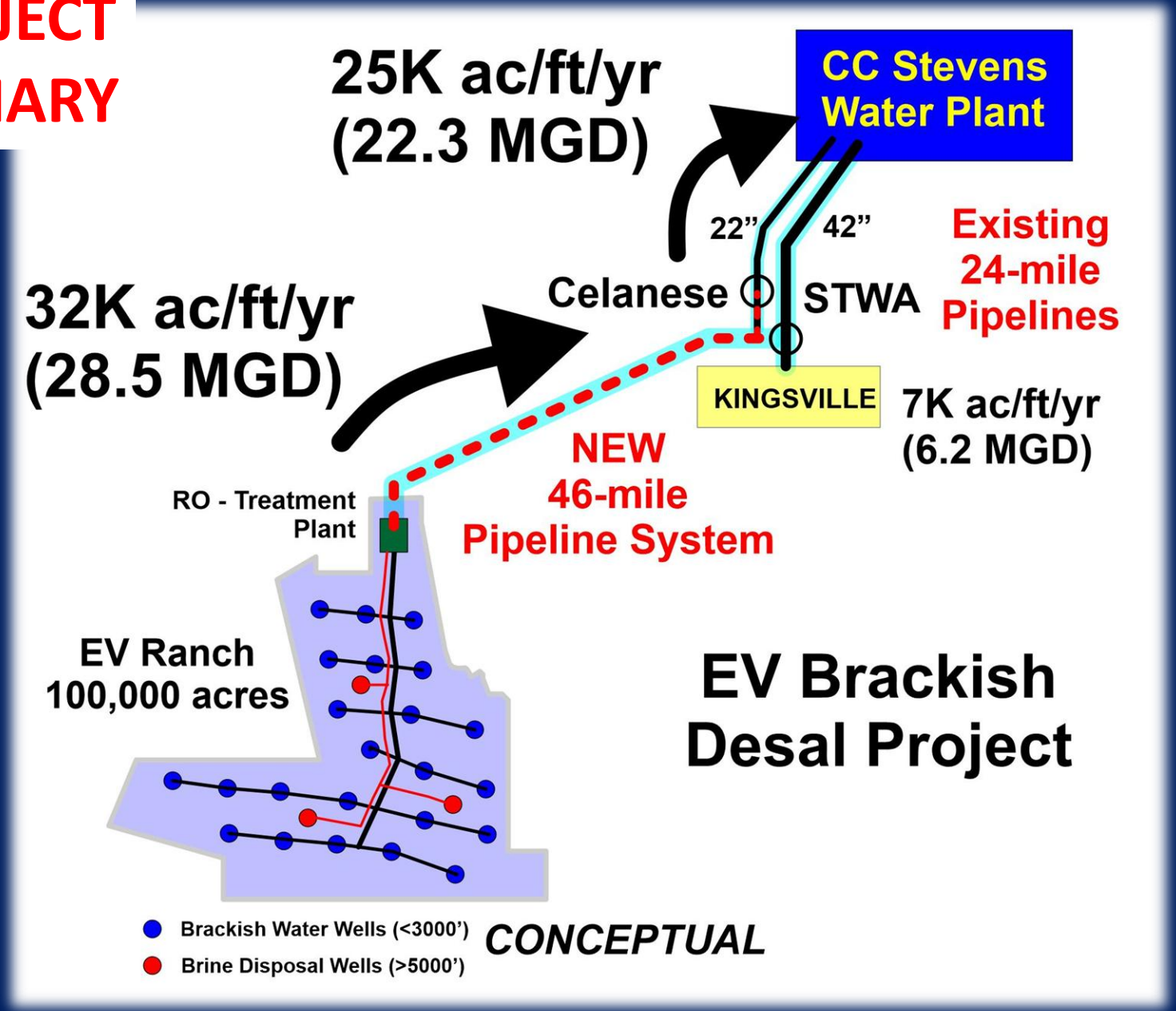
Catahoula Water Company

Eshelman - Vogt Ranch
Brackish Desal Project
-

March 6th 2025

Michael Mintz, MD
Darrell Brownlow, PhD

PROJECT SUMARY



