FOLSOM WATER VISION WORKSHOP #3

Water Supply Alternatives

CITY OF FOLSOM
DISTINCTIVE BY NATURE

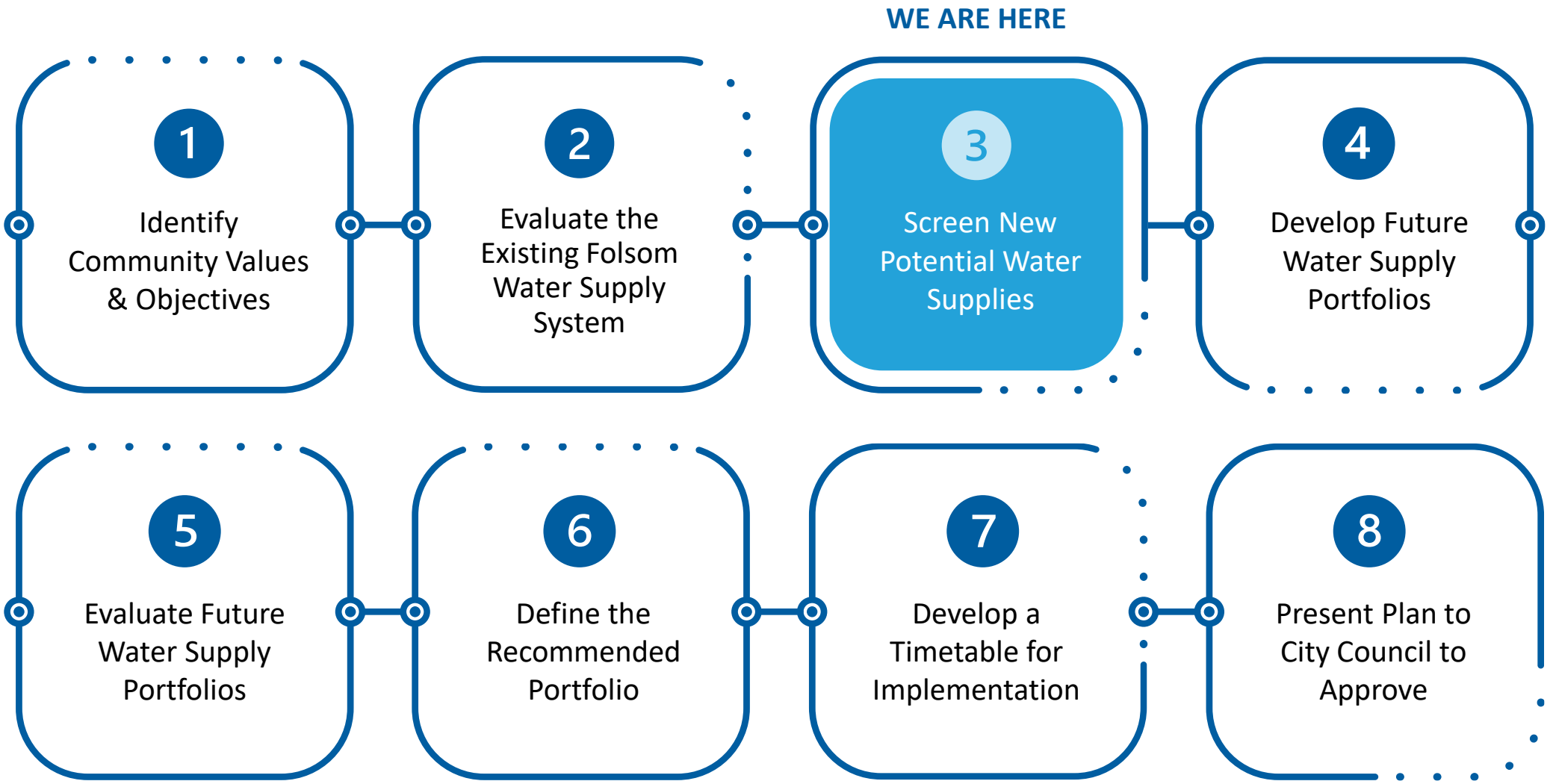
JULY 16, 2024 | 6:30 – 8:30PM

WSC

Agenda

1. **Workshop Introduction**
2. **Developing Supply Alternatives**
3. **Screening Supply Alternatives**
4. **Next Steps**

Our Progress



Meeting Goal:

Select water supply alternatives to include in future supply portfolios.

We'll provide you key information to select preferred projects

Our Task:

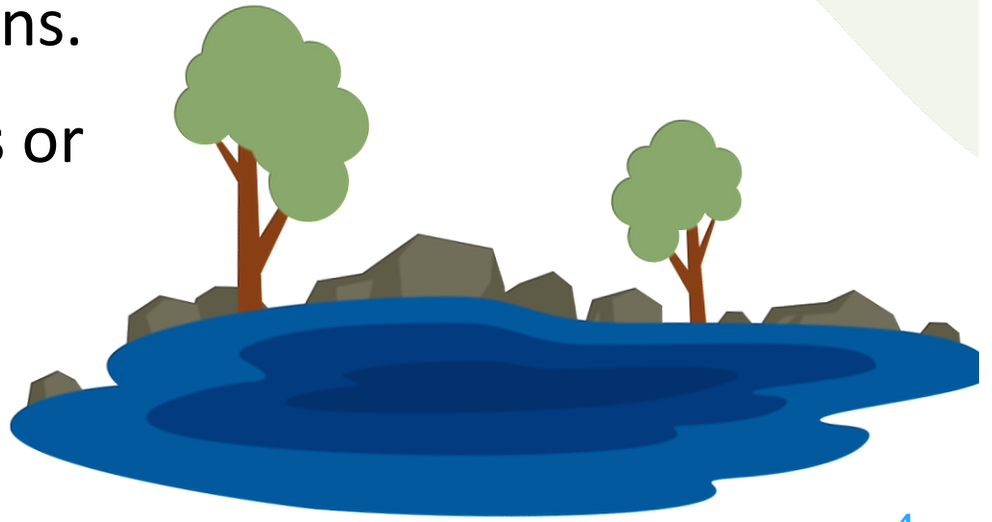
Share **recommended** project alternatives.

Explain why some projects are **not recommended**.

Your Task:

Provide **input** on recommendations.

Share **questions** or **concerns**.



Developing Supply Alternatives

Updated Planning Objectives

Community Water Values

- High-quality water
- Affordable water
- Trust in water supply
- Reliable water supply
- Resilient water supply
- Efficient water use

Desired Outcomes

- Build consensus around an affordable, reliable, and resilient water supply portfolio that provides high-quality drinking water for the City of Folsom.
- Develop an adaptable plan to implement for the selected water supply portfolio.
- Build trust in the City's water supply.

Process Goals

- Evaluate current and future water supply sources and infrastructure using metrics that consider the community values articulated in the Folsom Water Vision process.
- Manage water supply portfolio costs that minimize impacts to water rates.
- Conduct a transparent planning process through thoughtful stakeholder outreach, engagement, and education.

Workshop 2 Recap

Climate Predications & Folsom Reservoir

- City has sufficient water rights to meet buildout demand.
- Top risk to water supply is low lake levels.

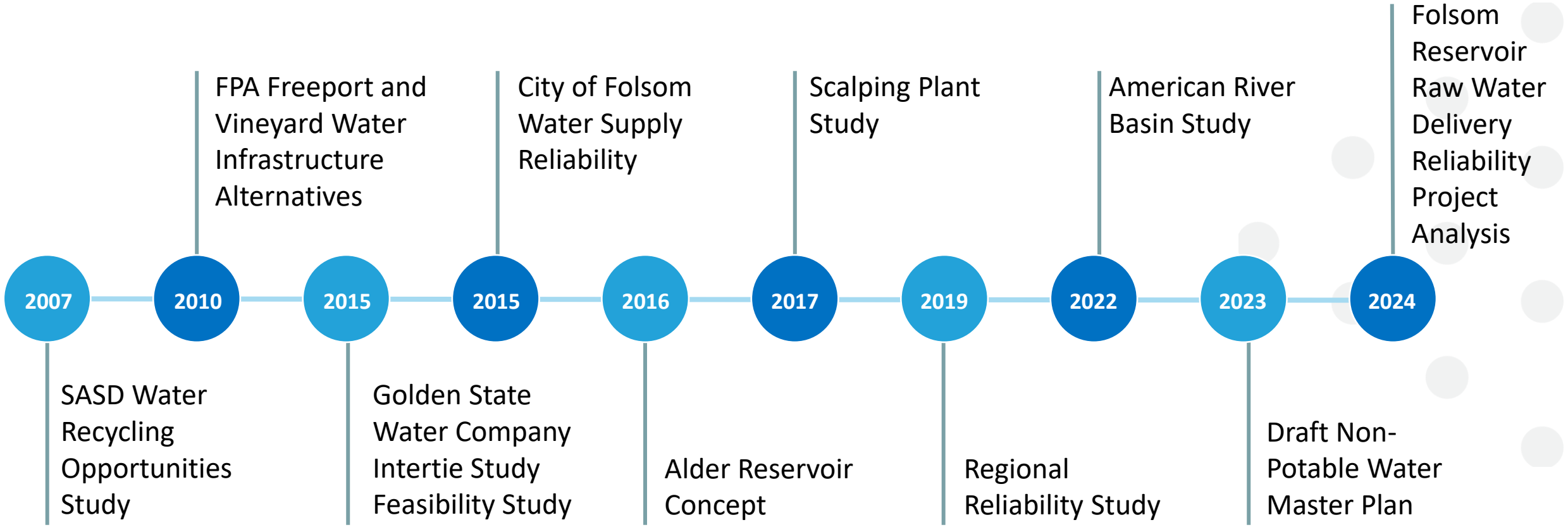
Folsom's Water Infrastructure

- City has reliable water supply infrastructure with a few exceptions.
- Vulnerabilities include raw water pipeline & water treatment plant (WTP) pipelines.

Potential Supply Alternatives

- City has multiple potential new sources of supply.
- Participants interested in exploring storage options, water exchanges, and cooperation with neighboring agencies.

