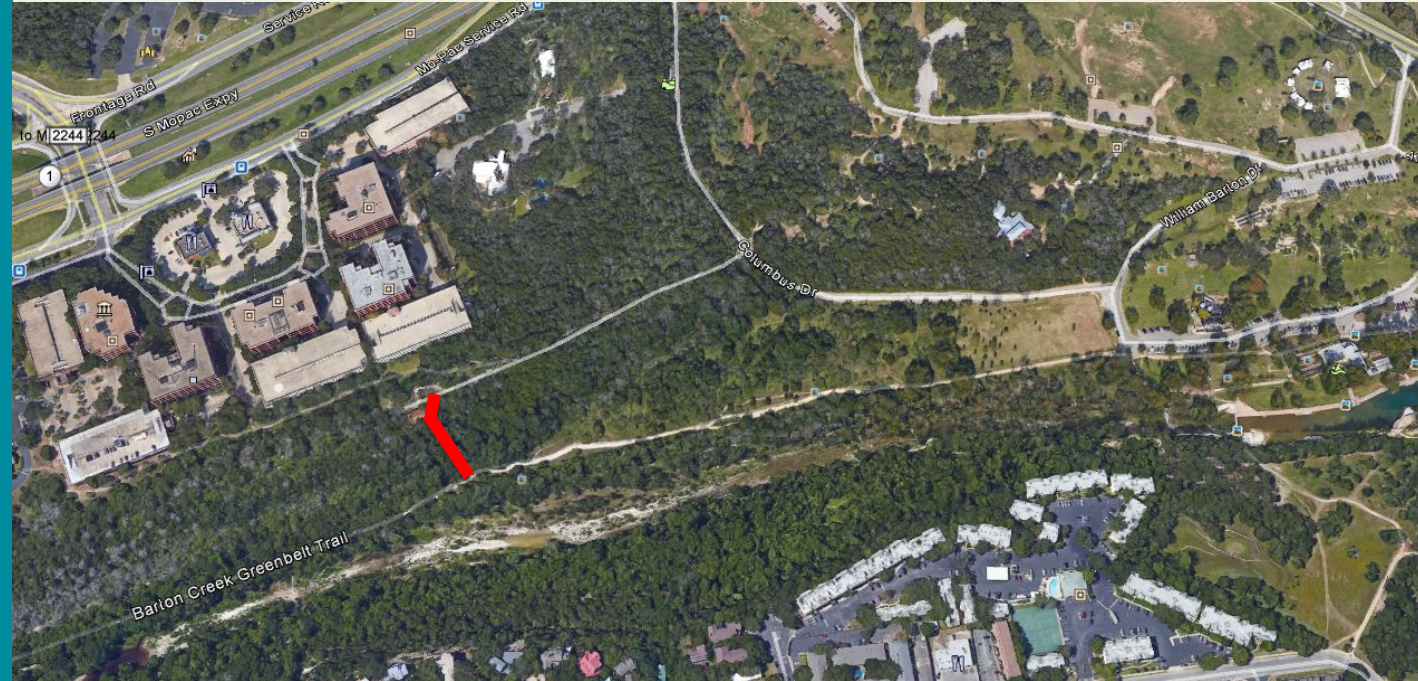


CITY OF AUSTIN  
PUBLIC WORKS DEPARTMENT

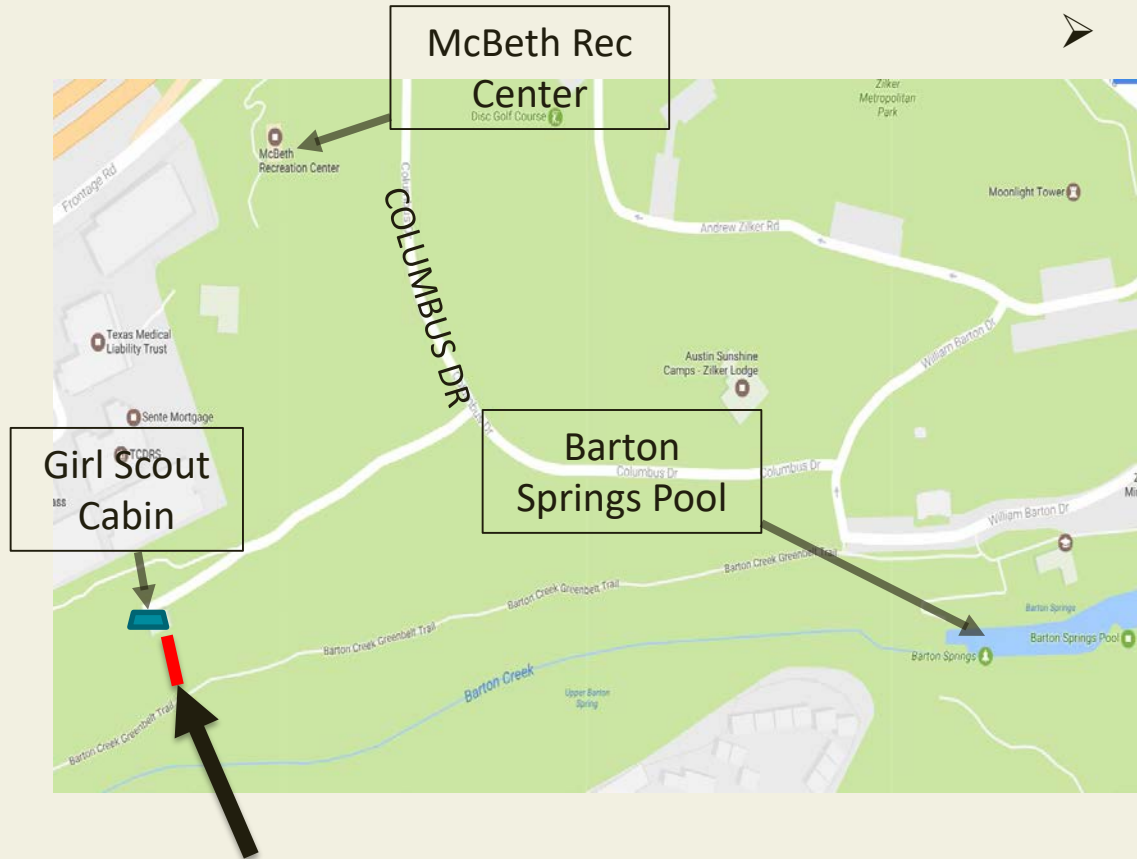
# WASTEWATER COLLECTION SYSTEM REPLACEMENT

Wastewater  
Replacement/Rehabilitation in  
Critical Natural Resources  
Barton Creek at Zilker Park

CONNECTING YOU  
ALL AROUND AUSTIN



# Project Location / Background



**DETERIORATED CONCRETE PIPE  
(END OF SERVICE LIFE)**

- Identified Needing Replacement
  - Approx. 267 LF 8" Concrete Pipe and Manholes (Built 1968-49 years old) End of service life.

- Critical Pipe Characteristics
  - Critical Condition- A failure may impact health & safety
  - Possible obstruction in pipe
  - Services commercial customers & the McBeth Recreation Center
  - Upstream from Barton Springs Swimming Pool
  - Service to Girl Scout Cabin is behind the building