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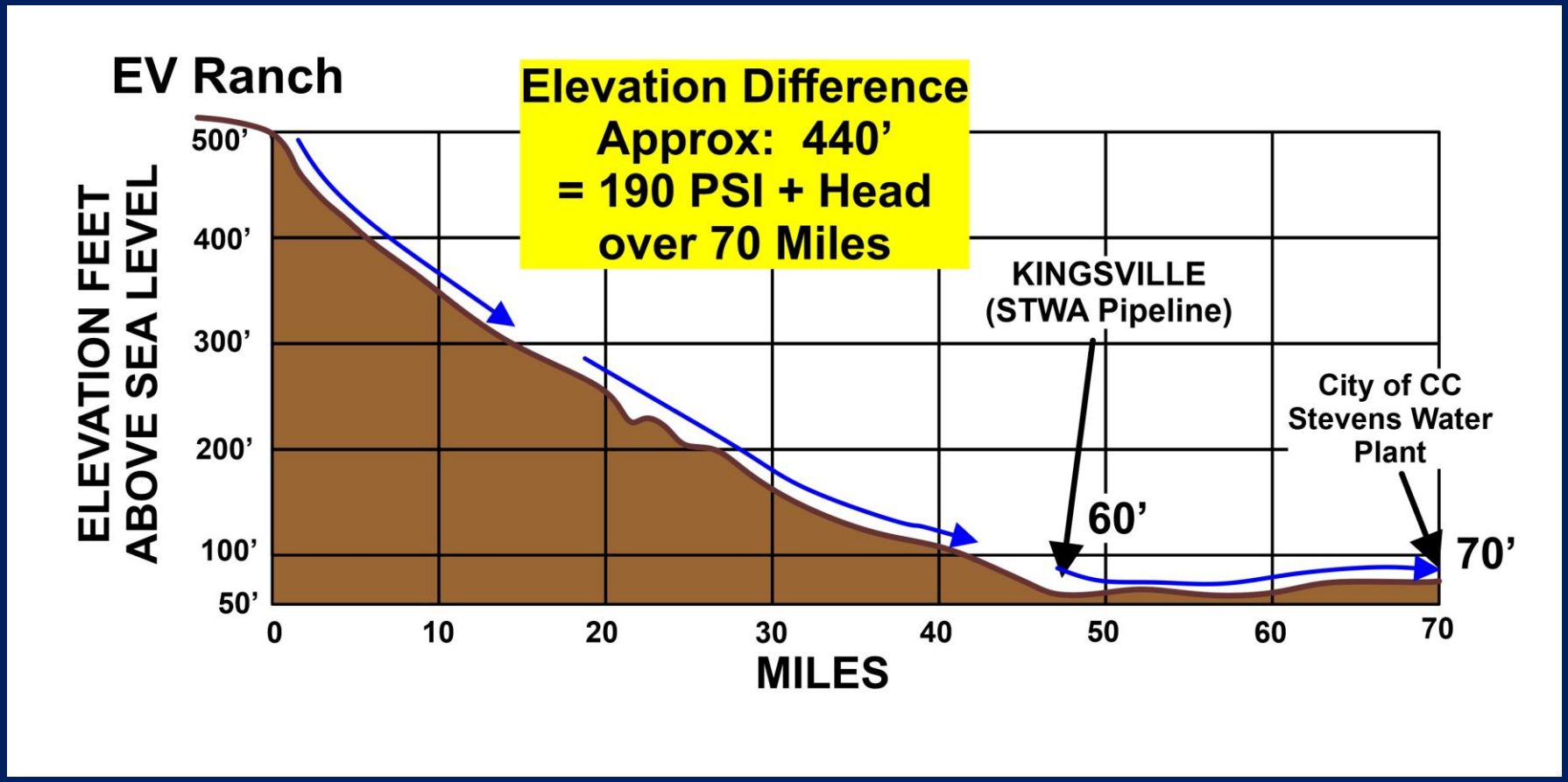
WATER FLOWING DOWNHILL



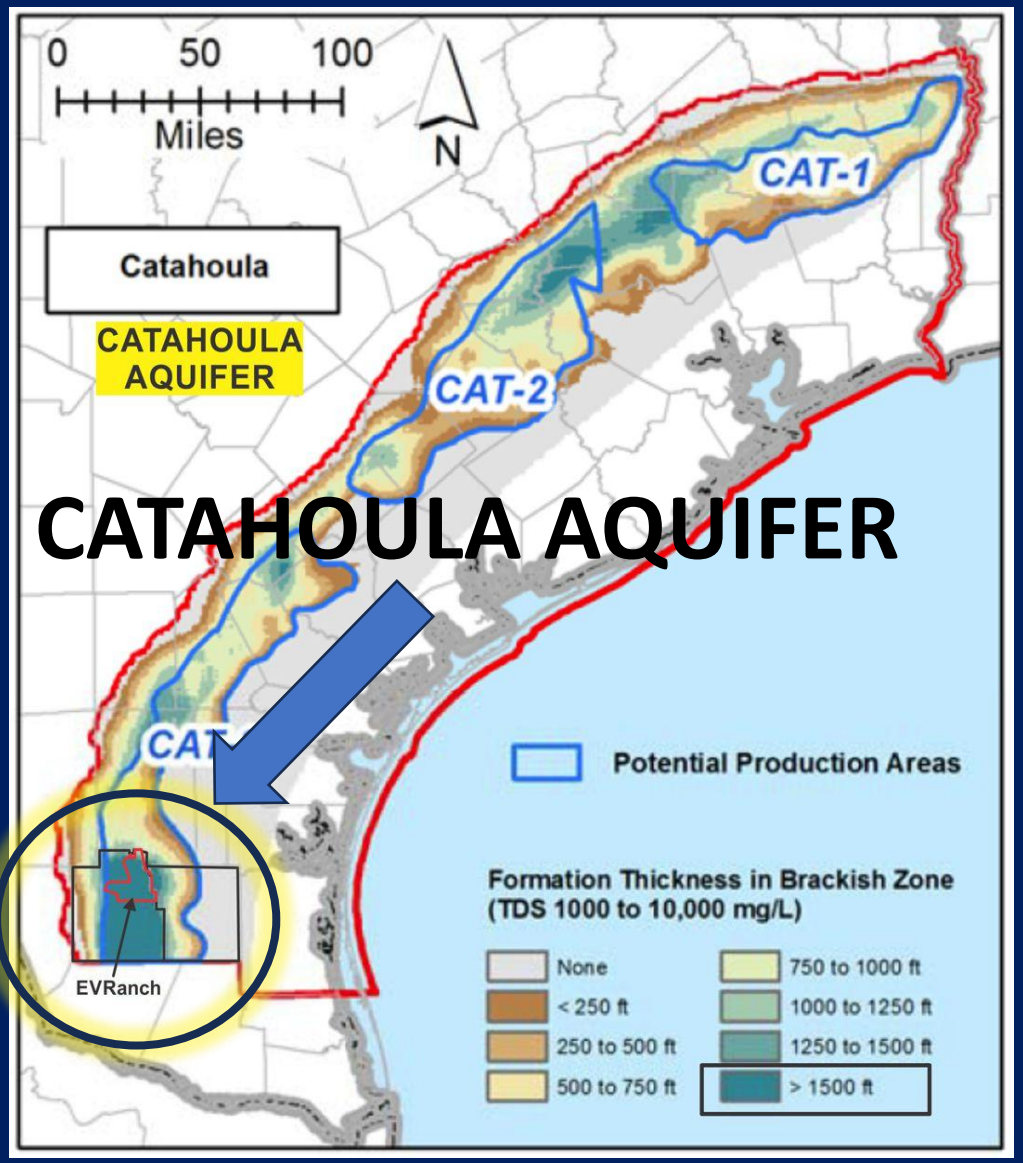
NUMEROUS ADVANTAGES in PIPELINE DESIGN and OPERATION

