

Saving Trees and Installing Tees (Bases): Routing 4 Miles of 48-Inch Sewer Main Through San Antonio Parks Trail System

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San Antonio Water System





Agenda



Background



Project Overview



Challenges



Construction Phases



Lessons Learned



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Background



**San Antonio
Growth**

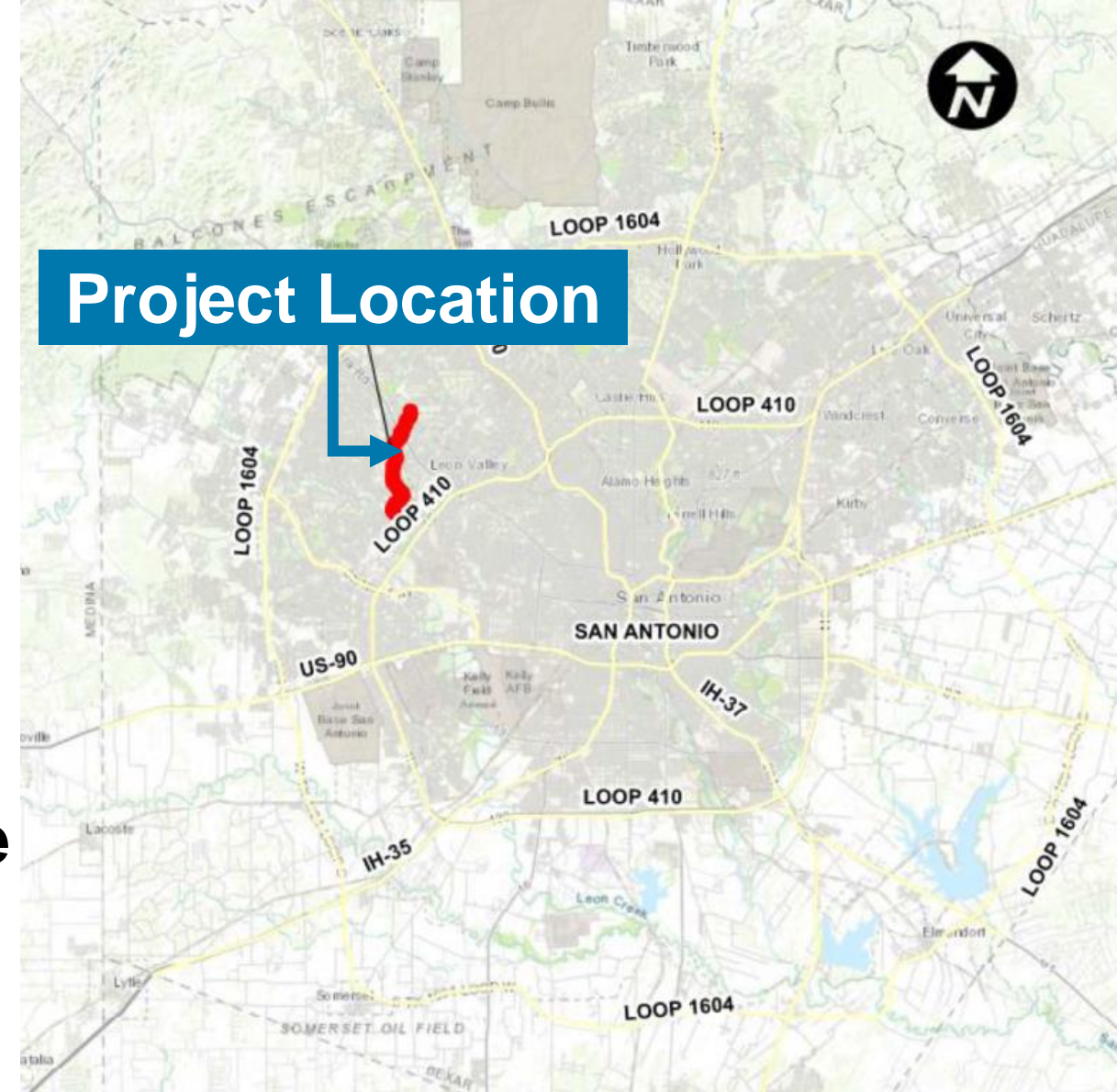


**San Antonio Water
System (SAWS)**

Over 5,200 Miles of Sewer Pipe

- ✓ Aging Wastewater Infrastructure
- ✓ SSOs Common
- ✓ Consent Decree

Project Location



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Project Overview

Location – Leon Creek (NW SA)

