.

In Section 3.4 of the 2021 EA, TVA describes the aquatic ecology features within the project area. TVA identified one perennial stream, three ephemeral streams, and two ponds (see EA Table 2). Of these, Cane Creek and two ponds were identified as being in the 18-acre area where ground disturbing construction activities were proposed.

The two ponds located within the delineation of the proposed new stream channel (one of which is approximately 1.25 acres in size) would be eliminated under this alternative (see Table 1 below). The 2021 EA concluded that while the relocation and elimination of the ponds would be unavoidable effects, these reaches are not unique or important aquatic habitats and, as noted above, there is no designated critical habitat in the watershed where the proposed work would occur. Therefore, TVA found in the 2021 EA that adverse effects to aquatic features would be minor.

Table 1. Ponds within the project area identified in the 2021 EA.

ID	Stream Type	Stream Name	Field Notes	Latitude	Longitude
Pond 1	Other	NA	Pond (1.25 acres)	34.737212	-87.848665
Pond 2	Other	NA	Small pond in forested area	34.736149	-87.848449

Following completion of the EA and FONSI, TVA proceeded with the proposed action alternative and the project area was cleared and the two ponds were drained. In June 2022, the U.S. Army Corps of Engineers (USACE), during coordination with TVA for the water permitting of the

relocation of Cane Creek, requested a site visit to reassess whether TVA's initial determination that wetlands were not present in the area was correct.

TVA conducted a wetlands survey of the project area and identified 2.42 acres of emergent wetland within a portion of the project area that included Pond 1 (see Figures 1 and 2 below). Wetland determinations were performed according to the USACE standards, which require documentation of hydrophytic (wet-site) vegetation, hydric soil, and wetland hydrology (Environmental Laboratory 1987; Lichvar et al. 2018; USACE 2010). During their site visit, the USACE agreed with TVA's identification.

The identification of wetlands within the project area results in the need for TVA to update previous impact analysis in the 2021 EA. Based on these findings, the implementation of the Proposed Action Alternative would result in impacts to this wetland. A section of Cane Creek would be relocated through the 2.4-acre wetland under TVA's proposal, and a total of 2.01 acres of the wetland area would be impacted because of the stream relocation. As noted above, the wetland area (initially identified as a pond) has been drained of water during initial project construction activities, so some impacts to the wetland area have already occurred.