LOWER PUMPING COSTS

LESS EXPENSIVE PIPE/LOWER COST OF CONSTRUCTION

The Groundwater Source

Brackish Groundwater Source



FINAL REPORT: Identification of Potential Brackish Groundwater Production Areas – Gulf Coast Aquifer System

TWDB Contract Number 1600011947

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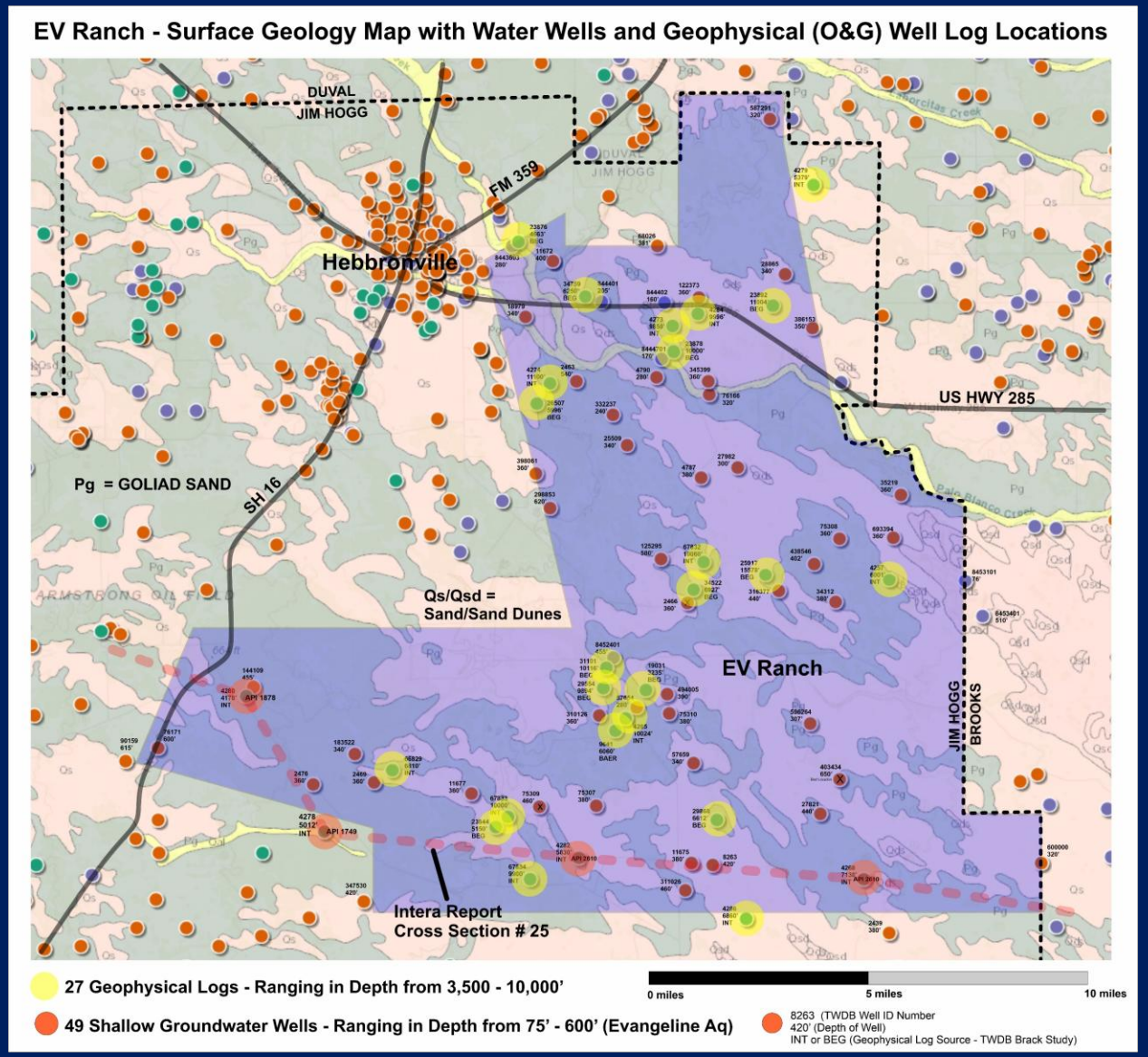
Groundwater Database