Previous Planning Studies



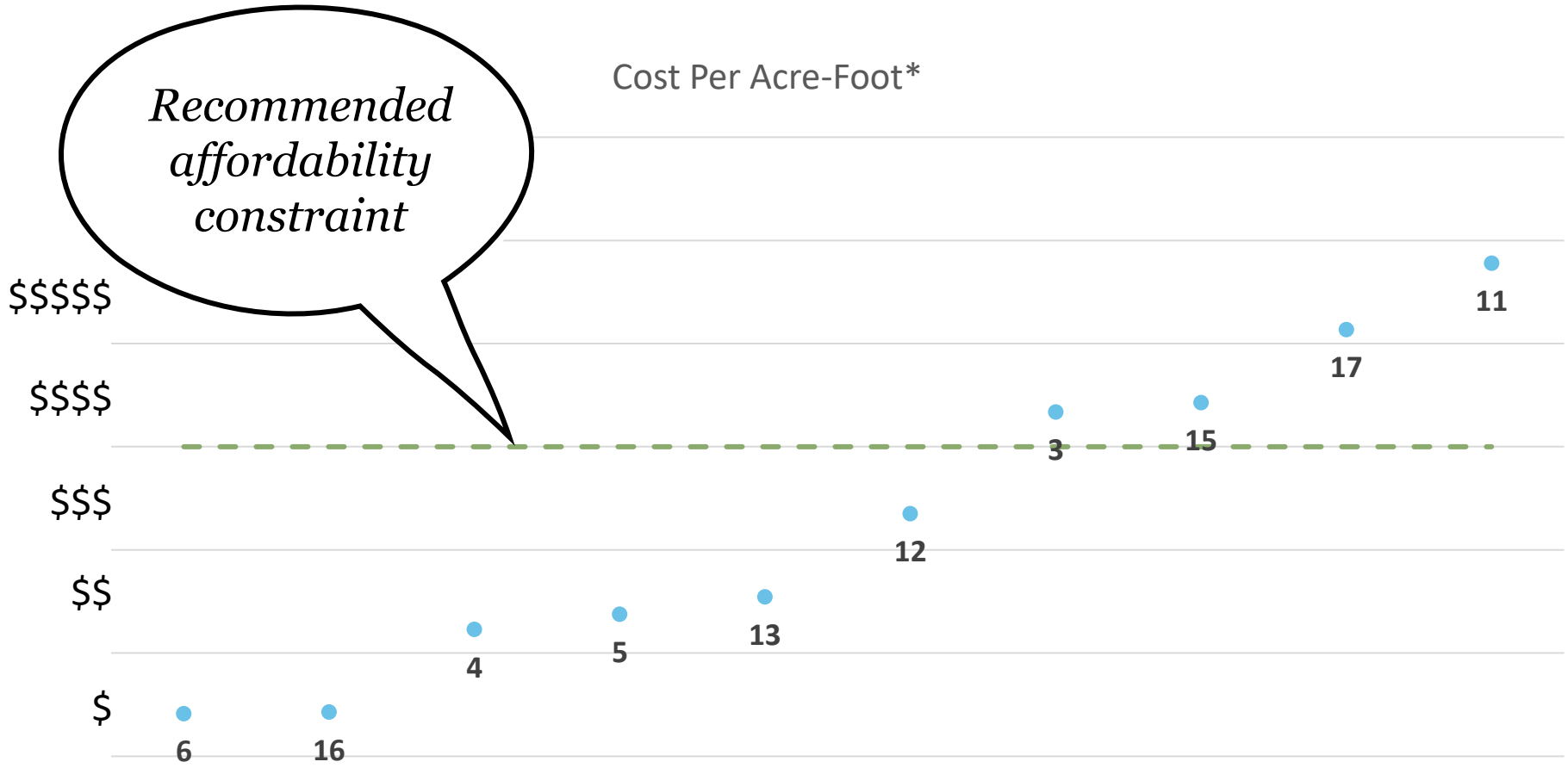
Screening Supply Alternatives

Alternative Screening Process

*"Build consensus around an **affordable**, **reliable**, and **resilient** water supply portfolio that provides high-quality water for the City of Folsom."*

- **Affordable** = The ability of the City and its customers to bear the cost without undue financial strain.
- **Reliable** = The ability of the water system to consistently provide water during droughts and changes in climate.
- **Resilient** = The ability of the water system to handle catastrophic events and major infrastructure failures.

Is the water supply affordable?

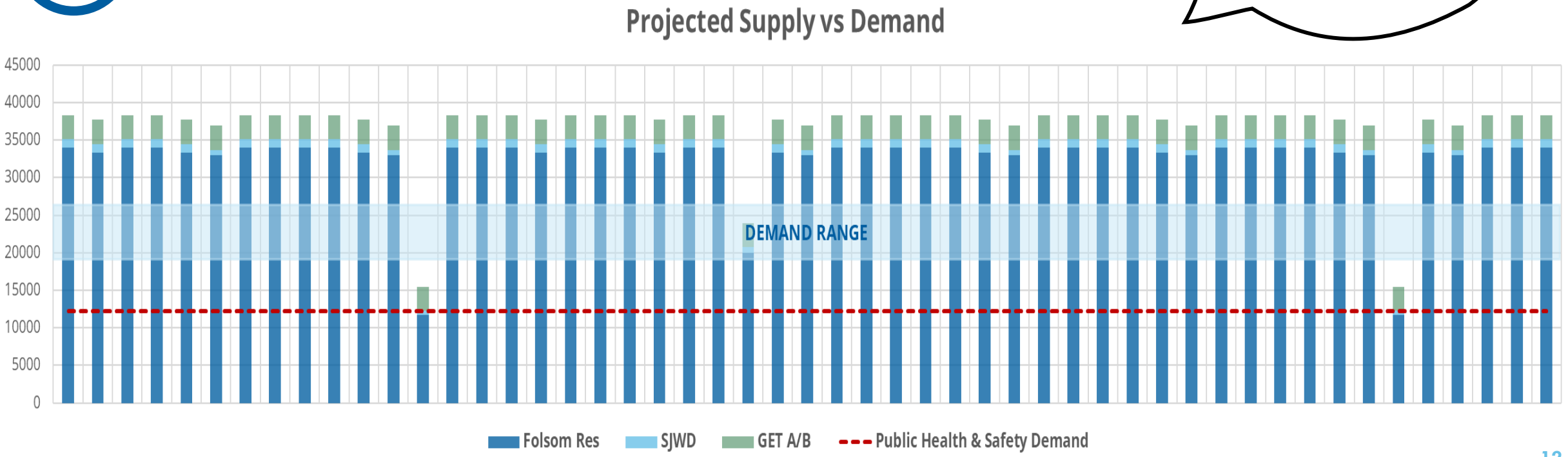


* *Based on annualized capital cost divided by estimated annual yield*

Does the alternative add supply during Driest Water Years?

Driest Water Year expected 3 out of every 50 years

CENTRAL TENDENCY SCENARIO



Does the alternative add supply during an emergency?

WATER SUPPLY (FOLSOM LAKE)

Single source
Very stable water quality - two potential risks:

- *Forest Fires*
- *Lake Turn Over (big storm when lake is low)*

WATER TREATMENT PLANT

Nearing complete treatment redundancy at WTP. Complete redundancy will be considered in portfolios through:

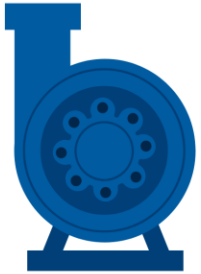
- *Adding Filter Capacity*
- *Providing redundancy for select pipelines within and immediately downstream of the WTP*
- *Standby generator capacity available for full WTP operations without Utility Power*

RAW WATER PIPELINE

- Single pipeline from Dam to WTP.
- Immediate water emergency if it failed, especially during summer (peak demands)
- Redundancy for pipelines will be considered in portfolios

STORAGE TANKS

- Storage provided by pressure zone and higher pressure zones back up lower zones. No tank stores more than 12% of the City's total storage. 12 total tanks in the system.



TRANSMISSION MAINS AND PUMP STATIONS

- All pump stations have redundant pump and standby power provisions.
- Transmissions mains can be isolated and fed around in break scenario

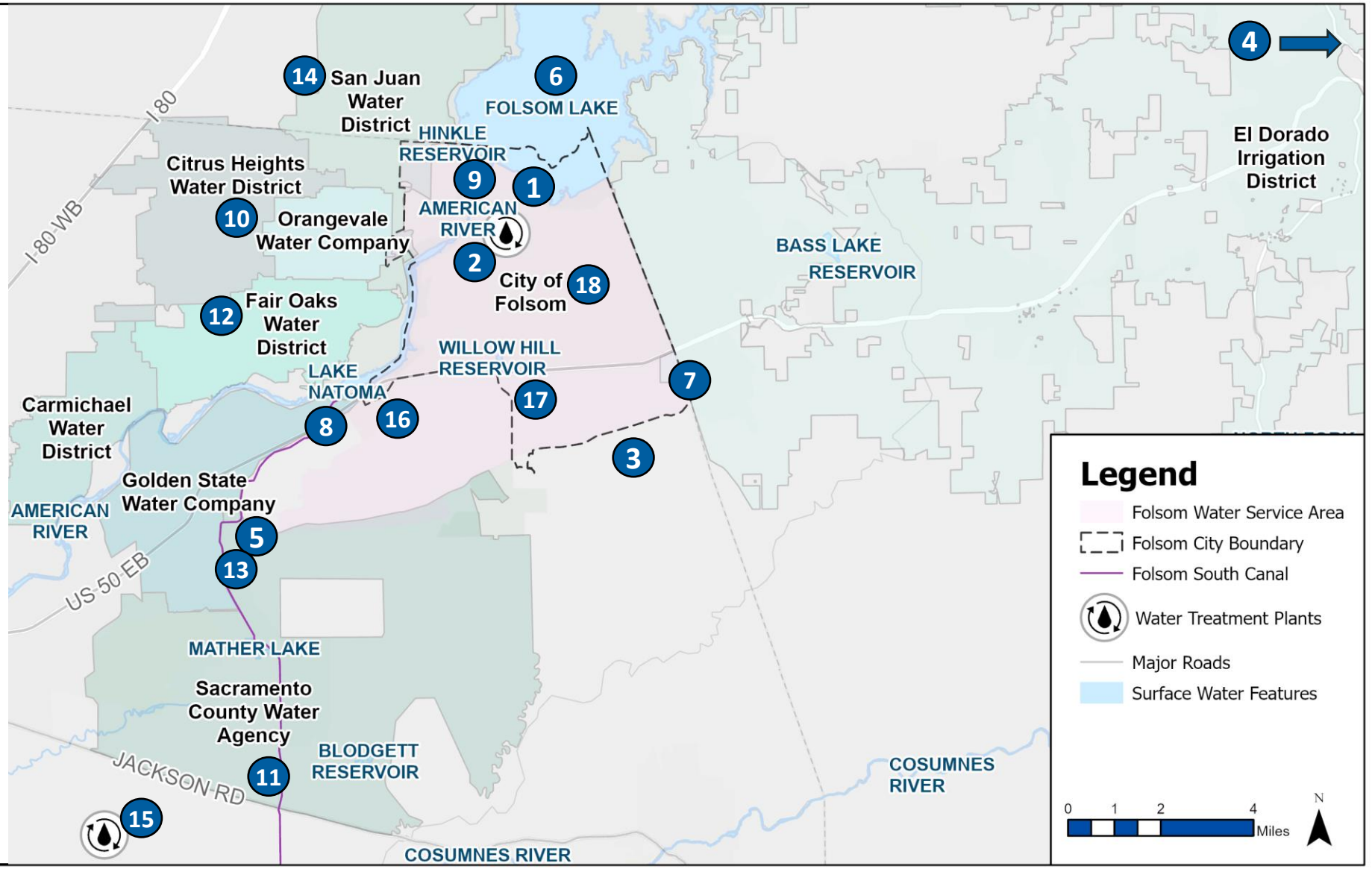
Share Your Feedback

Comment Cards:

- Use your comment card to indicate if you are supportive of each recommendation.
- Give the City feedback or ask us questions.