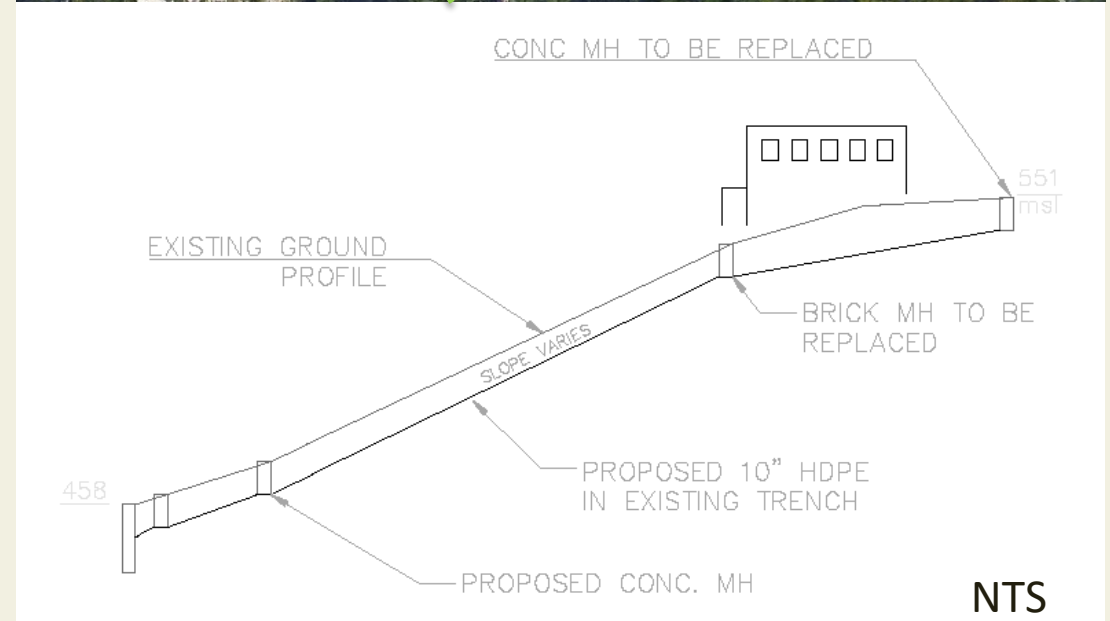
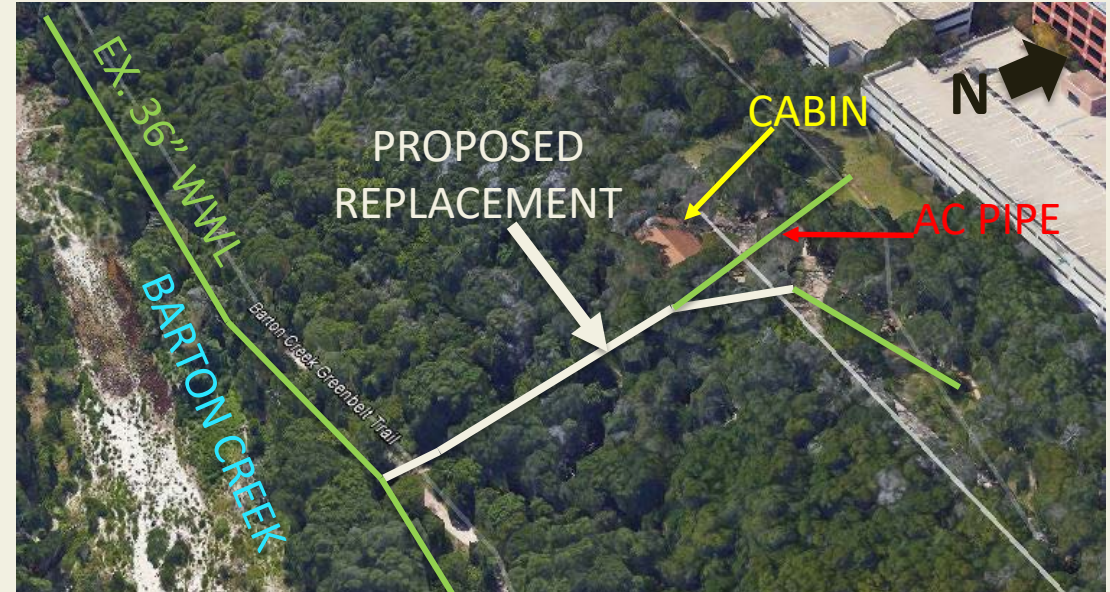
- Location Characteristics
  - Edwards Aquifer Recharge Zone
  - Golden-cheeked Warbler- Zone 4
  - Endangered Cave Species Habitat Karst Zone 1 & 2
  - Erosion Hazard Zone
  - Critical Water Quality Zone
  - Extreme Slopes
  - 100 YR Floodplain



