

USACE Galveston District
ATTN: BBTRS
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November 2, 2020

E-mail: BBTRS@usace.army.mil
Re: Buffalo Bayou Tributaries Resiliency Study Interim Report

Ladies and Gentlemen:

One Creek West, Inc. (<https://onecreekwest.org/>) is a 501(c)(4) non-profit organization, operated to promote the welfare of communities located in the extraterritorial jurisdiction of Houston's west side. One Creek West serves the neighborhoods north of Interstate-10 and south of Kieth Harrow Road, east of State Highway 99 and west of State Highway 6. The Addicks Watershed is the principal land use affecting our service area, including the Addicks Reservoir and one of the four main tributaries in the watershed, South Mayde Creek. Thirty-four thousand homes are located in this area, of which 40% are part of our coalition.

Severe flooding affected 1,500 of these homes during Hurricane Harvey. Virtually all of these flooded homes are within neighborhoods served by our organization. We have met with many of Hurricane Harvey victims, whose lives continue to be affected by the flood event's financial and emotional dislocation.

On behalf of our coalition neighborhoods, One Creek West appreciates the opportunity to provide comments to the Buffalo Bayou Tributaries Resiliency Study Interim Report prepared by the U.S. Army Corps of Engineers (USACE).

Cypress Creek Reservoir and Dam

Although an interim report, the USACE makes clear that the construction of a new 190,000 acre-foot reservoir upstream of Addicks in the Cypress watershed is the preferred solution to increase floodwater storage in the study area. One Creek West is opposed to the construction of this reservoir for three reasons:

- 1) The proposed reservoir will cause significant losses to the last remaining coastal prairie in Harris County and Texas – one that has been actively protected by both public and private stakeholders for almost 30 years.
- 2) A reservoir of the scale proposed for Upper Cypress Creek will take many years to construct, and no benefits will be delivered until the project is complete. In part because of this delay in expected benefits, the benefit/cost ratio for the reservoir is well below USACE standards.
- 3) There are simply better solutions that have not been explored. The storage capability of coastal plains and wetlands is acknowledged but dismissed by the USACE. The USACE does not evaluate the use of other nature-based solutions, most notably, smaller increments of retention that can be located in the Upper Cypress Creek and Upper Addicks watersheds.

These alternatives can deliver benefits more quickly than can a centralized, large-scale project.

1) Environmental Losses

The USACE acknowledges the importance of the lands currently protected by the Katy Prairie Conservancy (KPC) and concedes that the proposed reservoir would significantly impact this natural habitat. *“Implementation of the Cypress Creek Reservoir would significantly alter and degrade more than 75 percent of the remaining range-wide Katy Prairie habitat and a significant portion of the actively managed and preserved remaining habitat¹.”* Indeed, KPC has worked with many public and private entities over 28 years to protect this critical but rapidly diminishing habitat. Federal, state, and local agencies have consistently recognized its value and substantial resources dedicated to preserving and restoring this ecosystem.

The USACE does not appear to believe that these environmental losses can be justified. The USACE concedes that coastal prairies and wetlands are effective measures to store water – and should be considered by local agencies as part of a flood mitigation strategy. However, it concludes that the *“land required for prairie and wetland restoration is outside the authorized study area²”* and excludes from further consideration. Quizzically, the USACE further indicates that at some time during the assessment process, the Cypress Creek Reservoir may have been removed as part of the focused array of alternatives: *“An environmental team began working on a conceptual ecological model to understand the function and productivity of the Katy Prairie better; however, no models were ever built and no data collected due to the removal of the Cypress Creek Reservoir measure from further consideration.³”*

2) Project Cost Far Exceeds Expected Benefits

Given this project's scope and scale, the Cypress Creek Reservoir will likely take 15-20 years to realize benefits. For our residents, a large, capital intensive project that delays any flood mitigation benefit for such a long period has to be the least preferred alternative – not the most preferred. In 15-20 years, we will undoubtedly face multiple storm events that will result in significant property losses. The recent experience of central Louisiana and Tropical Storm Imelda's intensity are both critical reminders of the potential for significant storm events that will affect our community - not in 20 years but much sooner.