- Existing 33- and 36-inch (RCP)
- Proposed 48-inch (FRP)

22,000 LF

10,000 LF tunneled (yellow)

12,000 open cut (red)



CoSA Parks



100-year floodplain



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**Proposed
Sanitary
Sewer Main**

**Excavators
Installing Sanitary
Sewer Line**

**Proposed
Temporary Trail**

**Existing
Parks Trail**

**Proposed
Temporary Fence**

Challenges: City Parks and Trail System



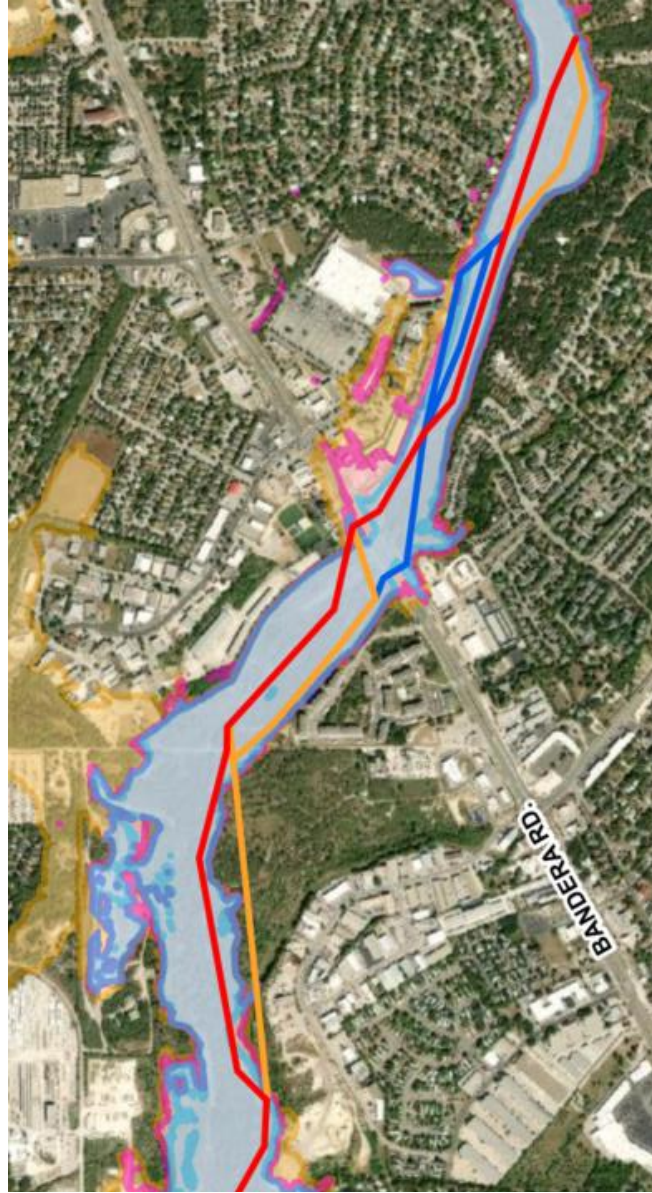
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Challenges: Flood Plain Construction



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Challenges: Heavy Vegetation



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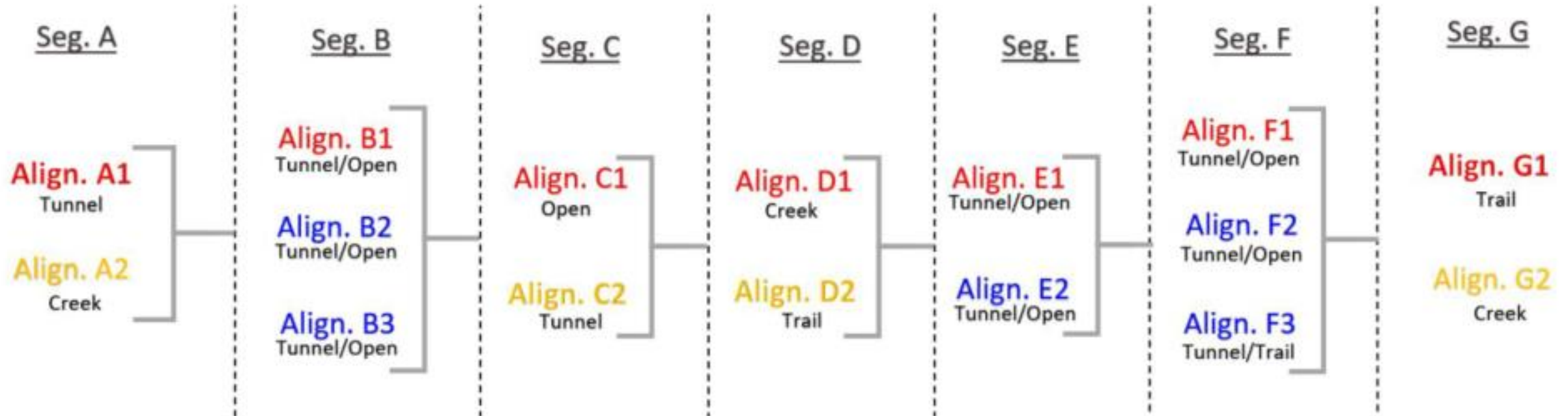
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Challenges: Route Analysis



