## Why is this project important?

- Help preserve flow at Barton Springs during times of drought.
- Partially offset the impacts of groundwater pumping from the aquifer.
- May help prevent area wells from drying up during times of drought.
- Build resilience for aquifer to help mitigate the impacts of climate change.

## **Stoneledge Quarry is a unique opportunity for recharge enhancement in the Barton Springs Segment of the Edwards Aquifer (BSEA):**

- It is one of only 2 large quarry sites over the BSEA and the other, CenTex, has many more years of operational life.
- The channel of Little Bear Creek runs through a corner of the property, making the distance/footprint for constructing the required diversion channel relatively small.
- About 47% of Little Bear Creek drainage area upstream of the quarry is either fee simple or conservation easement Water Quality Protection Lands which contribute high quality runoff to the creek.

## Hydrogeologic Information about the project

- Modeling suggests that this project may be able to recharge 385 acre-feet per year (over 100 million gallons per year).
- Flow measurements along Little Bear Creek indicate that over 90% of in-channel recharge occurs upstream of the quarry, meaning diversion is unlikely to significantly impact recharge in the main channel of Little Bear Creek.

- Tracing conducted by City of Austin (COA) and Barton Springs Edwards Aquifer Conservation District (BSEACD) staff in 2017 indicates that the quarry is hydrogeologically connected to Barton Springs; tracer dye arrived at the springs in 2-3 weeks under drought conditions.
- Data collected by BSEACD from 2004-05 indicates that water entering the quarry pit appears to recharge relatively slowly, and the 2017 tracing study additionally indicated that recharging water may "linger" in this area for as long as a year after entering the aquifer. This is good, because it means that the recharged water won't quickly flush through the system and be "lost" downstream. Instead, it may help mitigate the effects of droughts and over pumping on wells in this area of the aquifer and on flow at Barton Springs.
- Diversion to quarry only occurs with creek flows over 50 cubic feet per second (cfs).

## **Process Highlights**

- The City, in partnership with Hill Country Conservancy, purchased the quarry property in 2002 using Open Space Bond Funds.
- The project is a cooperative effort by the City, Lower Colorado River Authority (LCRA), and the BSEACD.
- The project is a result of over 20 years of collaboration between several City departments including the Watershed Protection, Austin Water, Public Works, Law, and Financial Services departments to obtain all necessary properties, agreements, and permits.
- In August 2022, the City obtained the required Water Use Permit from the Texas Commission on Environmental Quality for storing water in Stoneledge Quarry. The permit included addressing concerns provided by the National Wildlife Foundation.