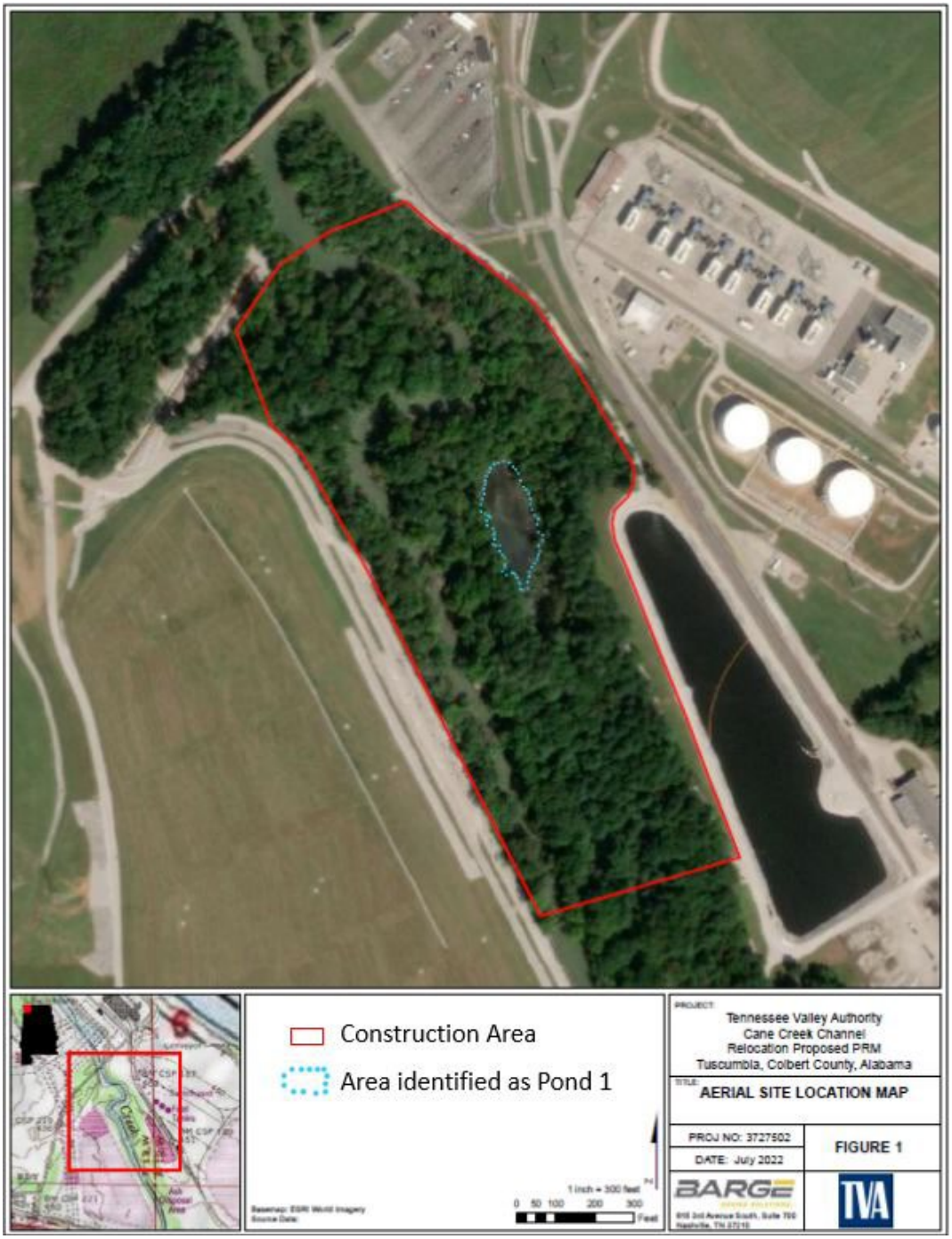


Figure 1. Location of a 1.25-acre pond (Pond 1) reassessed in 2022 as a wetland.

