



# Bailey Lake Dredging

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Staff Presenter: Jen Basham, Parks and Recreation Director



# Overview

- Bailey Lake
- Siltation Concerns
- Dredging Solution
- Method
- Site Plan
- Procurement Summary
- Timeline
- Action Options



# Bailey Lake

- Built in 2008
- 8 surface acres of water
- Fed by:
  - Direct rainfall
  - Storm water runoff
  - Well water (supplemental)
- Provides:
  - Irrigation for Chisenhall Fields
  - Irrigation for Bailey Lake Park
  - Fish and wildlife habitat for ecosystem and recreation





# Siltation Concerns

- Storm water discharges into Bailey Lake at south end
- Silt carried by storm water builds up in pond over time (since 2008) causing it to become more shallow
- As pond holds less water, fish habit diminishes and less irrigation is available for parks
- Well water is insufficient to offset evaporation loss and irrigation consumption during drought and hot summer months
- It is ideal to have maximum holding capacity of pond to store rain and storm water needed for parks irrigation during hottest times of the year





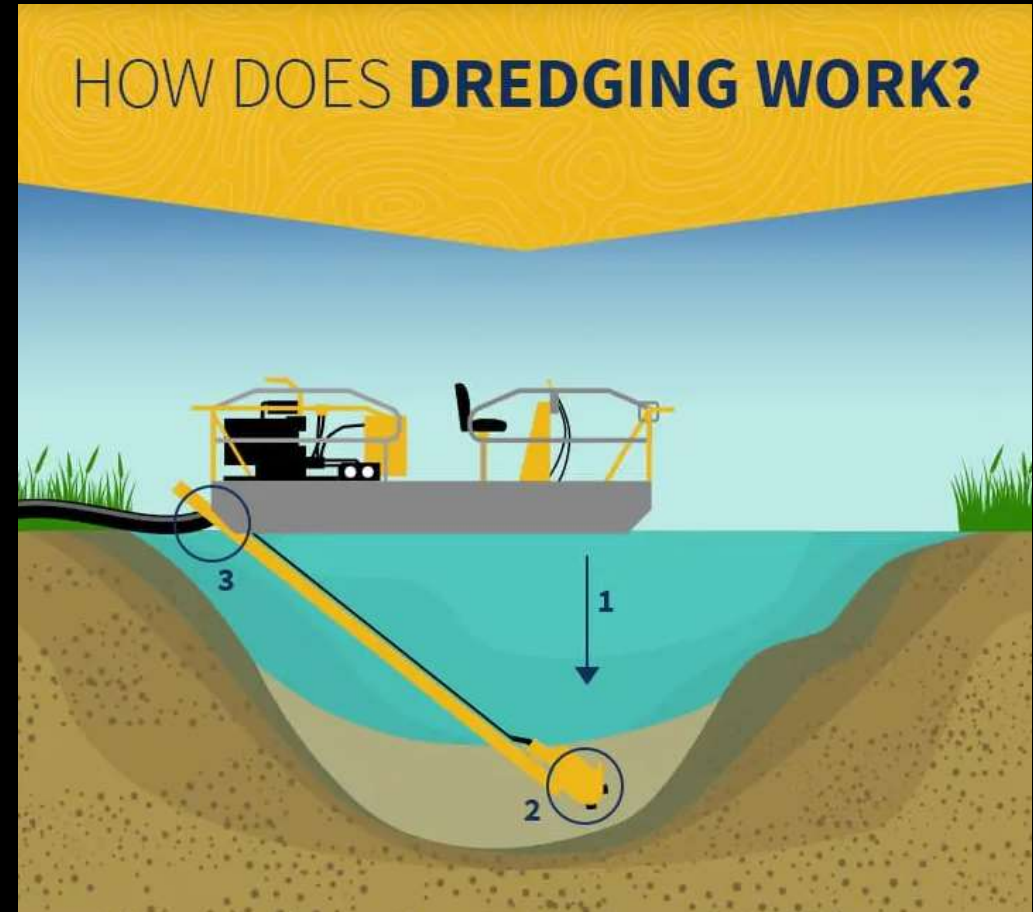
# Dredging

- Removal of silt build-up from bottom of bodies of water to deepen or widen them for functional or environmental purposes. The purpose of dredging Bailey Lake will be to provide better function for the intake pipe to prevent silt from clogging the pipe
- Dredging Bailey Lake would:
  - Remove about 500 cubic yards of silt
  - Increase holding capacity by 101,000 gallons
  - Provide 3 to 6 weeks irrigation for Bailey Lake Park and Chisenhall Fields which could be the difference in sustaining hottest/driest time of year
  - Increase and improve aquatic habitat