# Replacement Option 1

## Open Trench Cut

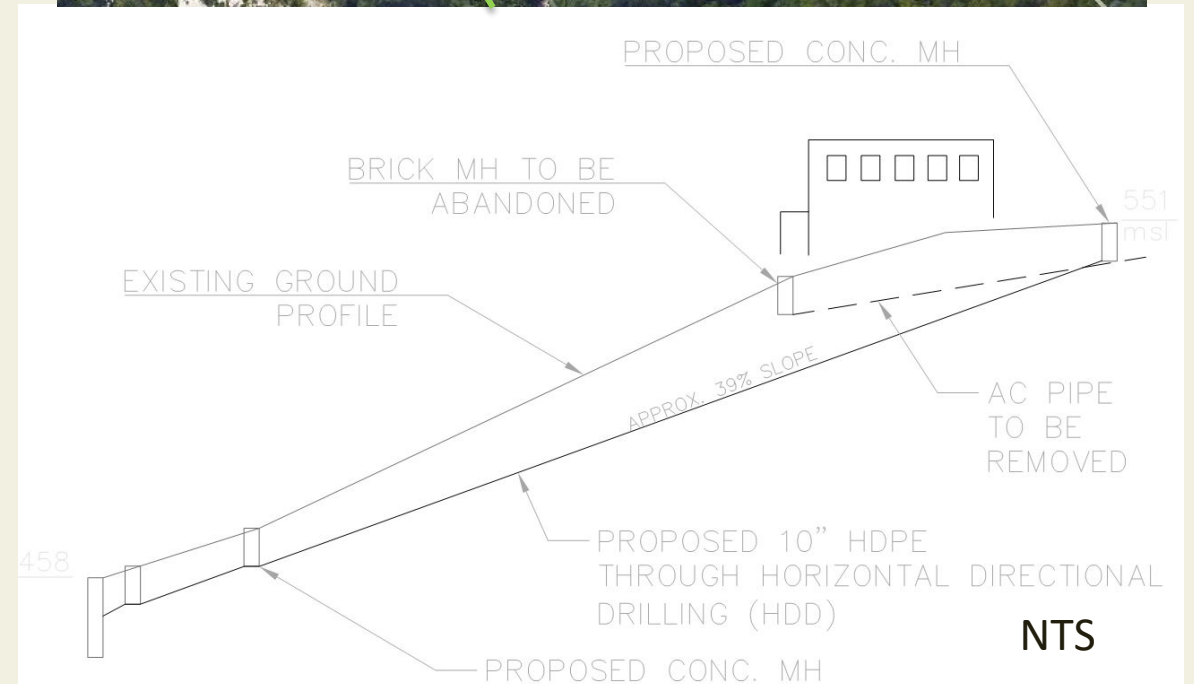
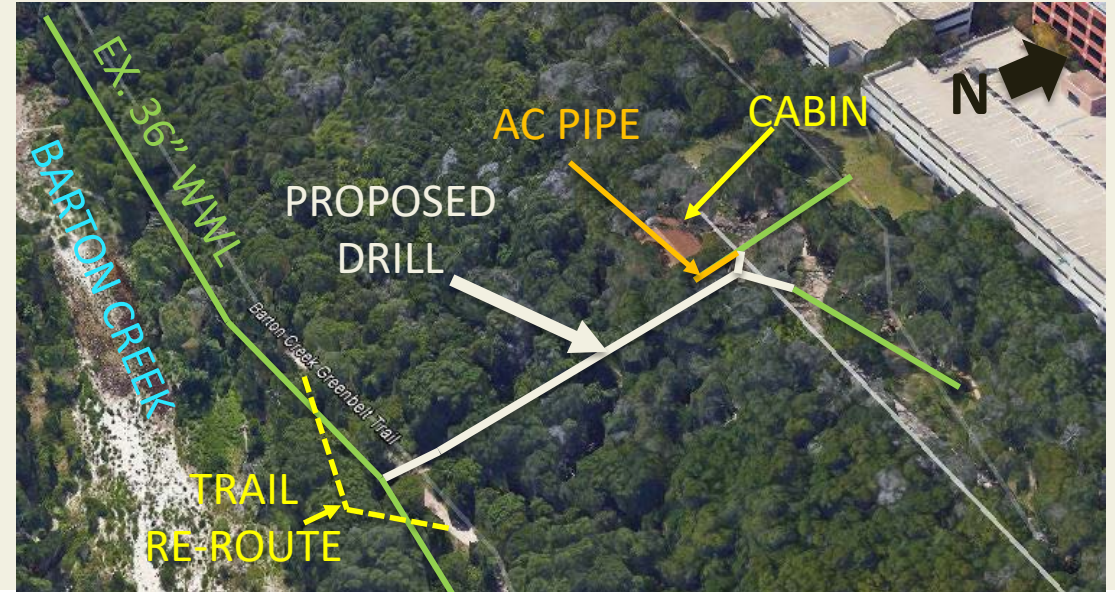
- Replace line in Existing Trench
  - Approx. 280 LF 10" pipe
  - Utilize Existing Trench
  - 15 Trees to Be Removed, Est. approx. 140 caliper inches
  - 34 Trees Total, 344 caliper inches- with ½ Critical Root Zone within Easement and may be affected Landscaping to be replaced
  - Asbestos Cement (AC) Pipe Removal – Approx. 15 LF