Challenges: Route Analysis



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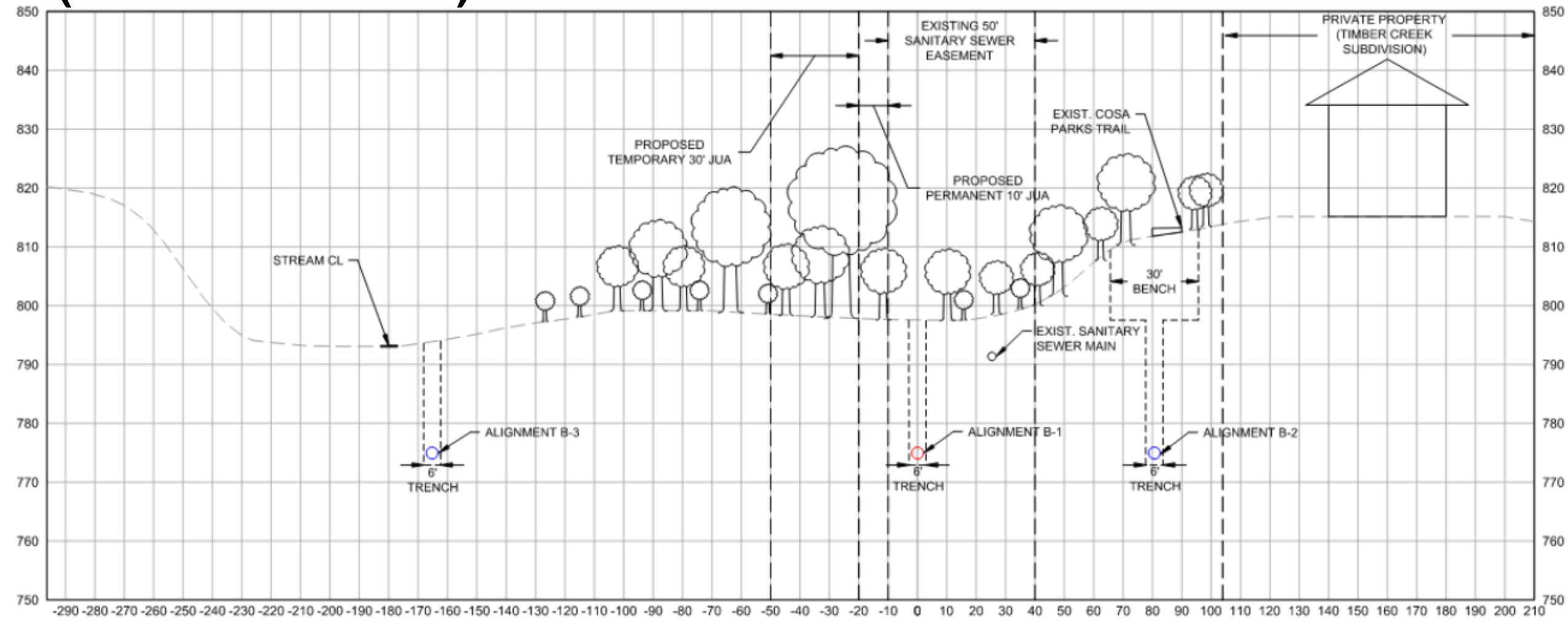
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