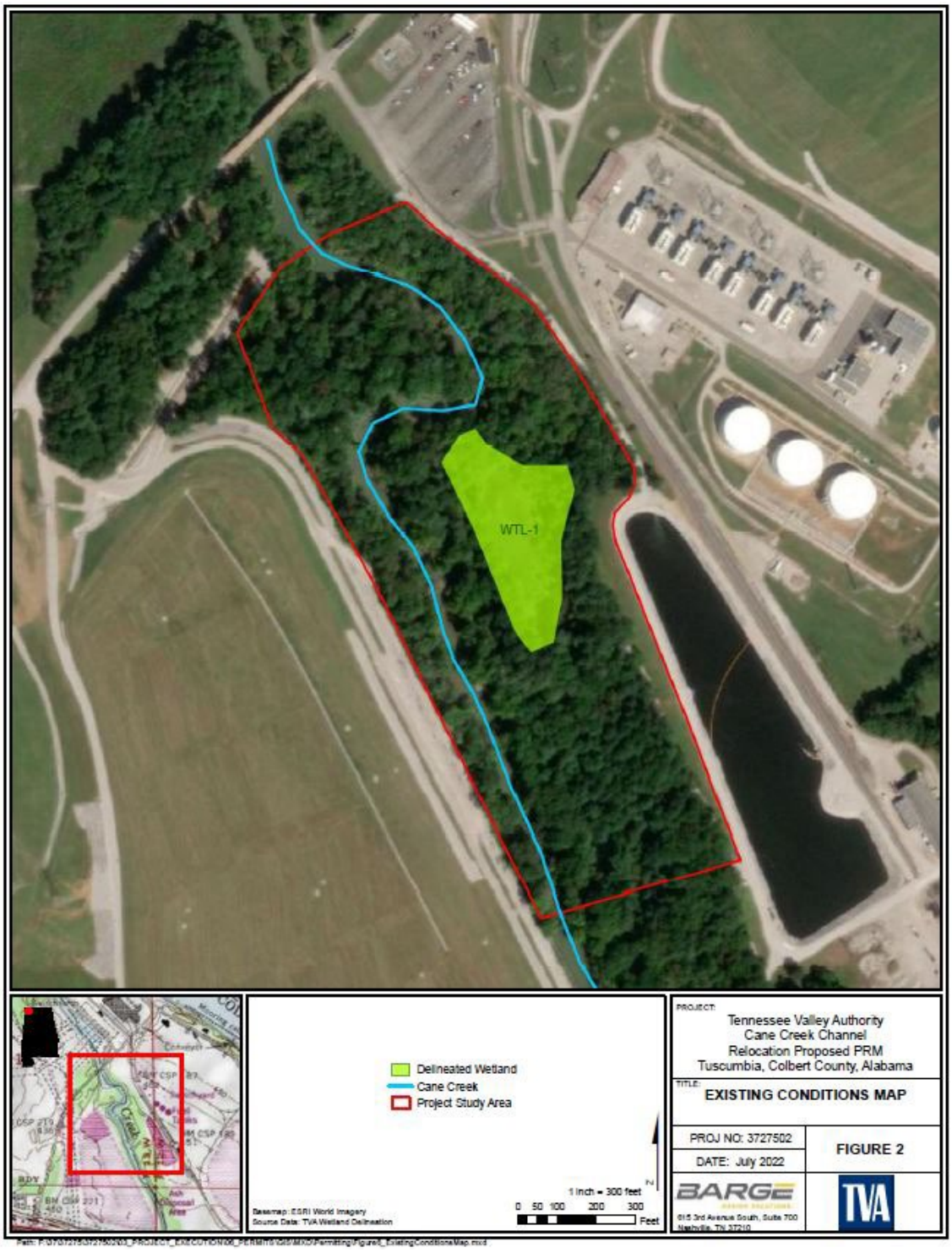


Figure 2. Location of 2.42-acre emergent wetland that encompasses Pond 1 and original Cane Creek stream channel.

III. Revised Mitigation and Consultation

Impacts to this wetland will require mitigation by TVA, based on ongoing coordination with the USACE. Activities in wetlands are regulated by state and federal agencies to ensure no net loss of wetland resources. Under Clean Water Act Section 404 [33 USC § 1344], activities resulting in the discharge of dredge or fill material to waters of the U.S., including wetlands, must be authorized by the USACE through a Nationwide, Regional, or Individual Permit to ensure no more than minimal impacts to the aquatic environment. Section 401 of the Clean Water Act requires state water quality certification for projects in need of USACE approval. In Alabama, the Department of Environmental Management is responsible for issuance of water quality certifications pursuant to Section 401. In addition, Executive Order 11990 (Protection of Wetlands) requires federal agencies to minimize wetland destruction, loss, or degradation, and to preserve and enhance the natural and beneficial values of wetlands in carrying out the agency's responsibilities to the extent practicable.

To mitigate the project impacts to 2.01 acres of the emergent wetland area, TVA is proposing to restore 1.65 acres of wetland and create an additional 4.84 acres of wetland with the long-term goal of the wetland developing into a forested wetland (see Figure 3 below). The mitigation efforts would result in a total proposed wetland acreage within the project area of 6.48 acres. The efforts would include a proposed grading plan and native vegetation planting plan. The primary goal of the wetland mitigation would be to expand the existing emergent wetland boundary and use the natural hydrology and hydric soils which are already positioned within the existing wetland to be restored. The boundary would be expanded by restoring wetland hydrology throughout the adjacent floodplain and upland areas along the relocated Cane Creek channel and restoring emergent wetland vegetation to include native forest species with the goal of creating forested wetland habitat. Adjacent upland areas would be excavated to a grade that would support inundation and encourage expansion of the current wetland footprint and support a natural functioning wetland. TVA would establish a full composition of herbaceous, shrub, and forested vegetative community free of invasive species and consisting of native species. These mitigation measures will ensure that the project's impacts to wetlands are insignificant.

The wetlands resulting through these mitigation efforts have the potential to provide further water quality benefits, in addition to those described in the 2021 EA, for the relocated section of Cane Creek. As noted in the 2021 EA, the proposed action has potential to temporarily affect surface water through storm water runoff, which could also occur during the wetland mitigation activities. However, any temporary impacts would be reduced using best management practices (BMPs) to minimize the extent of disturbance, erosion, and increased silt loading from runoff. The EA also stated that the new stream channel would be installed to resemble a natural, meandering creek, which is expected to create more diverse stream habitats. The reduction in flood scour and increased retention time is expected to result in minor beneficial effects on water quality over time. Similarly, TVA anticipates that enhancing a portion of the wetland and creating an additional area of wetland in the vicinity of the impacted wetland would have beneficial effects on wetland resources as well as water quality.

TVA will implement these wetland mitigation measures in addition to the other mitigation measures identified in the September 2021 EA and FONSI and the reissued May 2022 FONSI.

Other than these new wetland measures, the proposed design of the relocation of Cane Creek is unchanged, and the project will be implemented as described in the 2021 EA and FONSI and the reissued May 2022 FONSI. TVA will continue to comply with requirements of necessary permits and will implement the various BMPs to avoid or minimize potential adverse environmental effects resulting from the proposed activities.