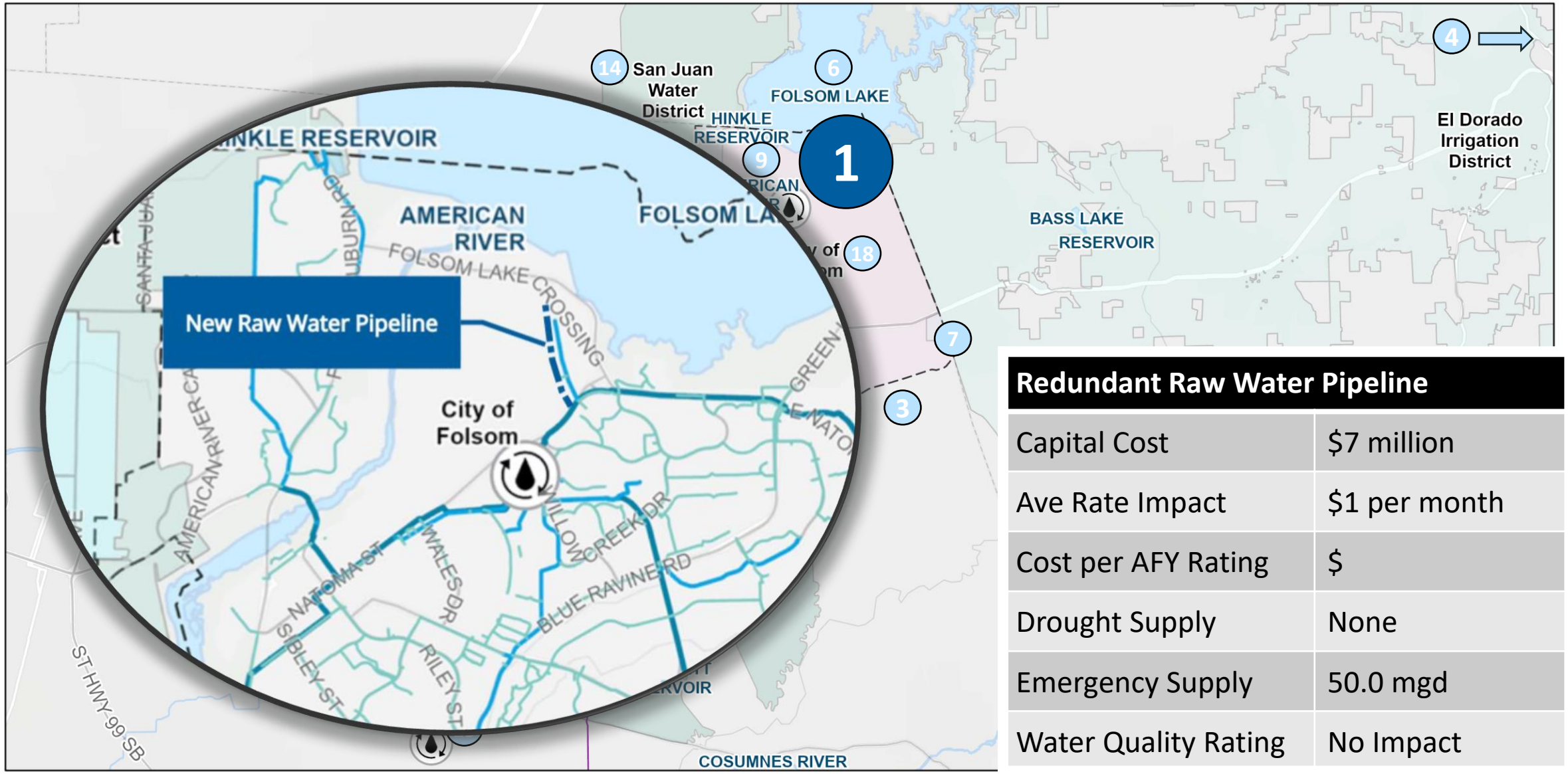
Supply Alternatives

1	Redundant Raw Water Pipeline
2	Redundant Water Treatment Plant Pipelines
3	Raw Water Storage
4	Alder Reservoir
5	Folsom South Canal Diversion
6	USBR Raw Water Supply
7	El Dorado Irrigation District
8	Golden State Water Company
9	San Juan Water District or Partnering Agencies
10	Other interties with neighboring agencies (Citrus Heights Water District, Orangevale Water Company, Carmichael Water District)
11	South County Groundwater Supply
12	North County Groundwater Supply
13	South County Groundwater through SMUD Swap
14	North County Groundwater through SJWD Swap
15	Vineyard WTP in Elk Grove (Freeport intake) (SCWA)
16	Remediated Groundwater for Nonpotable Use
17	Sewer Scalping Plant for Nonpotable Reuse
18	Conservation



Supply Alternatives

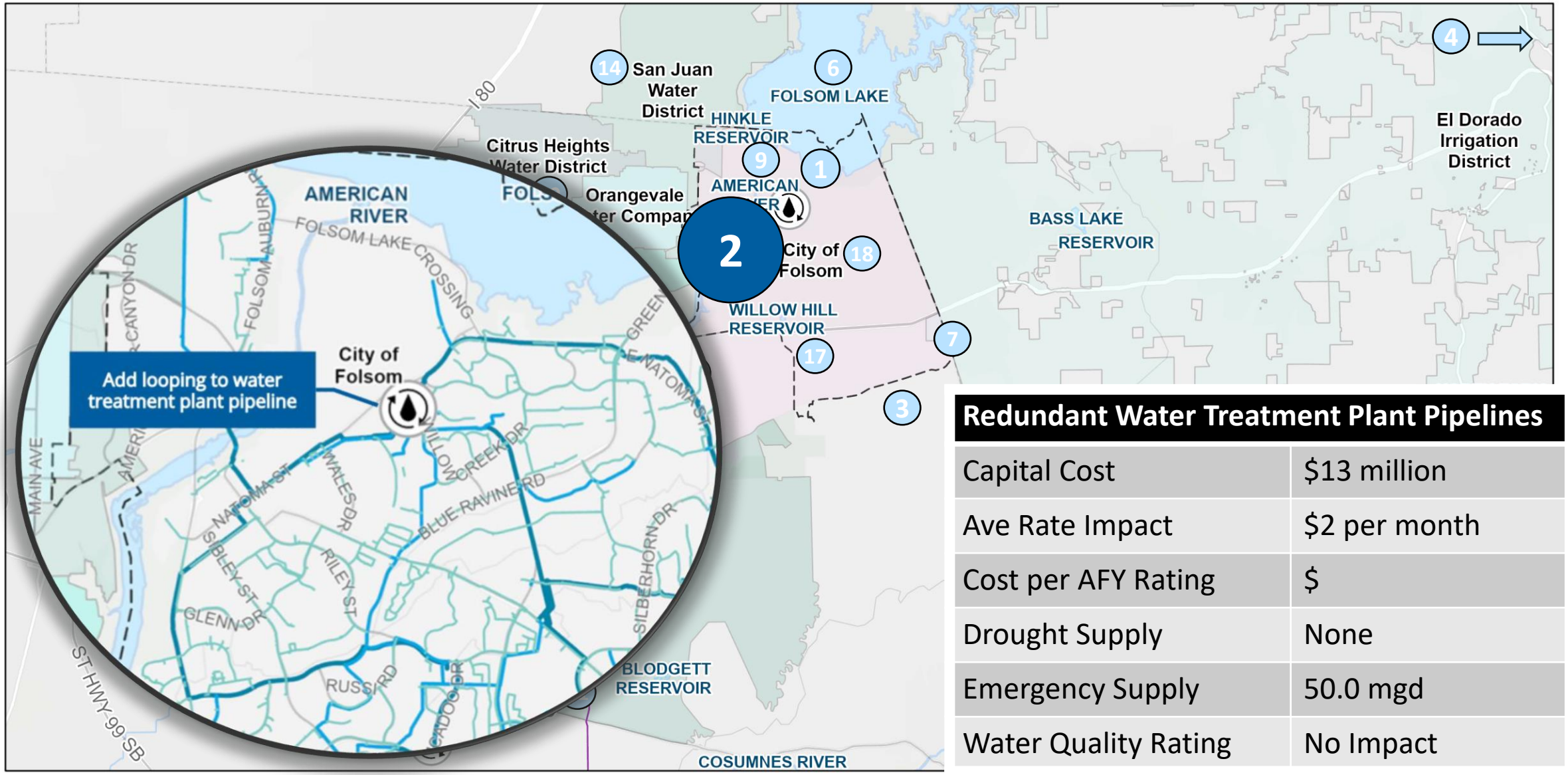
Average rate impact estimates are based on capital costs and do not include operations and maintenance costs.



Redundant Raw Water Pipeline	
Capital Cost	$7 million
Ave Rate Impact	$1 per month
Cost per AFY Rating	$
Drought Supply	None
Emergency Supply	50.0 mgd
Water Quality Rating	No Impact

Supply Alternatives

Average rate impact estimates are based on capital costs and do not include operations and maintenance costs.

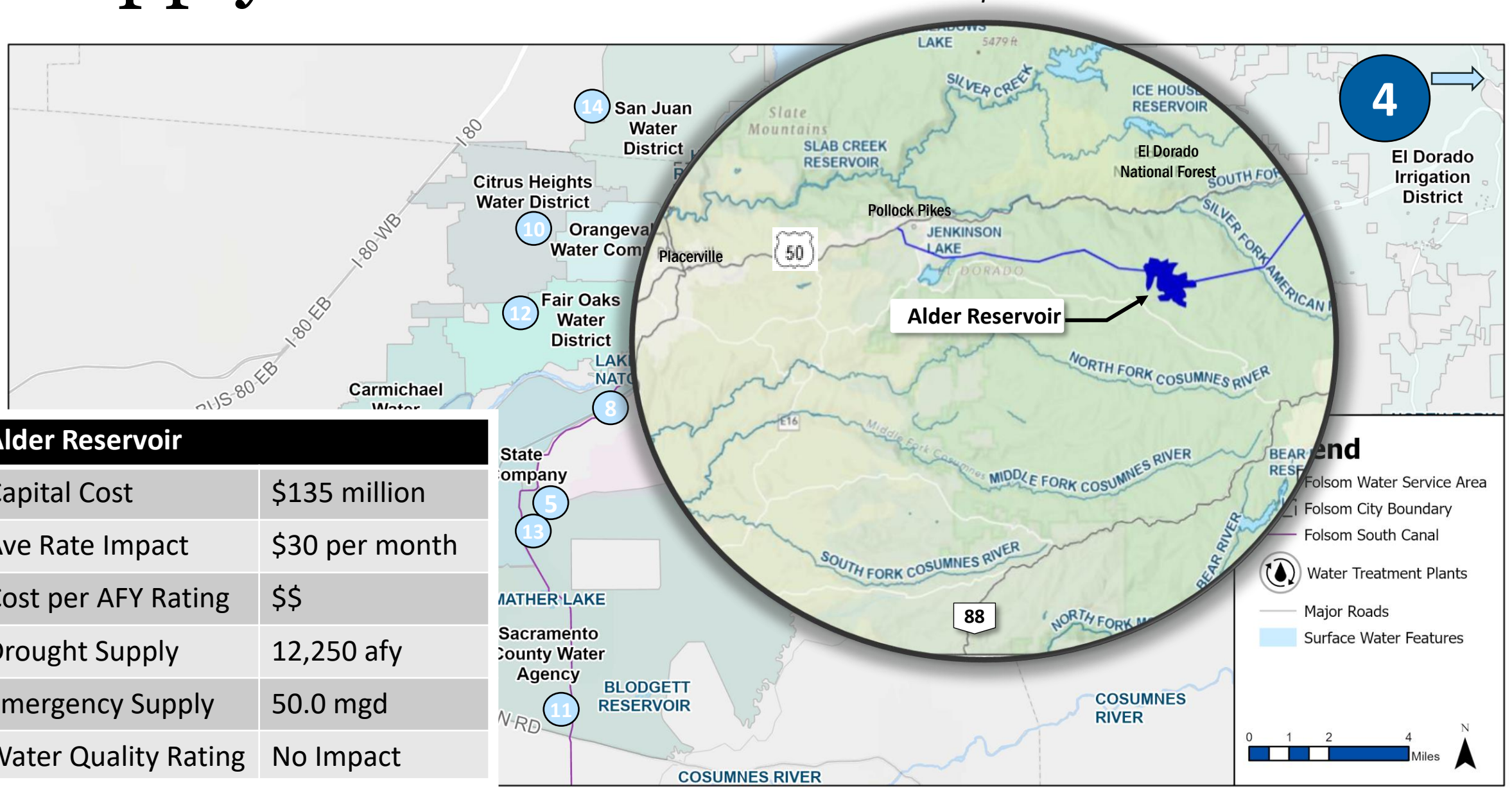


Redundant Water Treatment Plant Pipelines	
Capital Cost	$13 million
Ave Rate Impact	$2 per month
Cost per AFY Rating	$
Drought Supply	None
Emergency Supply	50.0 mgd
Water Quality Rating	No Impact