Moreover, the very meager Benefit-Cost Ratio (BCR) of 0.1 for this project potentially reflects the long delay in expected benefits – and does not come close to meeting the requirements under federal law. At an estimated cost of \$2.1 to \$2.9 billion, the Cypress Creek Reservoir has the worst benefit-cost ratio of the structural alternatives. By its own standards, the USACE should pursue solutions other than the Cypress Creek Reservoir that are less costly and provide flood reduction benefits much more quickly.

¹ Buffalo Bayou and Tributaries Resiliency Study, Texas, Interim Feasibility Report, October 2020, Page 150.

² Buffalo Bayou and Tributaries Resiliency Study, Texas, Interim Feasibility Report, October 2020, Page 88.

³ Buffalo Bayou and Tributaries Resiliency Study, Texas, Interim Feasibility Report, October 2020, Page 171.

3) More Effective Solutions Exist

We strongly believe that there are alternative solutions that can achieve these goals. The Katy Prairie Conservancy estimates that the natural infrastructure in Upper Cypress Creek holds more than 40,000 acre-feet of storage without a large-scale reservoir. It places yet another roughly 100,000 acre-feet of storage capacity by using smaller detention in the Upper Addicks Watershed. The premise that natural infrastructure can provide decentralized, additive, and flexible flood mitigation solutions has to be addressed meaningfully by the USACE before it can proceed to its final recommendations. Studies performed for Harris County and Katy Prairie Conservancy have concluded that distributed detention and retention projects provide 1:1 benefits at lower economic, social, and ecological costs.

Please note that such nature-based solutions, which rely on innovative engineering to slow and store water, are not new to this discussion. The public strongly supported such alternatives during the Public Scoping phase. The USACE addressed this concept only briefly in the Interim Report and concluded that it was outside of the study's scope. We believe that such a conclusion is unjustified and does not serve the interests of our communities - who seek the best solution possible, not one that comports with the agency's self-imposed boundaries.

We find it troubling that the USACE should proceed with this recommendation when these fundamental concerns remain unanswered,

Buffalo Bayou Channel Improvements

The Interim Report concludes that improvements to the Buffalo Bayou Channel (widening, deepening) to increase the conveyance rates to 15,000 cubic feet/second (cfs) is much more cost-effective than constructing either a river or reservoir tunnel to achieve similar or higher rates. However, this alternative requires property acquisition along the channel, with "first costs" ranging from \$200 million to \$2.3 billion, with the final costs dependent on variables that are currently unknown. The first cost estimate for a 500-year event is \$10 billion, but the expected benefits do not justify such an investment.

We do not believe that the Buffalo Bayou Channel project is a realistic alternative. The Interim Report underestimates project costs and challenges. Entrenched, widespread community opposition to its social and environmental impacts, as well as regulatory and litigation risks, create considerable challenges. The Interim Report assigns a 0.3 BCR to this project—again, well below the threshold required for a public investment of this magnitude. By limiting project design to a 50-year event, it falls short of safely handling both the Addicks and Barker Reservoir releases and local downstream bayou flows needed to avoid catastrophic flooding.

Using potentially unrealistic estimates of the first cost, channel improvements are selected over various tunnel alternatives, ranging from \$4.5 billion to \$12 billion. However, the USACE acknowledges that its local partner, the Harris County Flood Control District (HCFCD), is evaluating the technical feasibility of constructing a shorter, less expensive tunnel, with costs of \$3 billion. However, the USACE believes that such a project will face extensive construction challenges and does not consider a tunnel to be a viable alternative.

We find it troubling that a division of opinion of this magnitude and importance exists between the USACE and its local partner. These differences must be addressed and key issues clarified before final recommendations are published for the USACE study. HCFCD is aware of the challenges and delays that occurred with the construction of river tunnels in the past – but still feels confident that the tunnel represents a viable option. The public should be made aware of these issues, including HCFCD’s risk mitigation plans, to properly assess these two conveyance strategies.