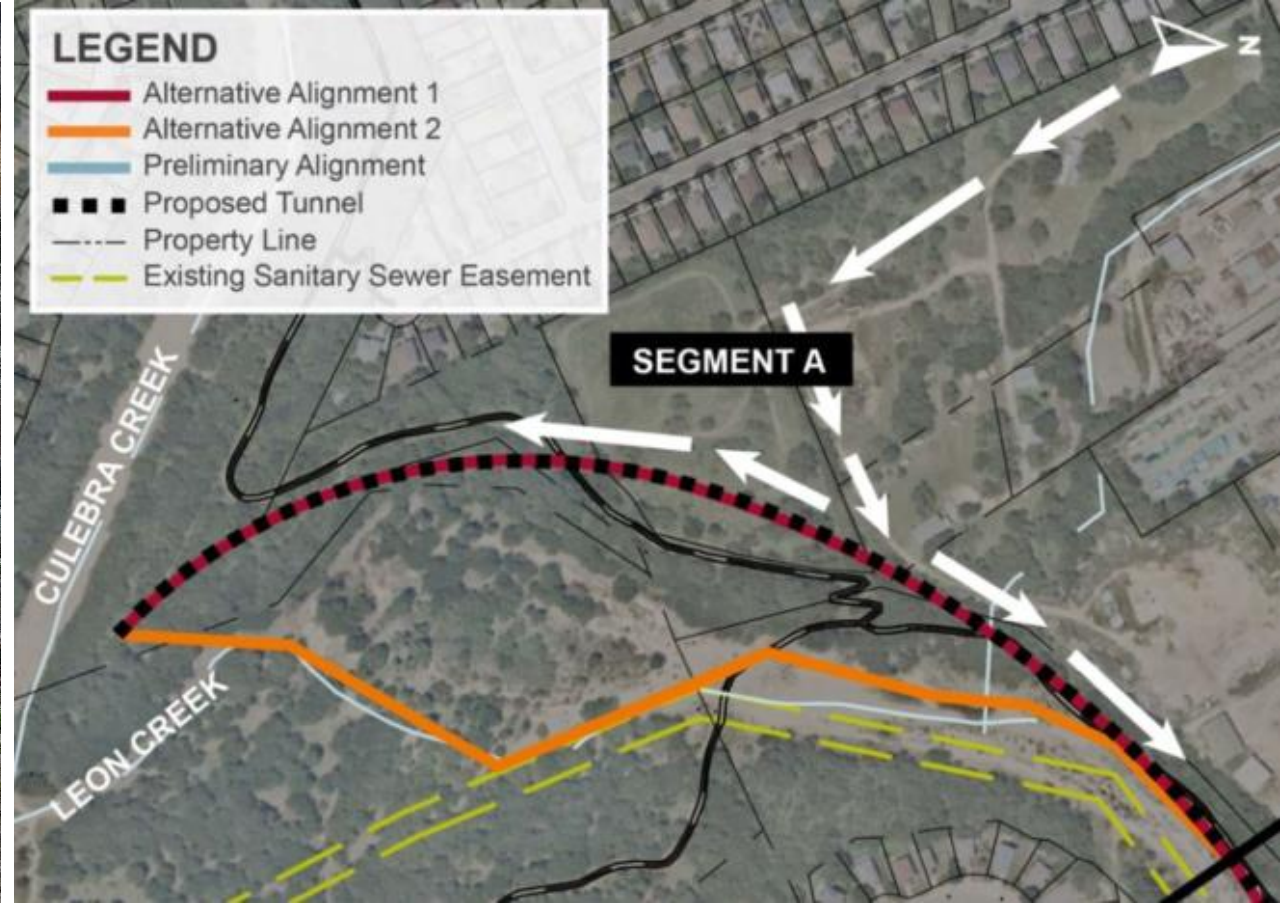


Challenges: Narrow Construction Corridor and Deep Sections

(>30 Feet of Cover)