# Replacement Option 2

## Horizontal Directional Drilling (HDD)

- Replace line below existing line (Existing line to be abandoned in place)
  - Approx. 280 LF 10" Pipe
  - Utilize Existing Utility alignment
  - 7 Trees to Be Removed, Est. approx. 91 caliper inches
  - AC Pipe Removal – Approx. 85 LF
  - Trenchless Method

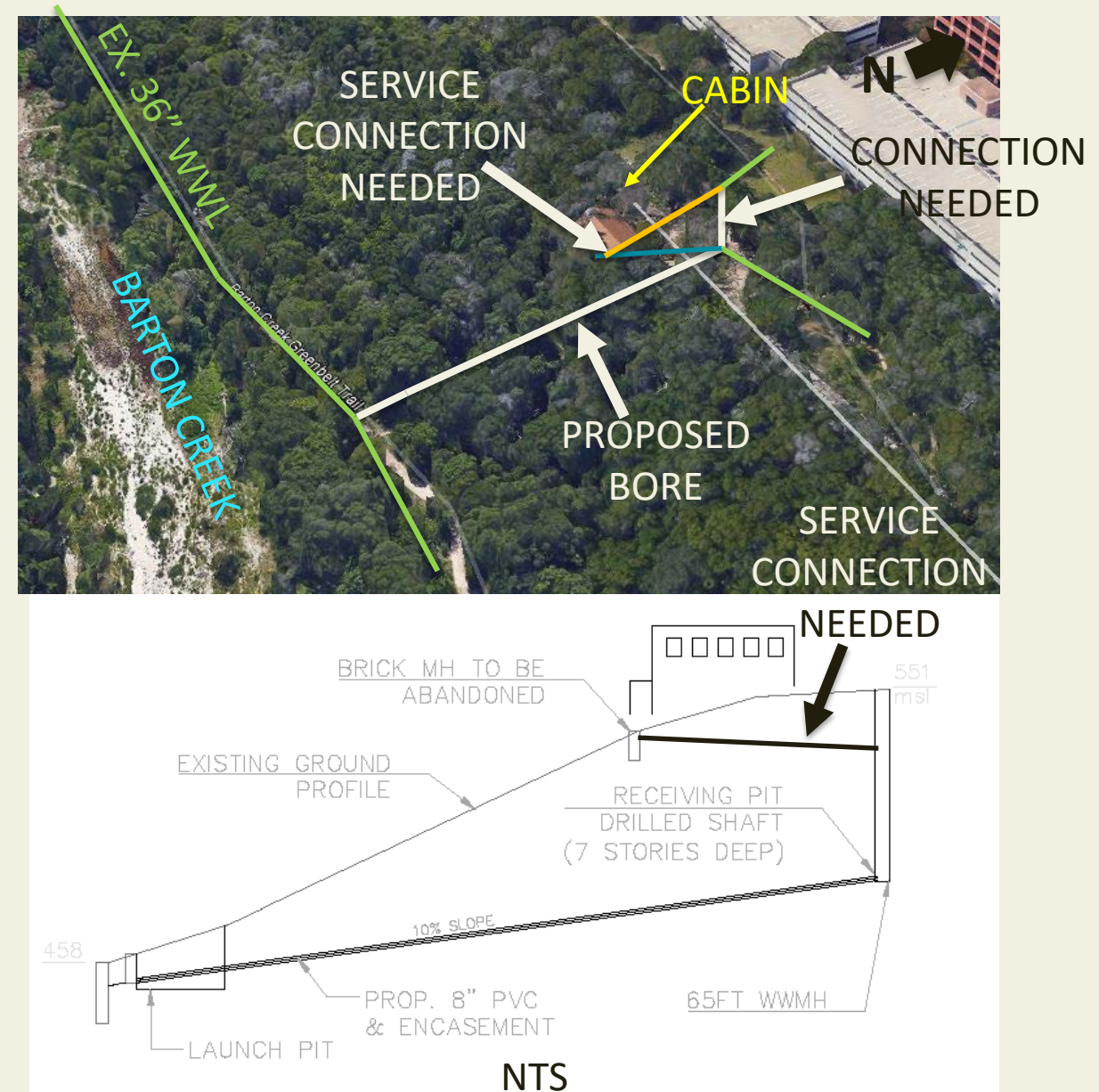




# Replacement Option 3

## Jacking and Boring

- Jack and Bore New WW line  
(Existing line to be abandoned in place)
  - Approx. 280 LF Jack and Bore
  - 65' Bore Depth (65' Manhole with Drop Structures)
  - 16 Trees to Be Removed, Est. approx. 155 caliper inches
  - AC Pipe Removal – Approx. 100 LF



# Replacement Option 4

## Reroute WW Line

- Abandon existing wastewater line
- Add Approx. 1,800 LF (1/3 mile) of 8" pipe
- Increased Turbulence and Odor
- Minimum 7 Additional wastewater manholes
- Pipe route cannot be constructed within the existing access road
- 25 Trees in Alignment to be Removed, Est. approx. 240 caliper inches
- 53 Trees Total, 560 caliper inches with ½ Critical Root Zone within Easement and may be affected

- 4 Heritage Trees are within alignment
- Partial Columbus Drive closure
- Larger pits are required for intended work, impacting more parkland
- AC Pipe Removal – Approx. 100 LF