Supply Alternatives

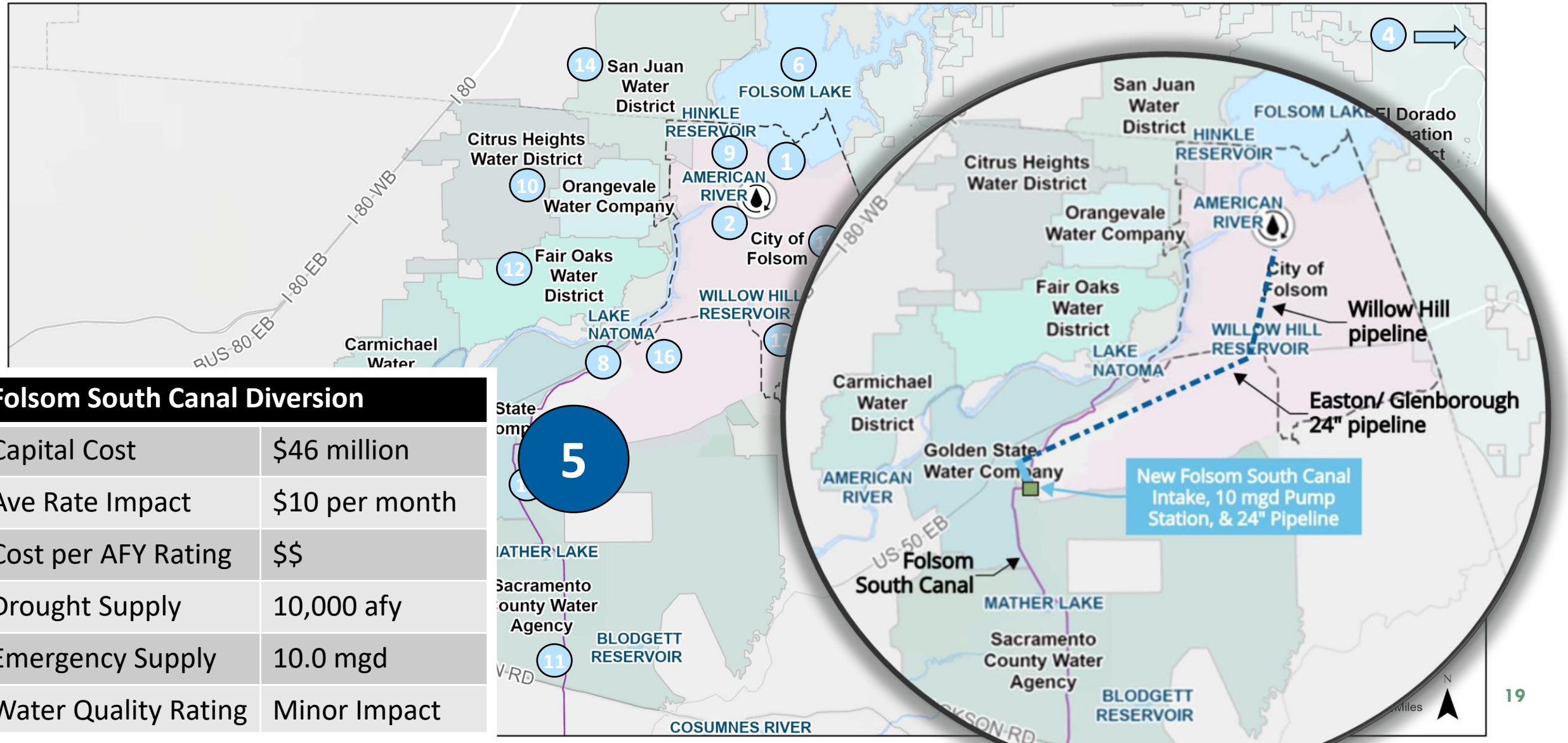
Average rate impact estimates are based on capital costs and do not include operations and maintenance costs.

Alder Reservoir	
Capital Cost	$135 million
Ave Rate Impact	$30 per month
Cost per AFY Rating	$$
Drought Supply	12,250 afy
Emergency Supply	50.0 mgd
Water Quality Rating	No Impact



Supply Alternatives

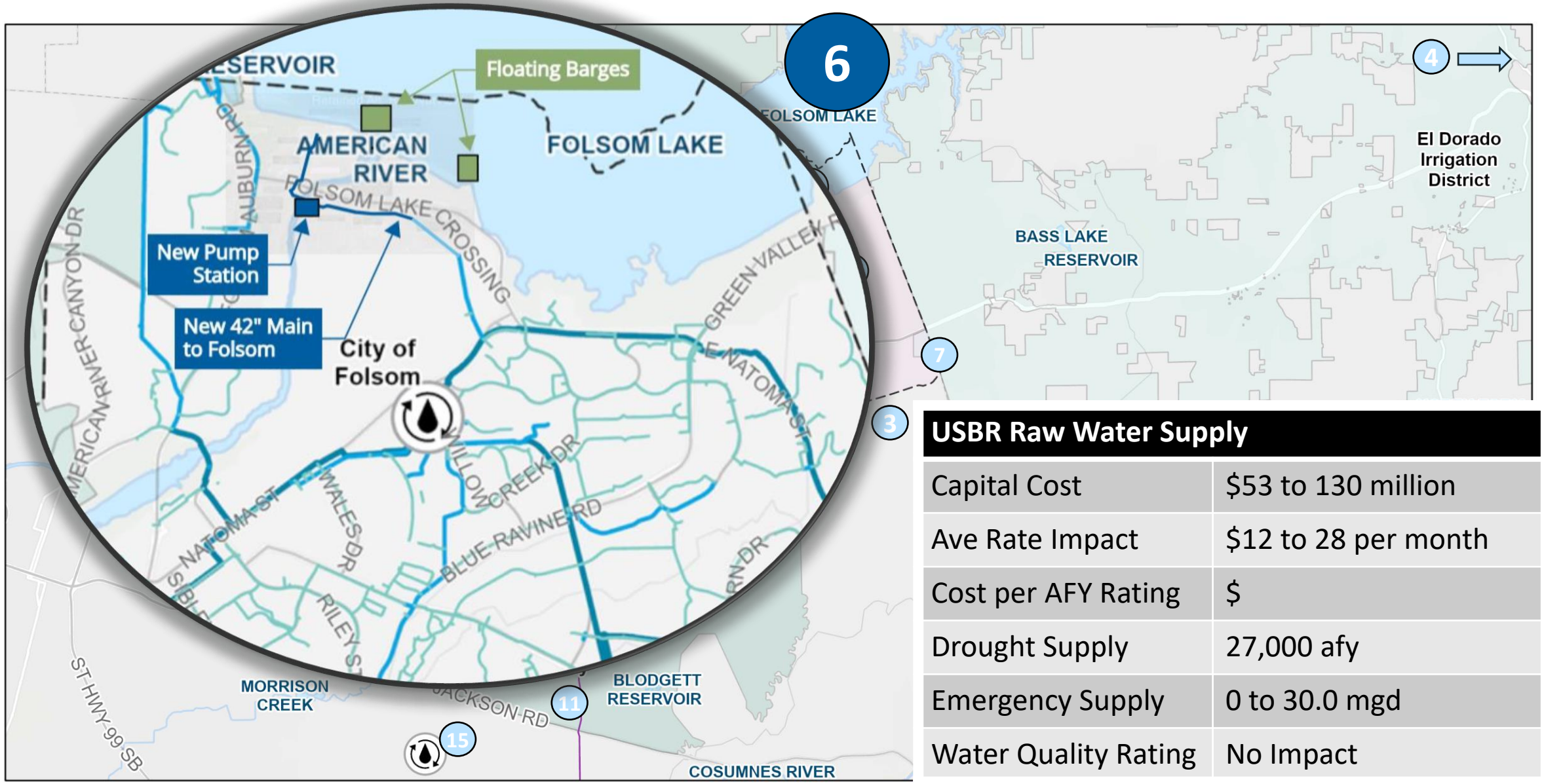
Average rate impact estimates are based on capital costs and do not include operations and maintenance costs.