27 Geophysical Logs from Historical Gas Exploration

49 Shallow Groundwater wells (<600')

Preliminary Hydrological Modelling indicating Substantial Water Availability

No Historical Saltwater Disposal Activity on Ranch

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Brackish Groundwater Source

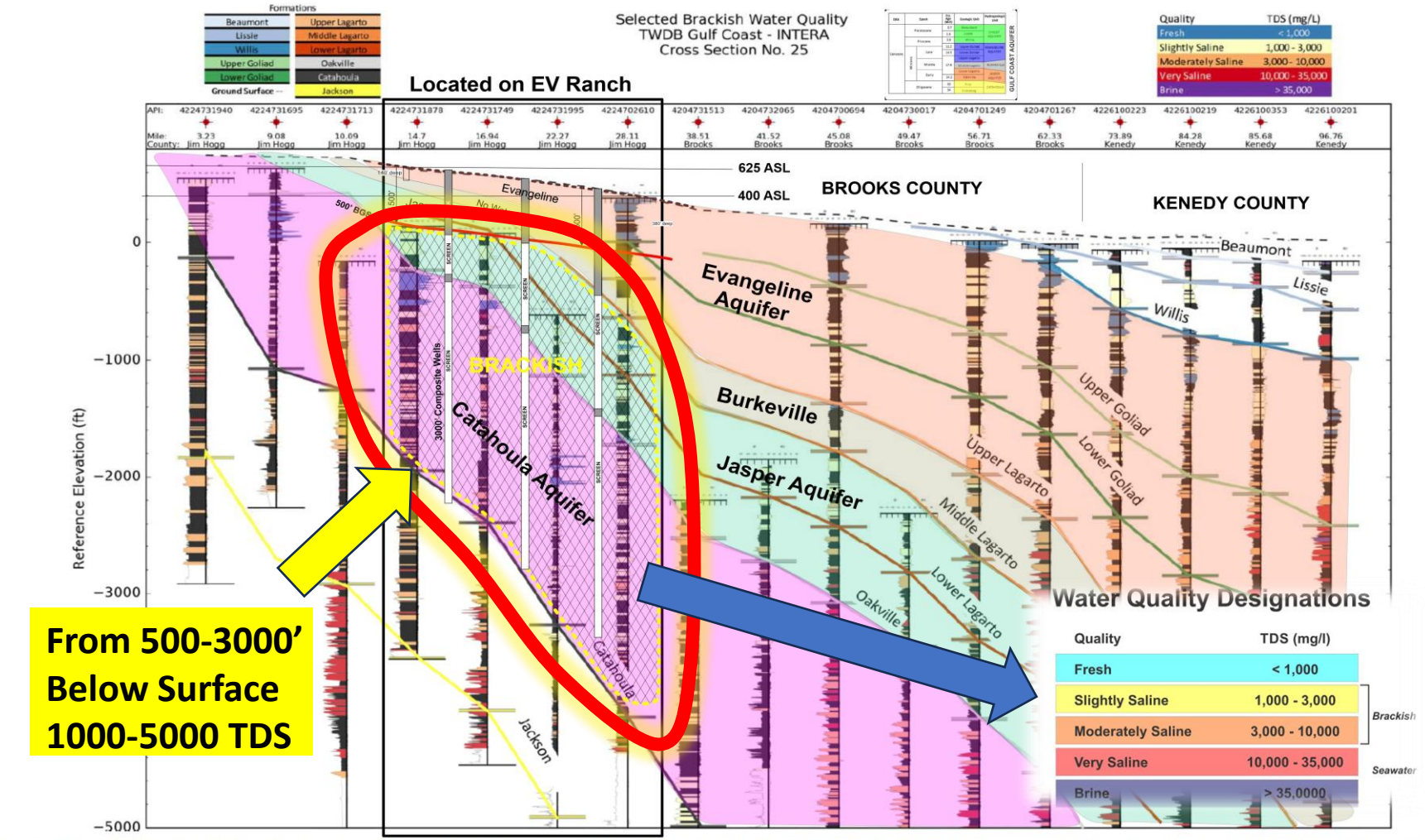
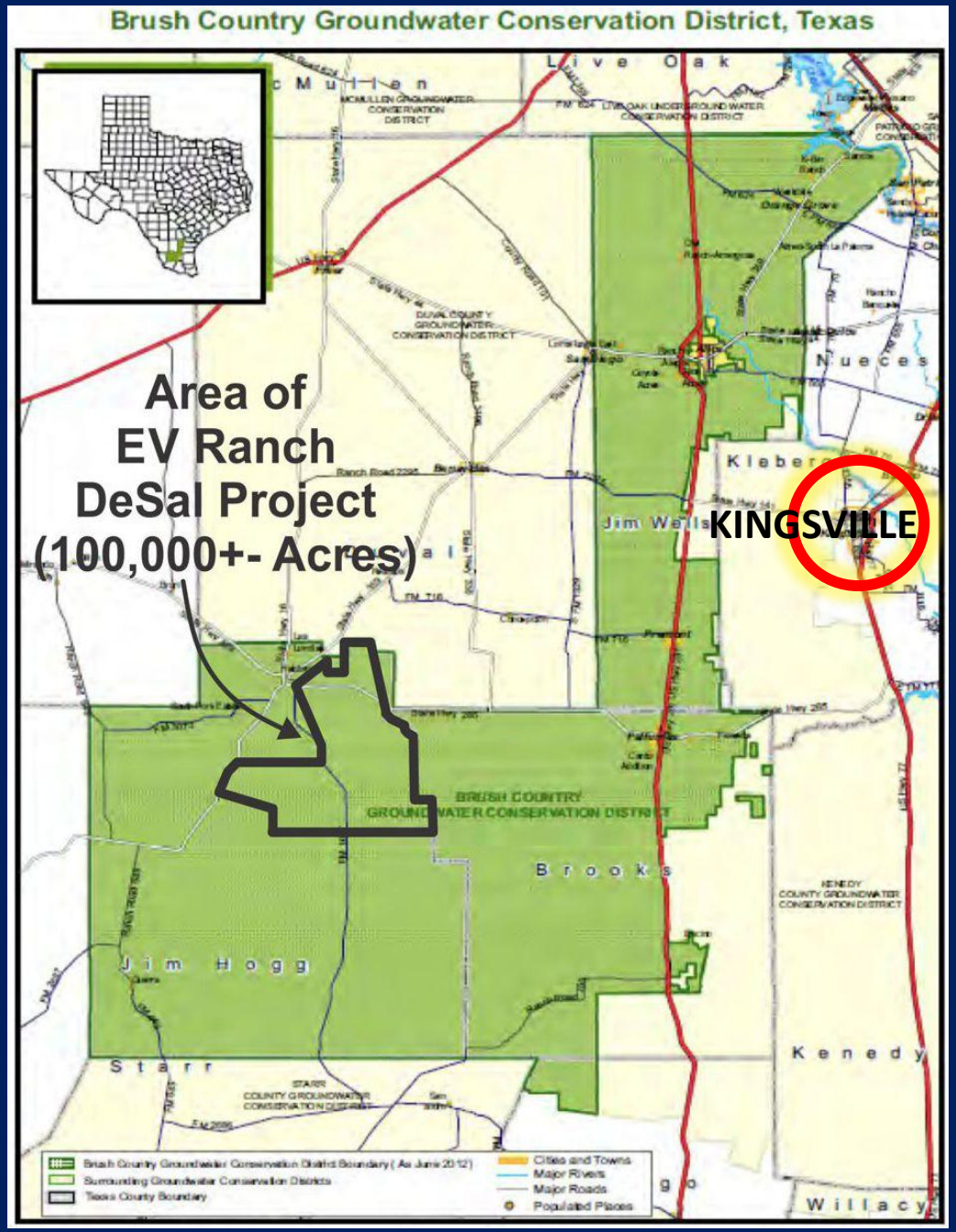