Challenges: Challenging Accessibility



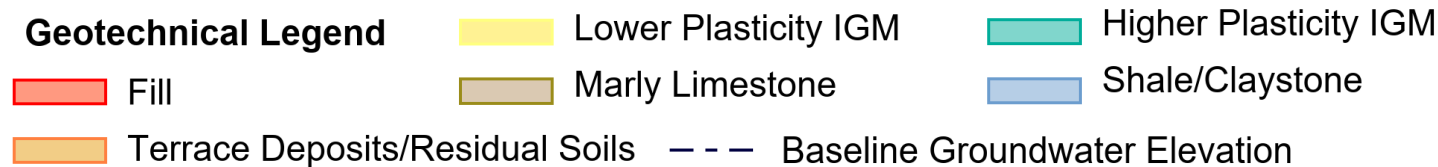
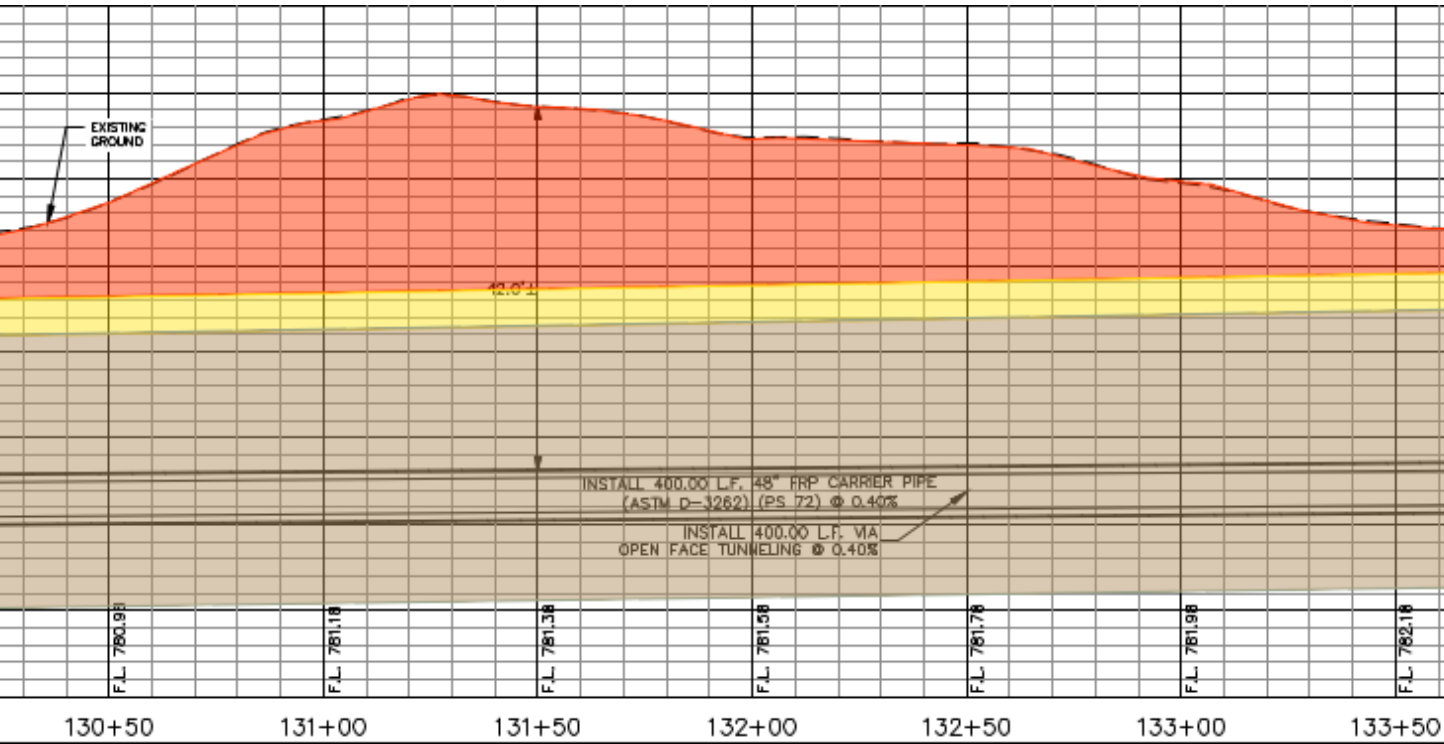
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Challenges: Rock Excavation