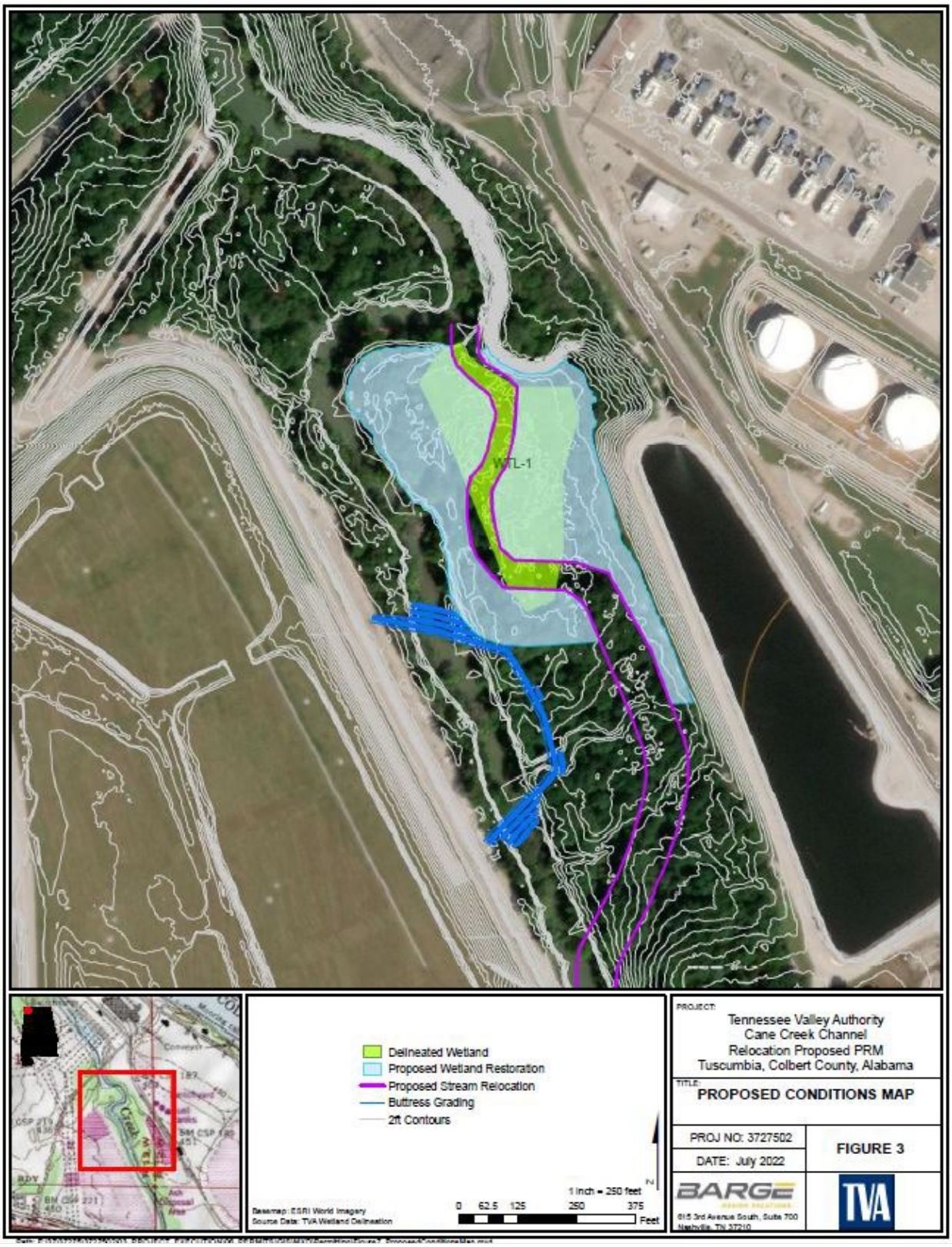


Figure 3. Locations of proposed wetland restoration and stream relocation, as viewed superimposed on the 2.42-acre emergent wetland.

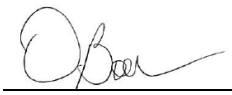
IV. Applicable NEPA Documents

The related environmental documents concerning this assessment are listed below and are incorporated by reference, as appropriate.

- *TVA, May 2022, Additional Stock Pile Areas – Colbert Ash Pond 4 Seismic Project (Cane Creek Relocation & Buttress Placement) Supplemental Analysis and Revised Finding of No Significant Impact*
- *TVA, September 2021, Colbert Ash Pond 4 Seismic Project (Cane Creek Relocation & Buttress Placement) Finding of No Significant Impact*
- *TVA, September 2021, Colbert Ash Pond 4 Seismic Project (Cane Creek Relocation & Buttress Placement) Final Environmental Assessment*

V. Conclusion and Findings

Based on the findings of the 2021 EA, the May 2022 Supplemental Analysis, and additional analysis addressed herein, TVA concludes that the modified proposed action, including the mitigation measures to enhance and create wetland features in the project area, would not result in significant environmental impacts. Therefore, consistent with TVA's previous findings, the modified proposed action would not be a major federal action significantly affecting the environment and, accordingly, an environmental impact statement is not required. This finding is contingent upon the adherence to all applicable regulatory and permitting requirements and to TVA's implementation of the measures and BMPs identified above and in the September 2021 and May 2022 FONSIs that minimize or avoid potential impacts to the environment.



12/19/2022

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Date