Folsom South Canal Diversion	
Capital Cost	$46 million
Ave Rate Impact	$10 per month
Cost per AFY Rating	$$
Drought Supply	10,000 afy
Emergency Supply	10.0 mgd
Water Quality Rating	Minor Impact

Supply Alternatives

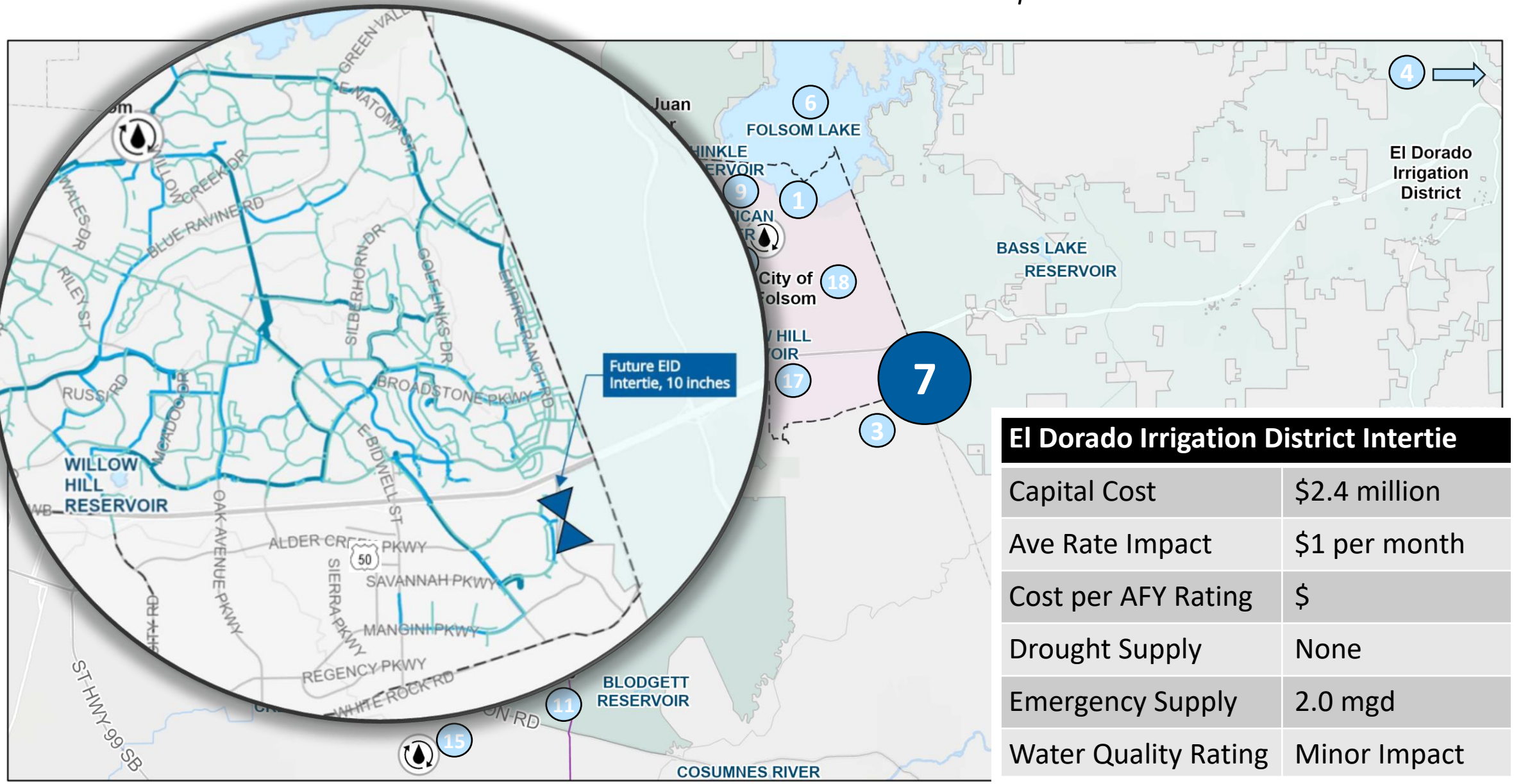
Average rate impact estimates are based on capital costs and do not include operations and maintenance costs.



USBR Raw Water Supply	
Capital Cost	$53 to 130 million
Ave Rate Impact	$12 to 28 per month
Cost per AFY Rating	$
Drought Supply	27,000 afy
Emergency Supply	0 to 30.0 mgd
Water Quality Rating	No Impact

Supply Alternatives

Average rate impact estimates are based on capital costs and do not include operations and maintenance costs.

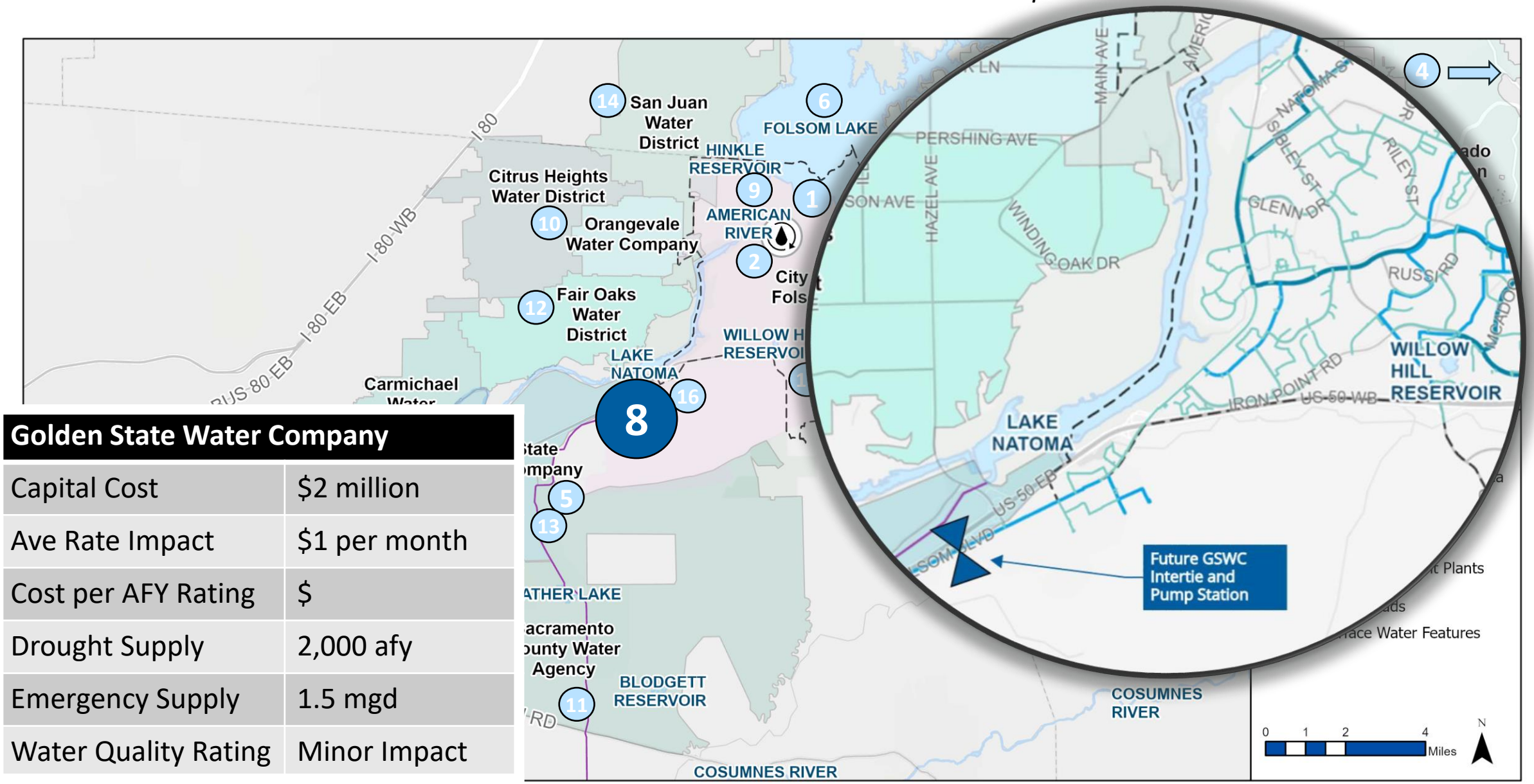


El Dorado Irrigation District Intertie	
Capital Cost	$2.4 million
Ave Rate Impact	$1 per month
Cost per AFY Rating	$
Drought Supply	None
Emergency Supply	2.0 mgd
Water Quality Rating	Minor Impact

Supply Alternatives

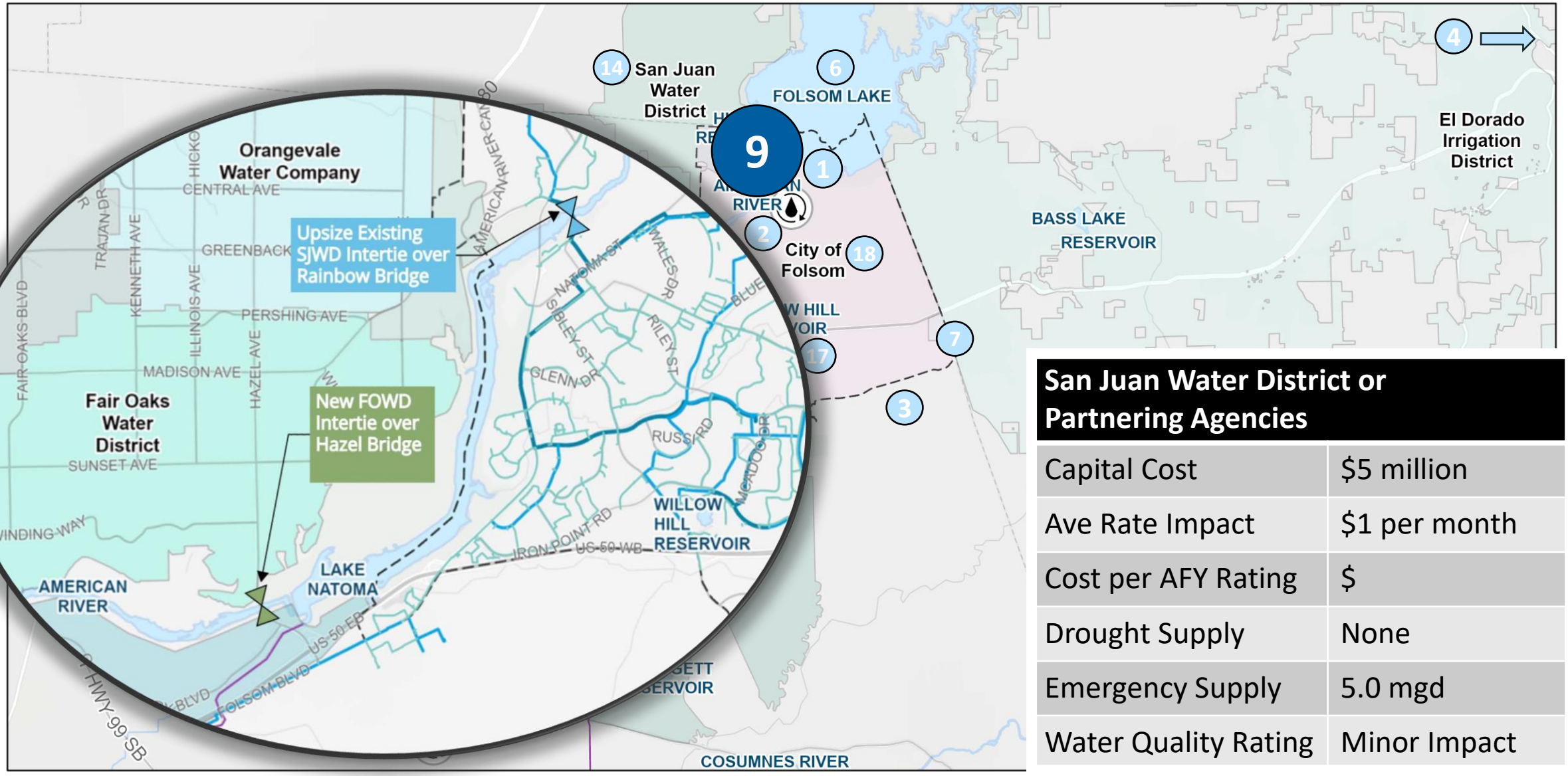
Average rate impact estimates are based on capital costs and do not include operations and maintenance costs.