# Method: Hydraulic Dredging

1. Boom lowered to bed of water body
2. Rotating cutter-bar loosens sediment which a pump removes
3. Silt and debris relocated to staging area for off-site disposal





## Site Plan

- Area closest to storm water discharge has collect highest levels of silt
- Removed silt will be staged in area closest to focal area in roll-off containers so as not to impede trail use
- When a container is full, it will be picked up to be transported for off-site disposal and replaced with another until completion





# Procurement Summary

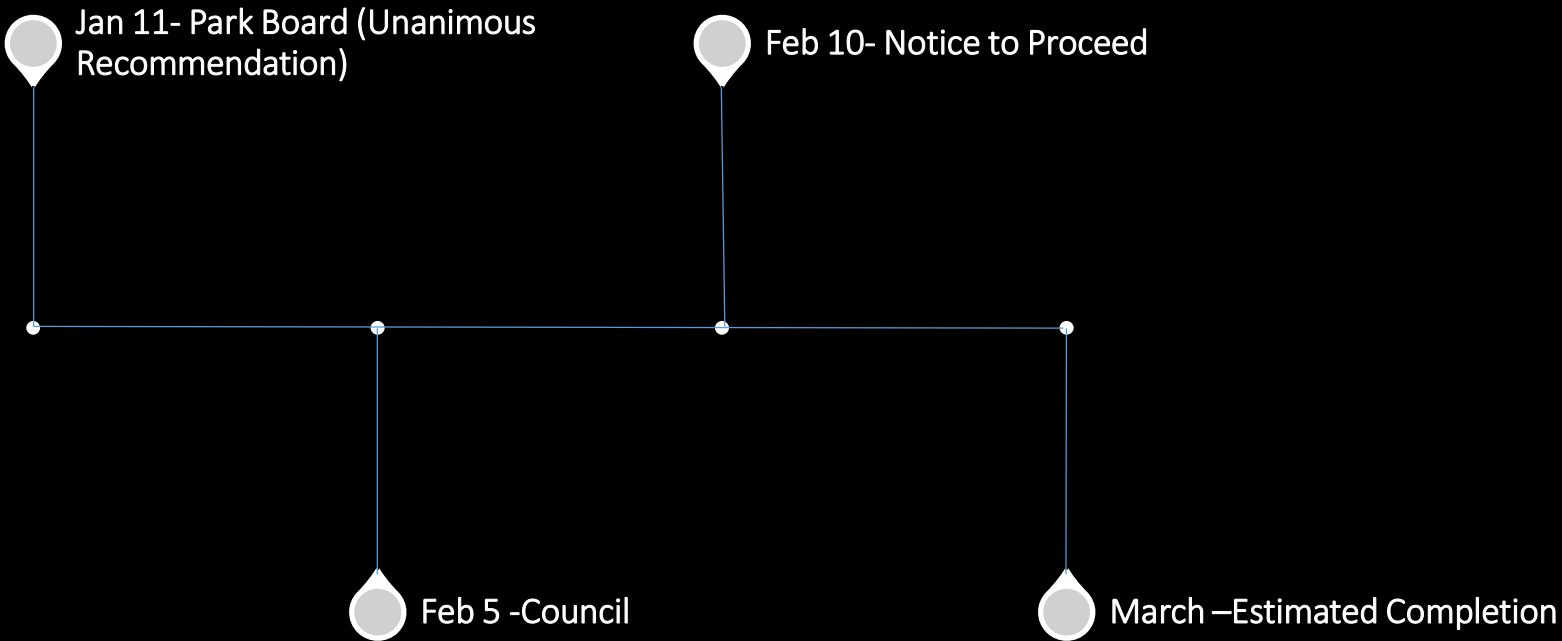
- Unique service with limited number of qualified providers in the area
- Several DFW agencies used vendor contract with City of Southlake via Interlocal Agreement (ILA)
- City of Burleson executed ILA with City of Southlake to procure services from American Underwater Services LLC
- Quote for services: \$69,000.00
- 5% contingency: \$3,450.00
- Total Award: \$72,450.00
- The approved budget in the 4B CIP is \$100,000







# Timeline





# Options

- Approve a minute order for the purchase of dredging services by American Underwater Services LLC for Bailey Lake via an interlocal agreement with the City of Southlake for the amount not to exceed \$72,450.00
- Deny a minute order for the purchase of dredging services by American Underwater Services LLC for Bailey Lake via an interlocal agreement with the City of Southlake for the amount not to exceed \$72,450.00



Jen Basham  
Parks and Recreation Director  
[jbasham@burlesontx.com](mailto:jbasham@burlesontx.com)  
817-426-9201