Figure 6-29. Profiles of calculated salinity zones for sand beds identified on geophysical logs aligned on Cross-Section #25 shown in Figure 6-1. Markers represent the base formations at each log location. The lines conn illustrative purposes only. Dashed line indicates crossing a log with no marker available in an active interval.

Note: ft=feet; TDS=total dissolved solids; mg/L=milligrams per liter



GROUNDWATER PERMITTING

BRUSH COUNTRY GROUDWATER CONSERVATION DISTRICT

1. **Current Pumping Rules**
   2 ½ ac/ft/yr per Acre
2. **Export Fee**
   Up to $0.20 per 1000 gals
3. **No Brackish Water Rules**
   Catahoula Aquifer Un-used
4. **Proposed Permit Amount**
   Brackish 32,000 ac/ft/yr
   0.32 per acre vs 2.5 rule
5. **Will be Fully Modeled**
   50+ Year Models
6. **No Permits needed for Testing**
7. **Local Employment Benefits**
8. **Creates local water supply availability that otherwise is not there.**

WATER PRODUCTION TREATMENT and DISPOSAL

Level IV Brackish Water Treatment

Estimated Range of TDS 1000-5000

Reverse Osmosis Plant

120 Acre Foot Print on EV Ranch

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18-20 Production Wells
Up to 3000’ Deep

On EV RANCH
3 Injection Wells for
Disposal of Concentrate

Estimated 85-90% Yield

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THE PIPELINE

PIPELINE DESIGN CONSIDERATIONS

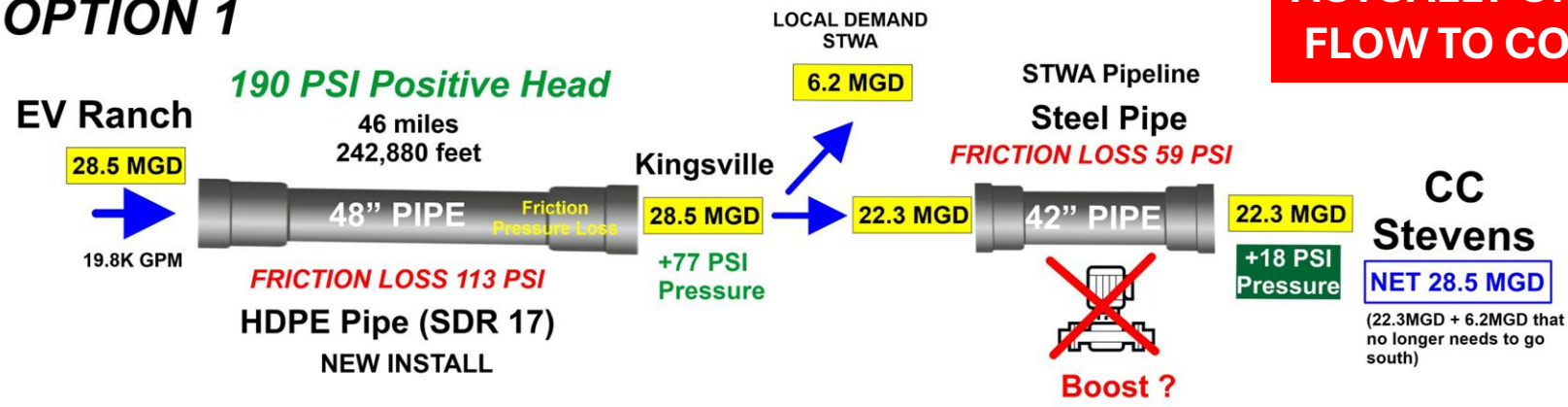
Elevation drop from EV to Kingsville allows for more economical HDPE pipe with lower pressure requirements.