Hard to Very Hard Marly Limestone

500 – 6,000 psi UC

Average RQD – 55%

LL – 31; PI – 16

Cerchar Abrasivity – 0.85

SPT - Refusal



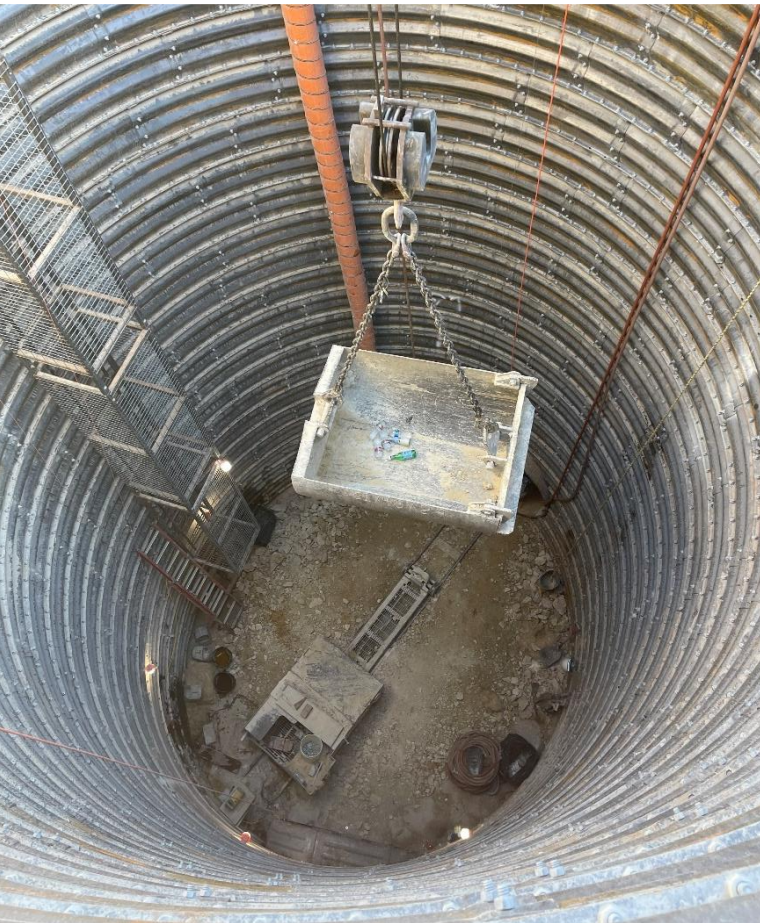
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Construction Progress



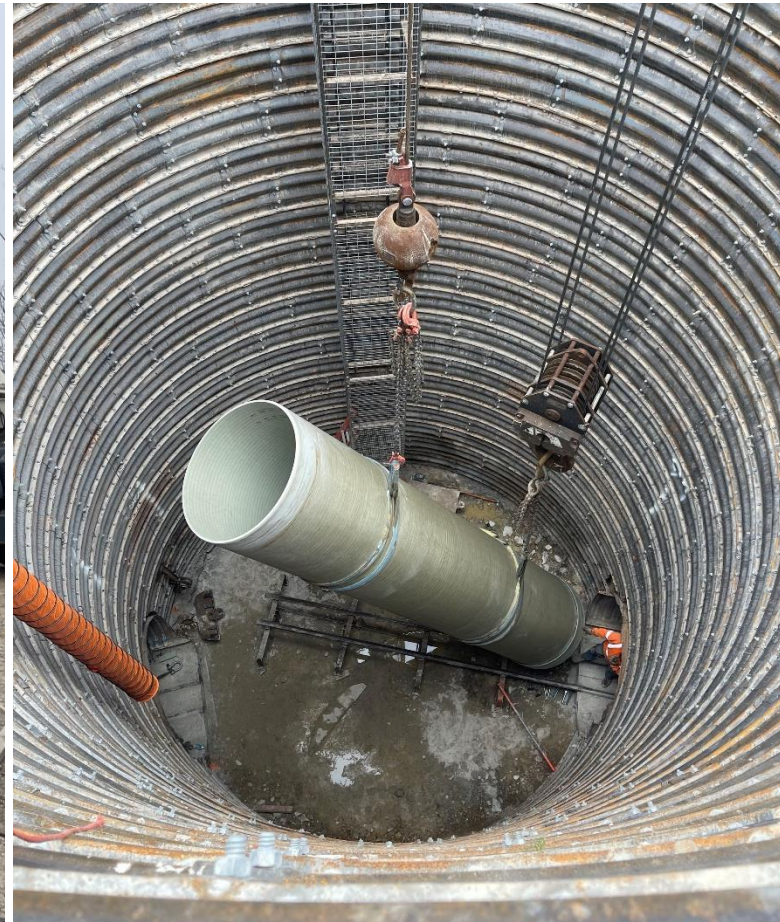
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Construction Progress



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Construction Progress



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Lessons Learned

Start the Process Earlier

- ✓ Easement Acquisition
- ✓ Coordination with CoSA Parks
- ✓ Geotechnical Baseline Report



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Questions



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