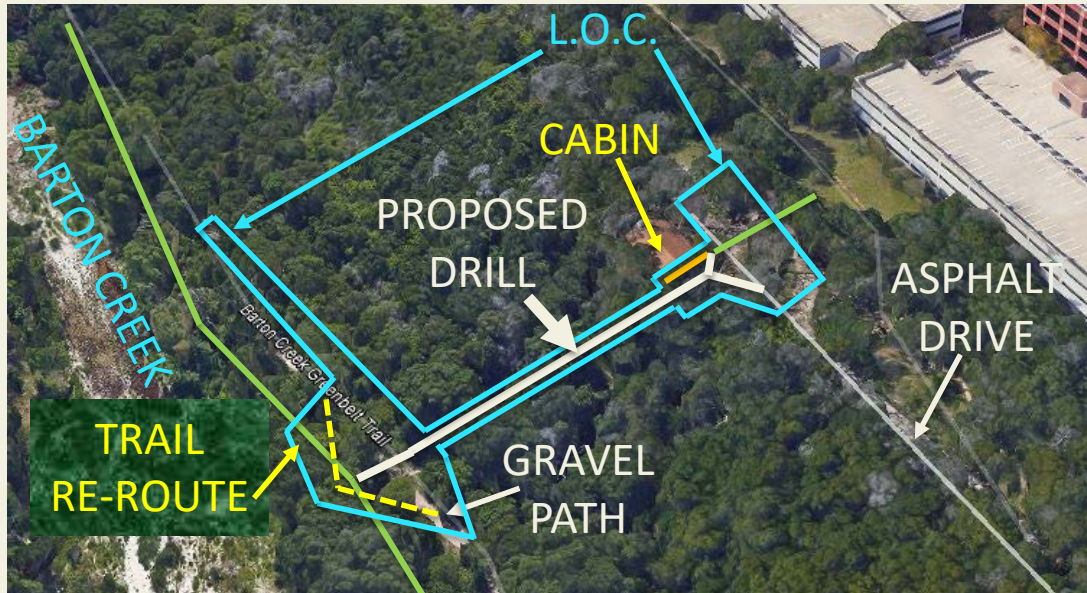
# Comparison Matrix

	Option 1 (Open Trench)	Option 2 (HDD)	Option 3 (Jack/Bore)	Option 4 (Reroute)
Construction Cost Estimate	\$390,000	\$415,000	\$920,000	\$850,000
Work Area Footprint	28,000 sq ft	20,000 sq ft	20,000 sq ft	54,000 sq ft
Permitting	BCCP, TCEQ, GP	BCCP, TCEQ, GP	BCCP, TCEQ, GP	BCCP, TCEQ, GP, PARD Chapter 26
Time to Obtain Perm. Easement	NA	NA	NA	6-13 months
Design & Permitting Duration	3-6 months	5-8 months	6-10 months	11-15 months
Construction Duration	5 months	5 months	10 months	12 months
Construction Method	Open Trenches in Parkland	Horizontal Directional Drilling	65 ft Deep Shaft in Parkland Adjacent Girl Scout Cabin- Open Pit on Hike Trail	Open Trenches in Parkland
Tree Impact	Est. 344 inches affected, 155 inches removed	Est. 91 inches removed	Est. 130 inches removed	Est. 560 inches affected, 240 inches to be removed
Public Impact	Block Trail while replacing Segment/Open cut Trench in Parkland and during spoils removal.	Trail to be re-routed during construction. WWMH installations. Flaggers used to keep trail open.	Block Trail Full Duration/Open bore pits in Parkland	Limit Access to Trail/Road. Increased maintenance potential. Overall larger footprint in park.

ESD & AW Recommend Option 2

# PREFERRED OPTION

## HDD BORE



### BENEFITS:

- Utilizes Existing Utility route
- Minimizes Tree Removal
- Reduces Environmental Impact
- Reduces required work space
- Reduces the potential for scarring the landscape
- Columbus Drive to Remain Open
- Trail to remain open

### What is Needed from PARD?

Approval of a Temporary Use Work Area and Access Area, not to exceed 300 Calendar Days on parkland located at 2317 Columbus Dr. (Zilker Metro Park). Total Mitigation value is \$176,045