Golden State Water Company	
Capital Cost	$2 million
Ave Rate Impact	$1 per month
Cost per AFY Rating	$
Drought Supply	2,000 afy
Emergency Supply	1.5 mgd
Water Quality Rating	Minor Impact



Supply Alternatives

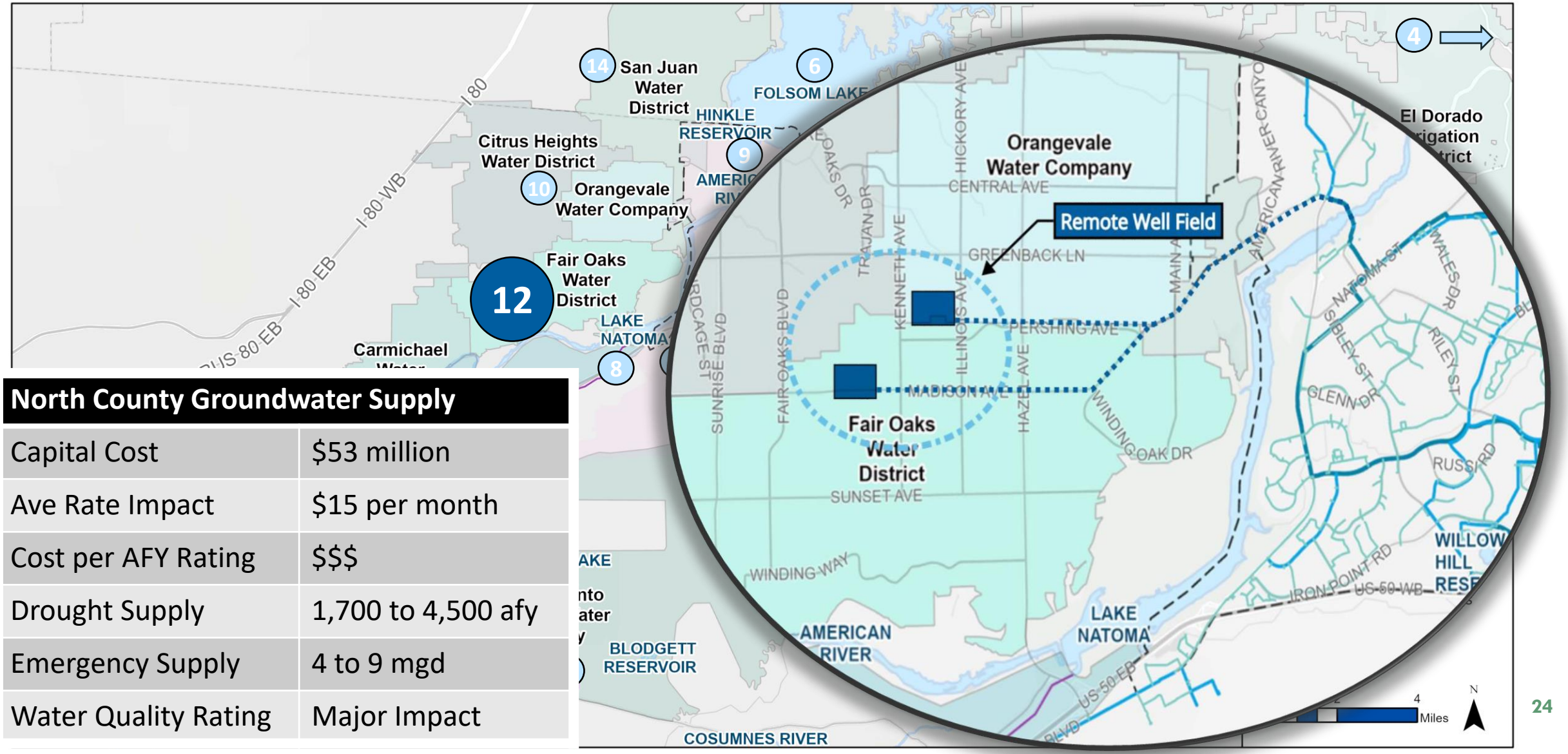
Average rate impact estimates are based on capital costs and do not include operations and maintenance costs.



San Juan Water District or Partnering Agencies	
Capital Cost	$5 million
Ave Rate Impact	$1 per month
Cost per AFY Rating	$
Drought Supply	None
Emergency Supply	5.0 mgd
Water Quality Rating	Minor Impact

Supply Alternatives

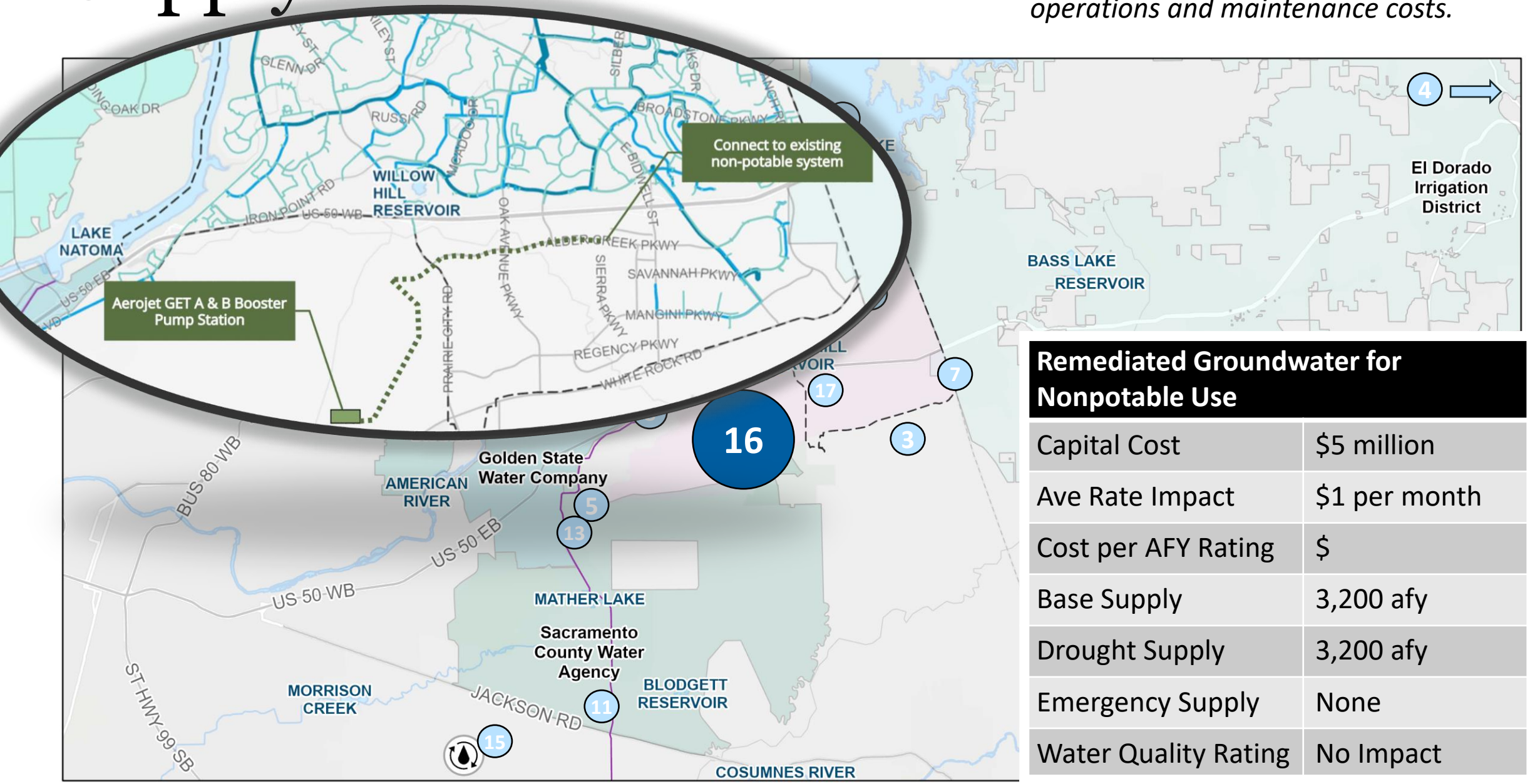
Average rate impact estimates are based on capital costs and do not include operations and maintenance costs.



North County Groundwater Supply	
Capital Cost	$53 million
Ave Rate Impact	$15 per month
Cost per AFY Rating	$$$
Drought Supply	1,700 to 4,500 afy
Emergency Supply	4 to 9 mgd
Water Quality Rating	Major Impact

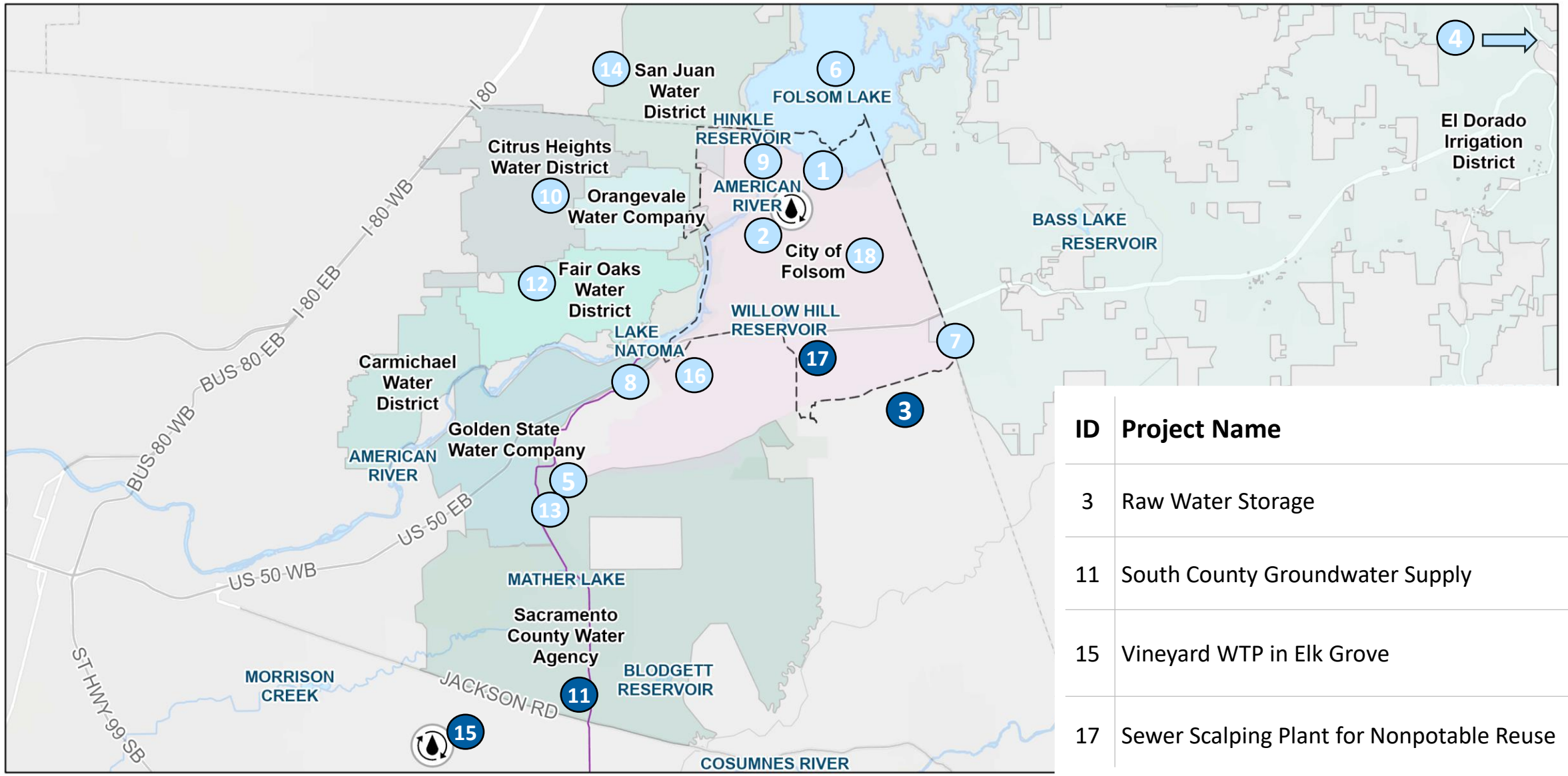
Supply Alternatives

Average rate impact estimates are based on capital costs and do not include operations and maintenance costs.