PIPELINE DESIGN CONSIDERATIONS

Pressure Calculations & Friction Loss

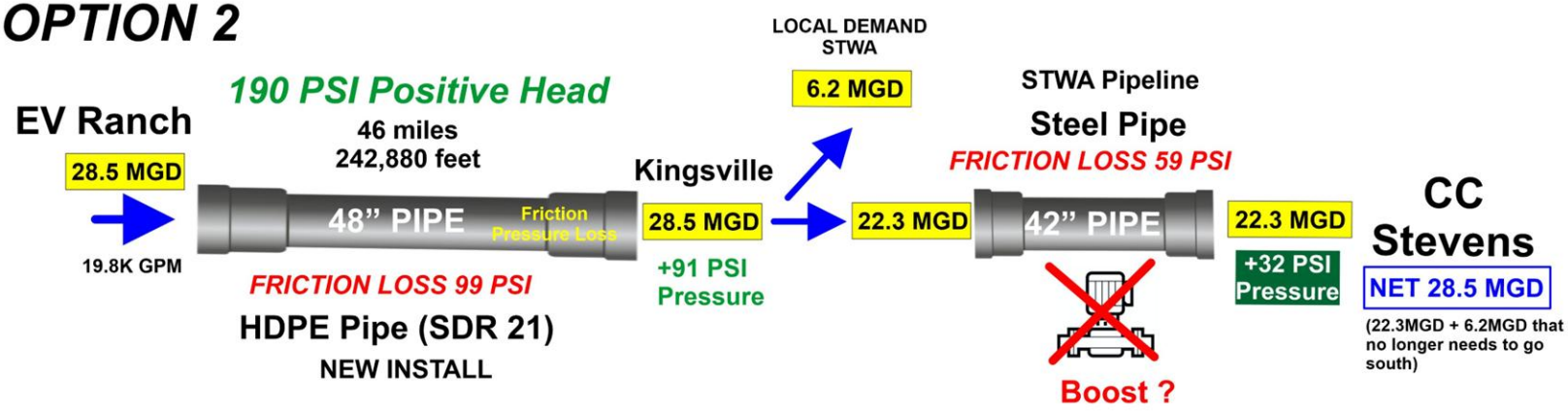
WATER WOULD ACTUALLY GRAVITY FLOW TO CORPUS

OPTION 1



SDR 17 (125 PSI): 48"OD = 42"ID = 175.1 lbs/ft @ $1.15lb = $201/ft Pipe Cost

OPTION 2



SDR 21 (100 PSI): 48"OD = 43.15"ID = 143.6 lbs/ft @ $1.15lb = $165/ft Pipe Cost

PIPELINE ROUTE CHARACTERISTICS

Setting:

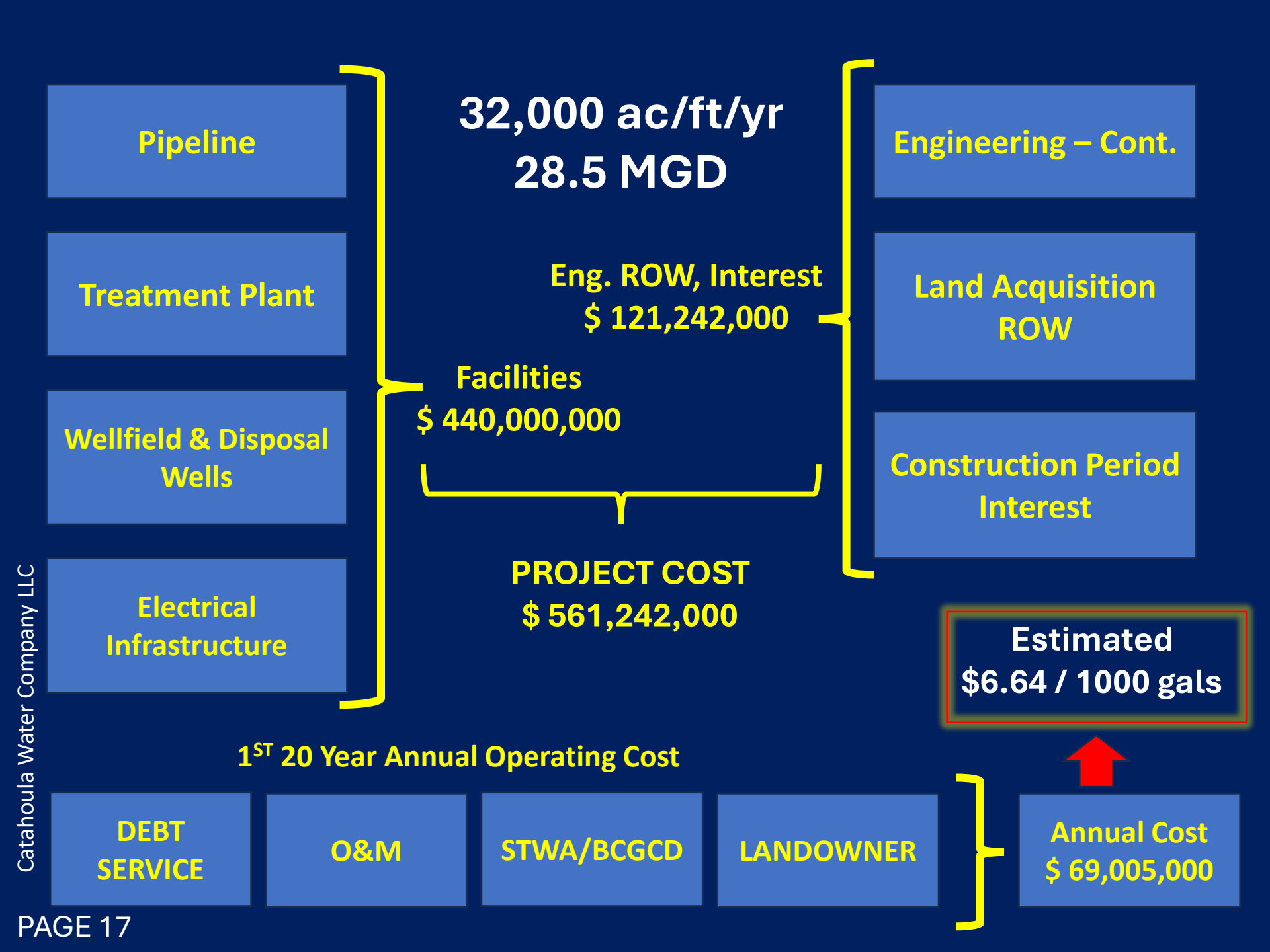
1. **Rural Brush Country**
2. **Loam & soft caliche**
3. **13 County Roads**
4. **1 FM Road**
5. **1 State Hwy**
6. **1 US Hwy 281**

No river, streams, or wetlands

ESTIMATED COST

(To be confirmed during feasibility study phase)

Using 2024 Uniform Costing Data from TWDB for Pipeline and Treatment Plant Cost


32,000 ac/ft/yr
28.5 MGD
Pipeline
Treatment Plant
Wellfield & Disposal Wells
Electrical Infrastructure
Facilities
$ 440,000,000
Eng. ROW, Interest
$ 121,242,000
Engineering – Cont.
Land Acquisition ROW
Construction Period Interest
PROJECT COST
$ 561,242,000
Estimated
$6.64 / 1000 gals
1ST 20 Year Annual Operating Cost
DEBT SERVICE
O&M
STWA/BCGCD
LANDOWNER
Annual Cost
$ 69,005,000
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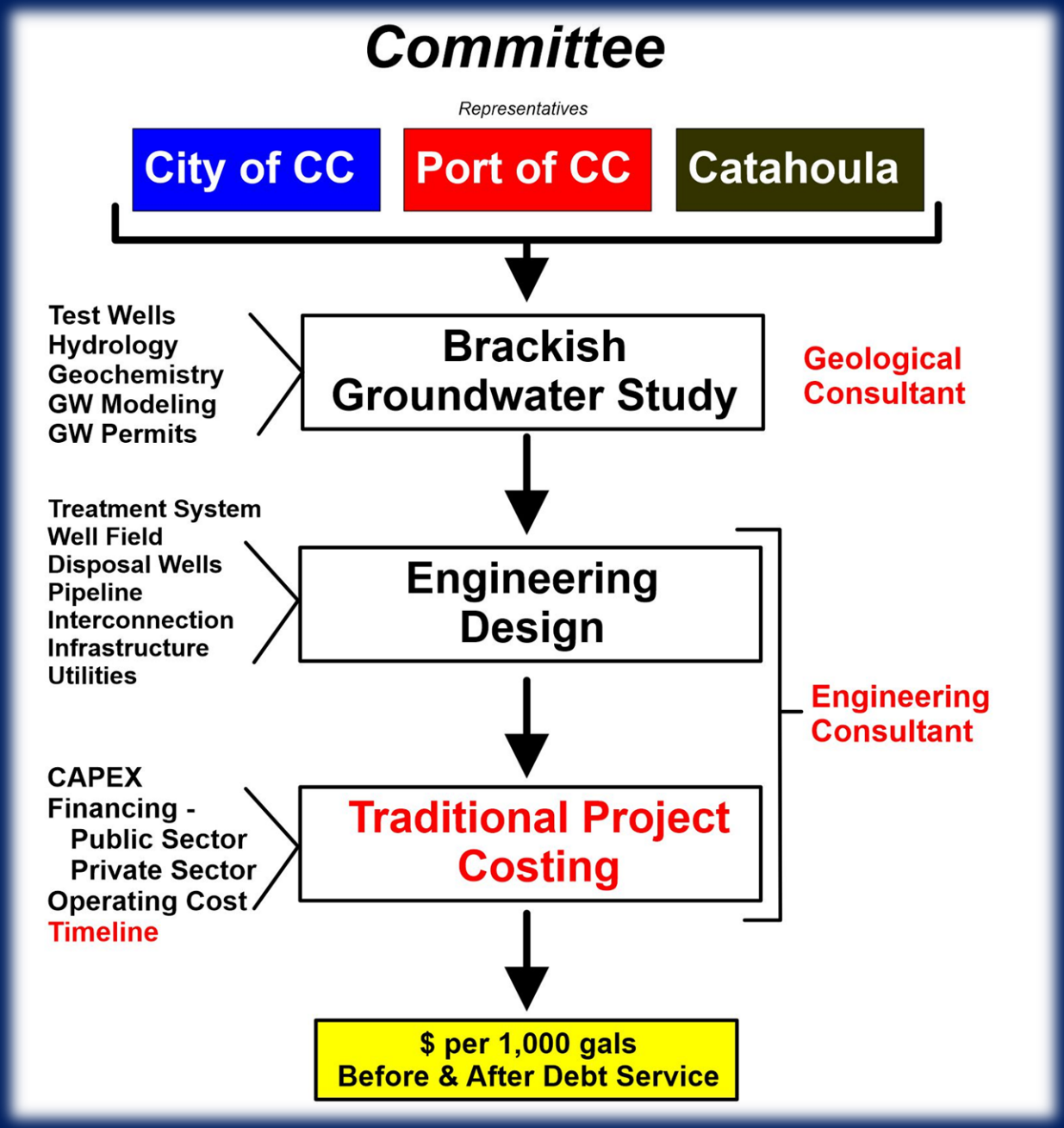
FEASIBILITY STUDY