Excavation of the Addicks Reservoir

One Creek West supports the excavation of the Addicks Reservoir. However, we again note that there are widely different views of this measure's contribution to storage capacity. The USACE estimates a maximum of 17,000 acre-feet (based upon a 15% increase in existing capacity on government-owned land). On the other hand, KPC believes that between 62,000 and 125,000 acre-feet of storage capacity could be added in the Addicks Reservoir. Both the USACE and KPC recognize that excavation is limited to depths above the groundwater table.

As with the tunnel option, all parties must reconcile the competing plans before final recommendations by the USACE are adopted. This issue is critical because the capacity additions envisioned by KPC approach the volumes that would be achieved by acquiring properties within the standard project flood elevation for Addicks Reservoir.

USACE should more fully explore how significant excavation may provide immediate, scalable benefits within the Addicks and Barker Reservoirs. As a complementary project to a downstream conveyance project, excavation provides opportunities to operate Barker and Addicks differently in extreme events and opportunities for recreational and environmental improvements. We believe that the Interim Report underestimates excavation opportunities within the reservoirs and overstates many environmental considerations.

Notwithstanding these estimates, One Creek West emphasizes that the increase in storage capacity alone may not eliminate the flooding risk that exists for Lower South Mayde Creek (notably, the channel between Greenhouse Road and Fry Road). Over the last five years, this portion of the channel has experienced 20 days (or ten storm events) where flooding was likely, and another 38 days where flooding was possible. These counts far exceed the experience of other channels in the watershed.

Location	Likely Flooding (Days)	Possible Flooding (Days)	Storm Events (Number)*
S Mayde Creek/Greenhouse Rd	20	58	10
S Mayde Creek/Morton Rd	5	5	2
Bear Creek/Clay Rd	4	8	2
Horsepen Creek/Trailside Dr	5	8	4
Langham Creek/W Little York	3	13	2

* Number of storm events where flooding was considered “likely” by the elevation of the stream at that location. Source: Harris County Flood Warning System, <https://www.harriscountyfws.org/>.

These events reflect not only capacity constraints in the Addicks Reservoir, but also the lower ground elevations observed at Greenhouse Road compared with Barker Cypress Road. While HCFCD has proposed options to relieve the resulting flooding during storm events, the agency's ability to implement a solution depends on the meaningful participation by the USACE – which to date, has not been forthcoming.

Summary

As residents of the communities along Lower South Mayde Creek, we have witnessed the pain and disruption that flooding has brought to families and neighbors. We appreciate the USACE's efforts to understand how this disruption can be mitigated in the future. For our communities, flood risk mitigation can start with better cooperation between the USACE and HCFCD. To our residents, it seems that the two agencies are operating with different strategies and different priorities. One need only measure the width of South Mayde Creek on either side of the Greenhouse Road bridge to conclude that two agencies may not be fully aligned in their approach to flood risk mitigation. We are hopeful that measures to strengthen the Addicks Dam, coupled with capacity additions to the reservoir, will resolve these differences.

But it is the goal of the Interim Report to identify the best solutions to reduce flood risk for all communities in the Addicks, Barker, and Buffalo Bayou watersheds. Unfortunately, the report shows that the USACE has not attempted to meaningfully address views that are different than its own. The failure to do so represents a missed opportunity for all involved. Without learning about the alternative strategies and concepts, sharing information and insights, we believe that the USACE's recommendations are incomplete and do not best serve the welfare of our residents.

Many stakeholders have sent comments to the USACE requesting that the public comment extension period allow institutional stakeholders to assess the accuracy of USACE calculations and to introduce these alternative concepts. We think these requests fall short of what needs to be done: the USACE should *engage* with these stakeholders in a collaborative and meaningful way to provide to fully vet all meaningful solutions. Only then will the recommendations reflect the best that the USACE, its partners, and its stakeholders can together provide for the communities they serve.

We think such a process could serve as a model for the USACE moving forward.

Sincerely,

Annette Mennen Baldwin
One Creek West, Inc.

Sincerely,

Judith McGlaughlin
One Creek West, Inc.

cc: Lizzie Fletcher, U.S. Representative, Congressional District 7
Michael McCaul, U.S. Representative, Congressional District 10
Lina Hidalgo, Harris County Judge
Steve Radack, Harris County Commissioner, Precinct 3
Russ Poppe, Executive Director, Harris County Flood Control District
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