Remediated Groundwater for Nonpotable Use	
Capital Cost	$5 million
Ave Rate Impact	$1 per month
Cost per AFY Rating	$
Base Supply	3,200 afy
Drought Supply	3,200 afy
Emergency Supply	None
Water Quality Rating	No Impact

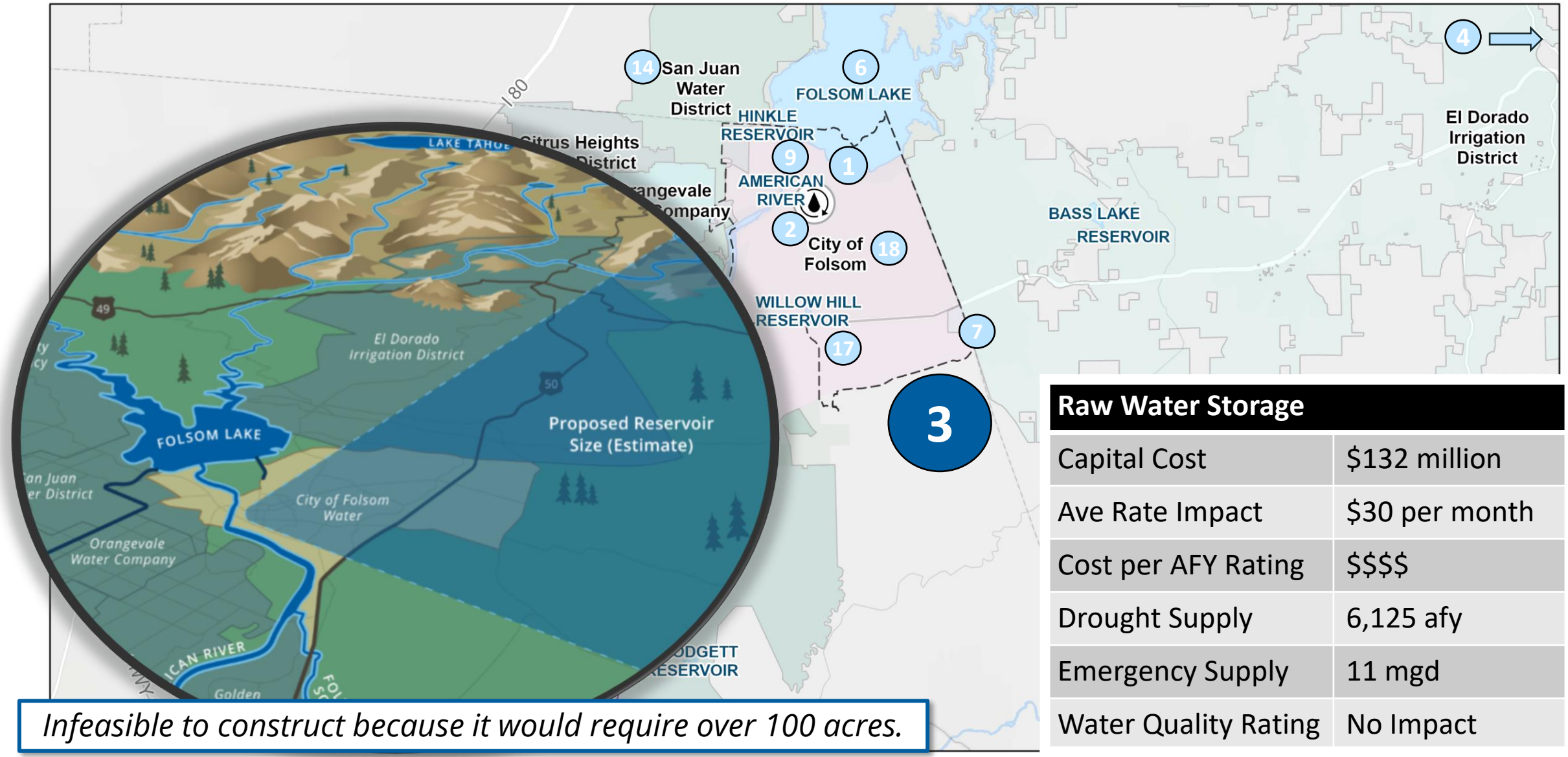
Alternatives Screened Out for Affordability



ID	Project Name
3	Raw Water Storage
11	South County Groundwater Supply
15	Vineyard WTP in Elk Grove
17	Sewer Scalping Plant for Nonpotable Reuse

Alternatives Screened Out for Affordability

Average rate impact estimates are based on capital costs and do not include operations and maintenance costs.

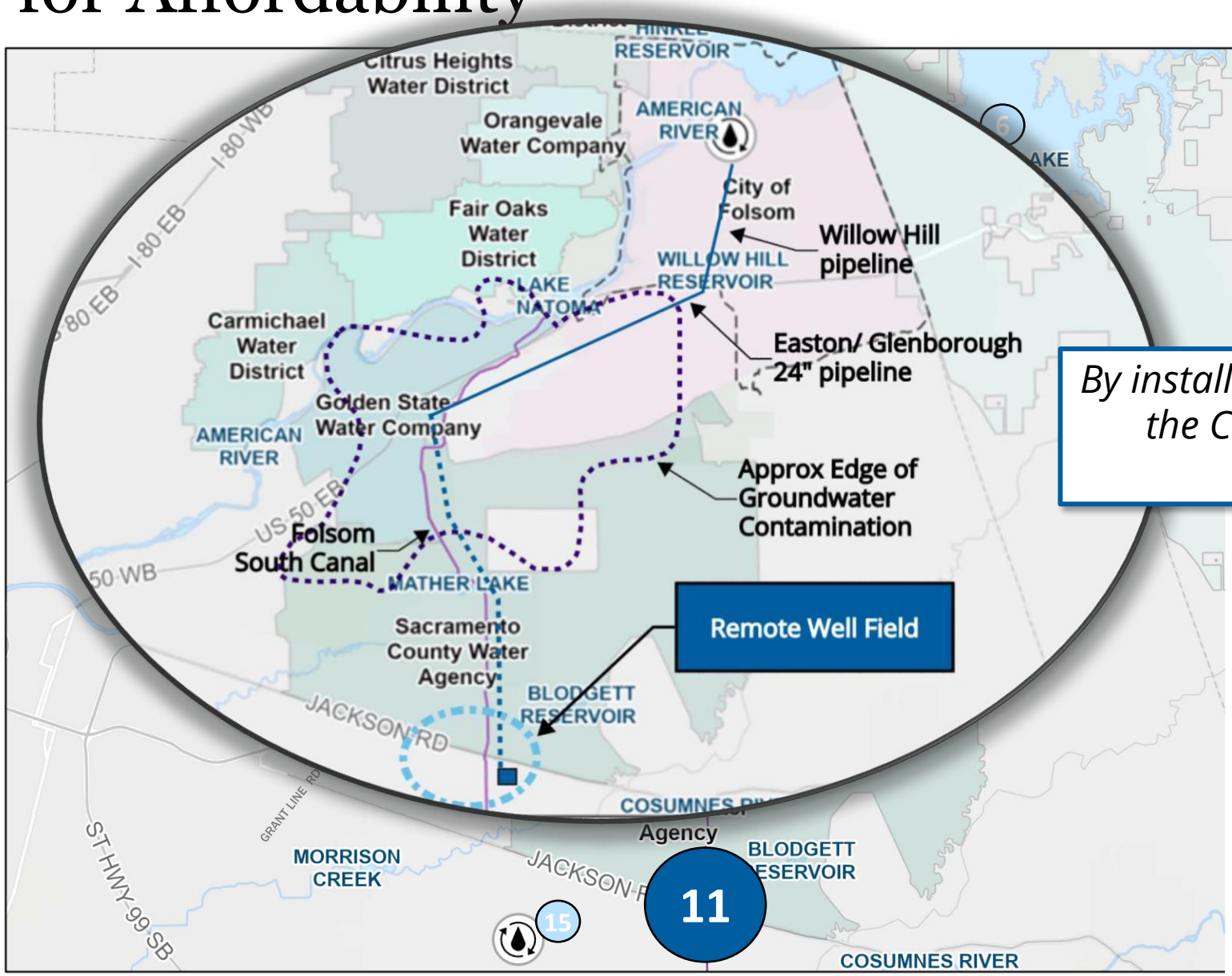


Raw Water Storage	
Capital Cost	$132 million
Ave Rate Impact	$30 per month
Cost per AFY Rating	$$$$
Drought Supply	6,125 afy
Emergency Supply	11 mgd
Water Quality Rating	No Impact

Infeasible to construct because it would require over 100 acres.

Alternatives Screened Out for Affordability

Average rate impact estimates are based on capital costs and do not include operations and maintenance costs.