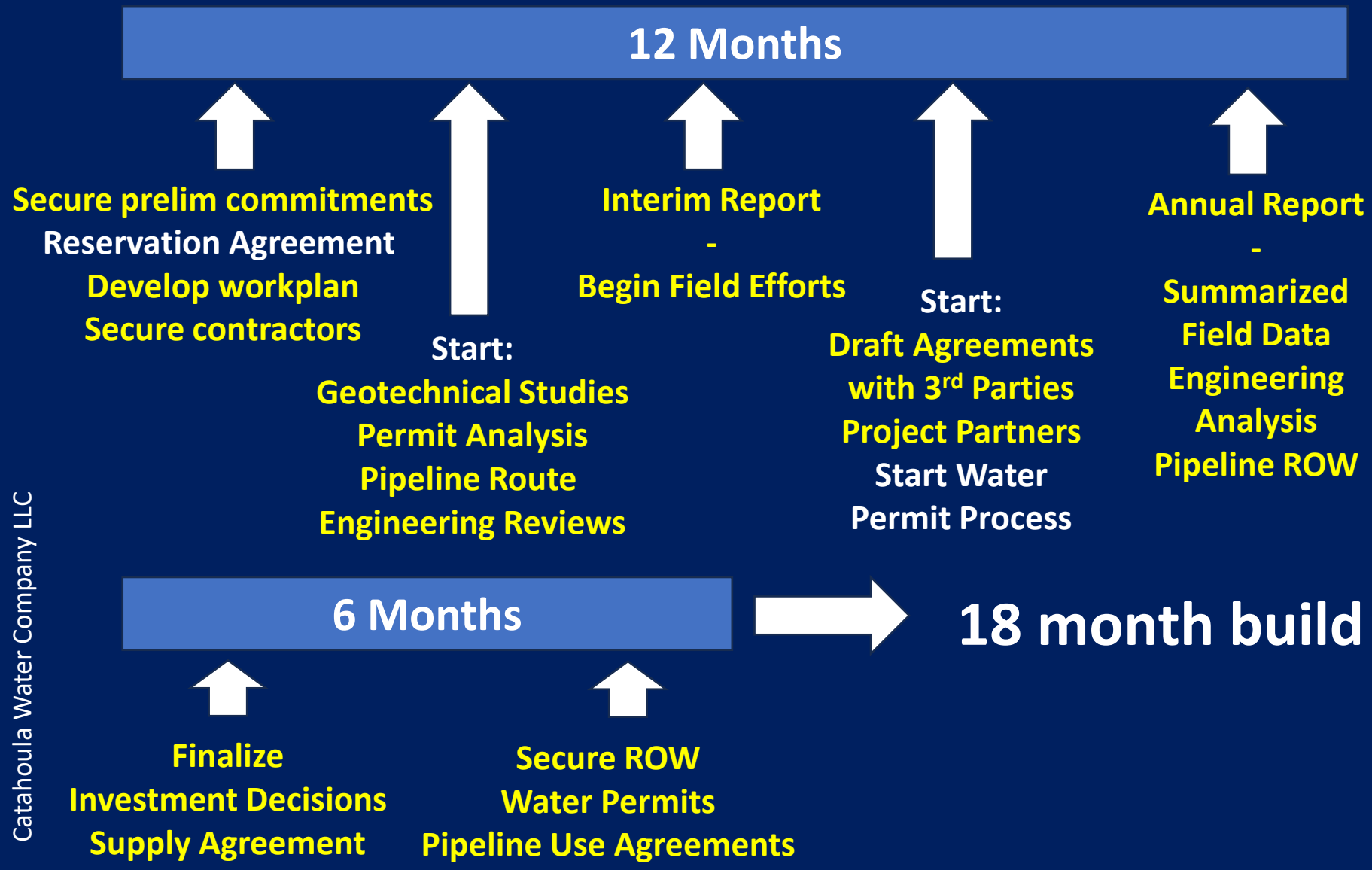


3 Person Committee Oversees Study Effort

Lead Engineering firm contracted to administer the research under the guidance of the committee.

Regular updates and progress reports to agencies

PROPOSED SCHEDULE



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