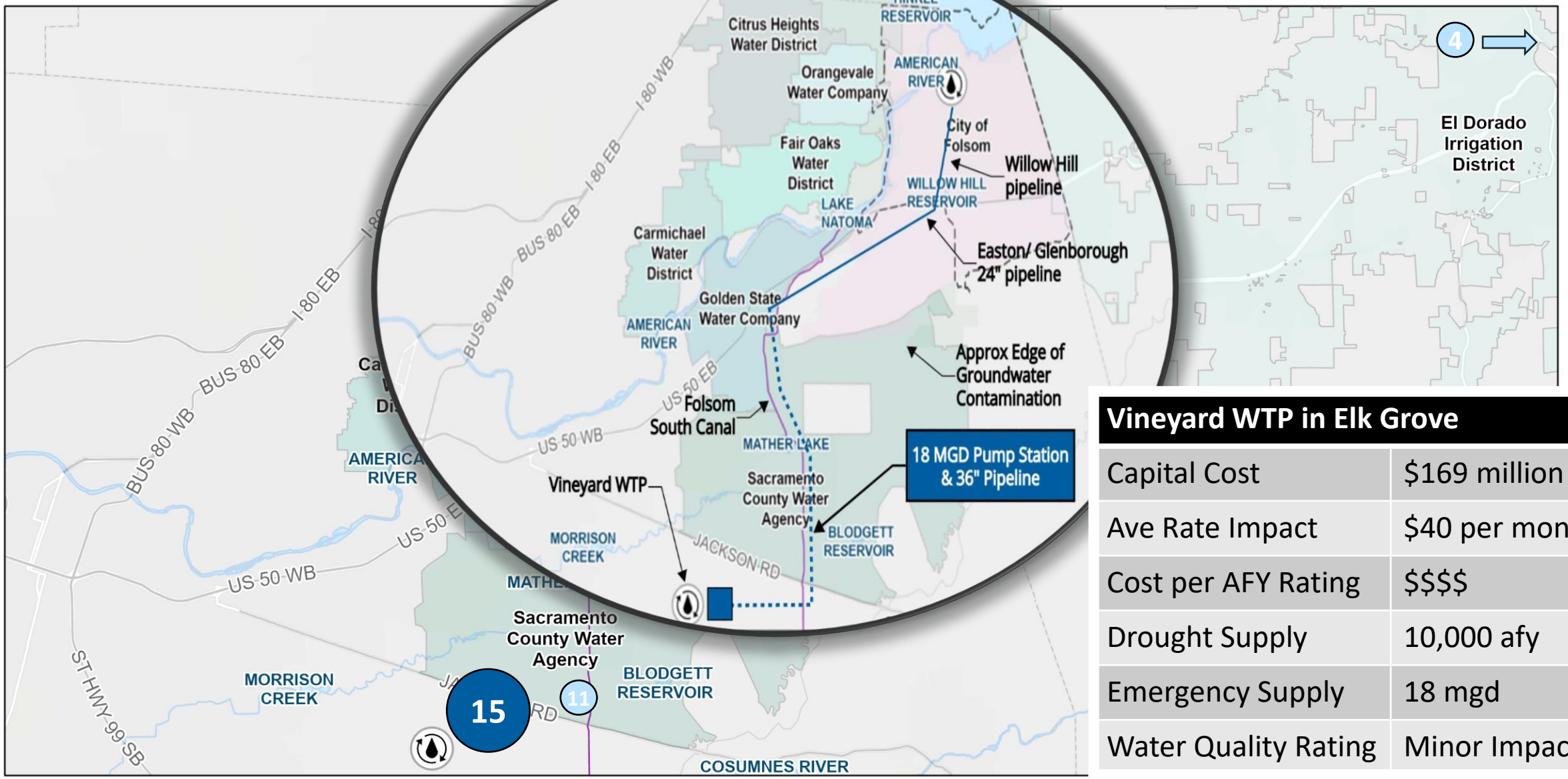
Need your input on this project

By installing ASR wells, the well field would allow the City to participate in the Sacramento Regional Groundwater Bank.

South County Groundwater Supply	
Capital Cost	$127 million
Ave Rate Impact	$30 per month
Cost per AFY Rating	$$$$$
Drought Supply	3,000 to 10,000
Emergency Supply	6 to 12 mgd
Water Quality Rating	Major Impact

Alternatives Screened Out for Affordability

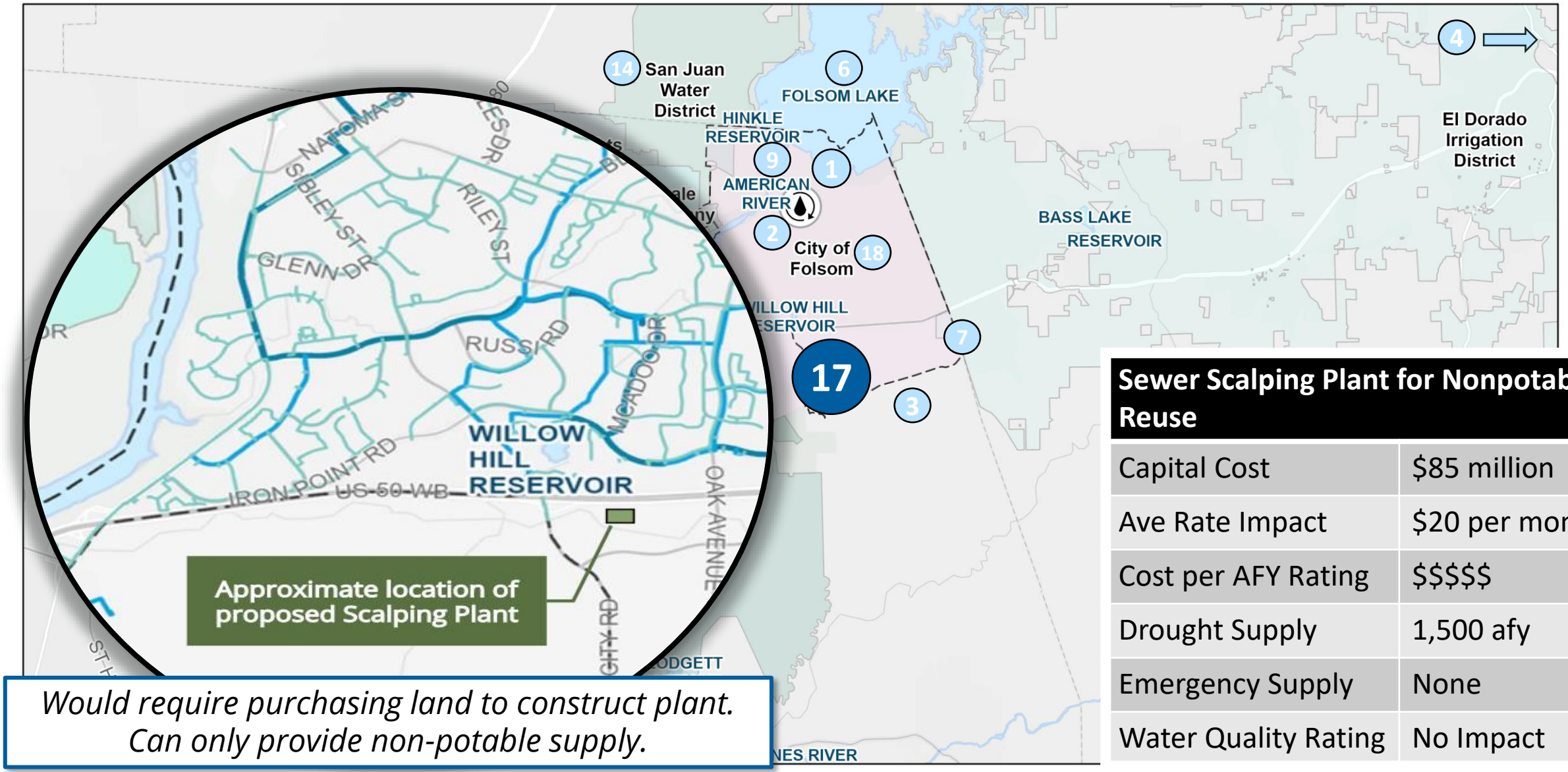
Average rate impact estimates are based on capital costs and do not include operations and maintenance costs.



Vineyard WTP in Elk Grove	
Capital Cost	$169 million
Ave Rate Impact	$40 per month
Cost per AFY Rating	$$$$
Drought Supply	10,000 afy
Emergency Supply	18 mgd
Water Quality Rating	Minor Impact

Alternatives Screened Out for Affordability

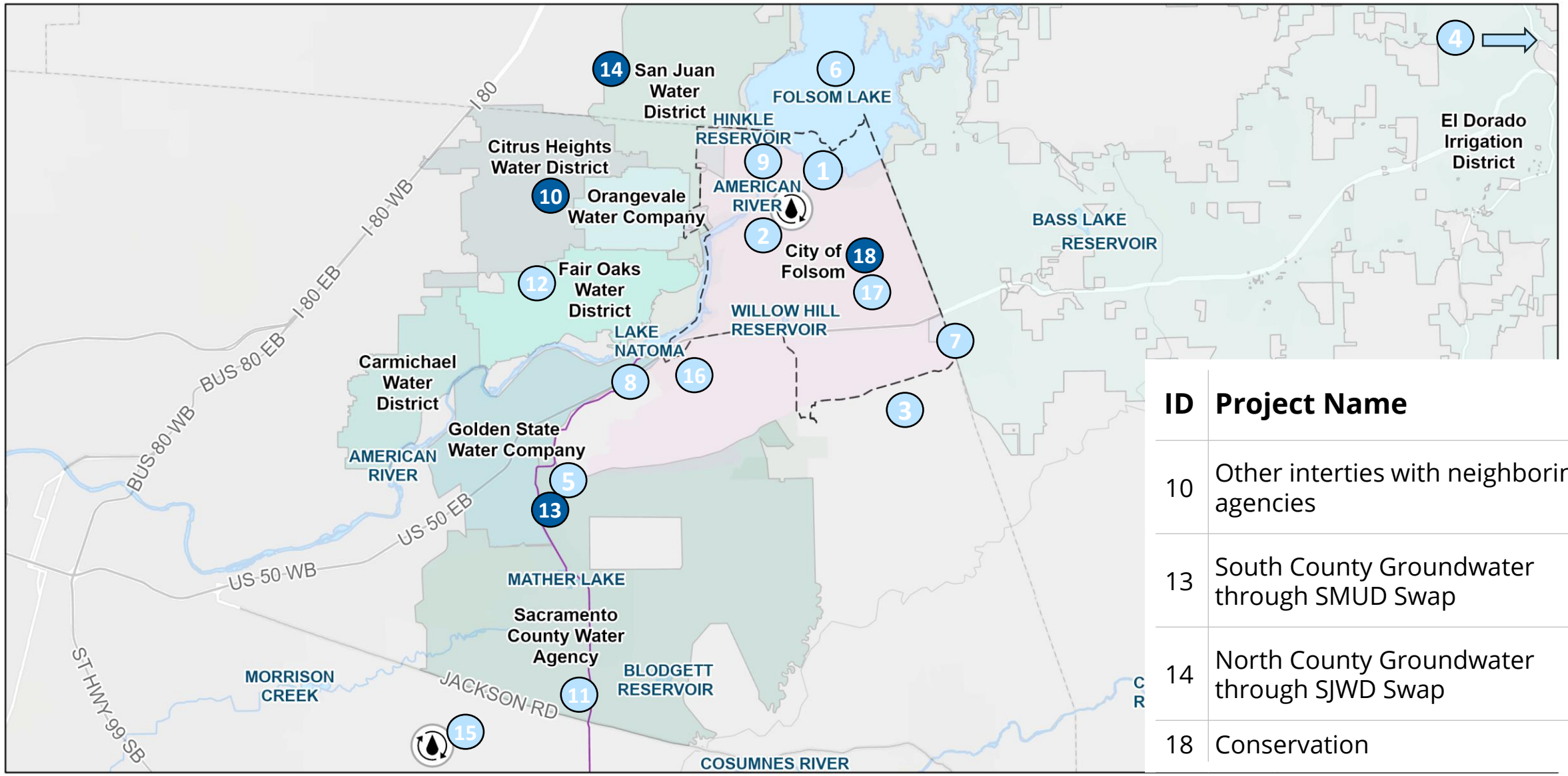
Average rate impact estimates are based on capital costs and do not include operations and maintenance costs.



Would require purchasing land to construct plant. Can only provide non-potable supply.

Sewer Scalping Plant for Nonpotable Reuse	
Capital Cost	$85 million
Ave Rate Impact	$20 per month
Cost per AFY Rating	$$$$$
Drought Supply	1,500 afy
Emergency Supply	None
Water Quality Rating	No Impact

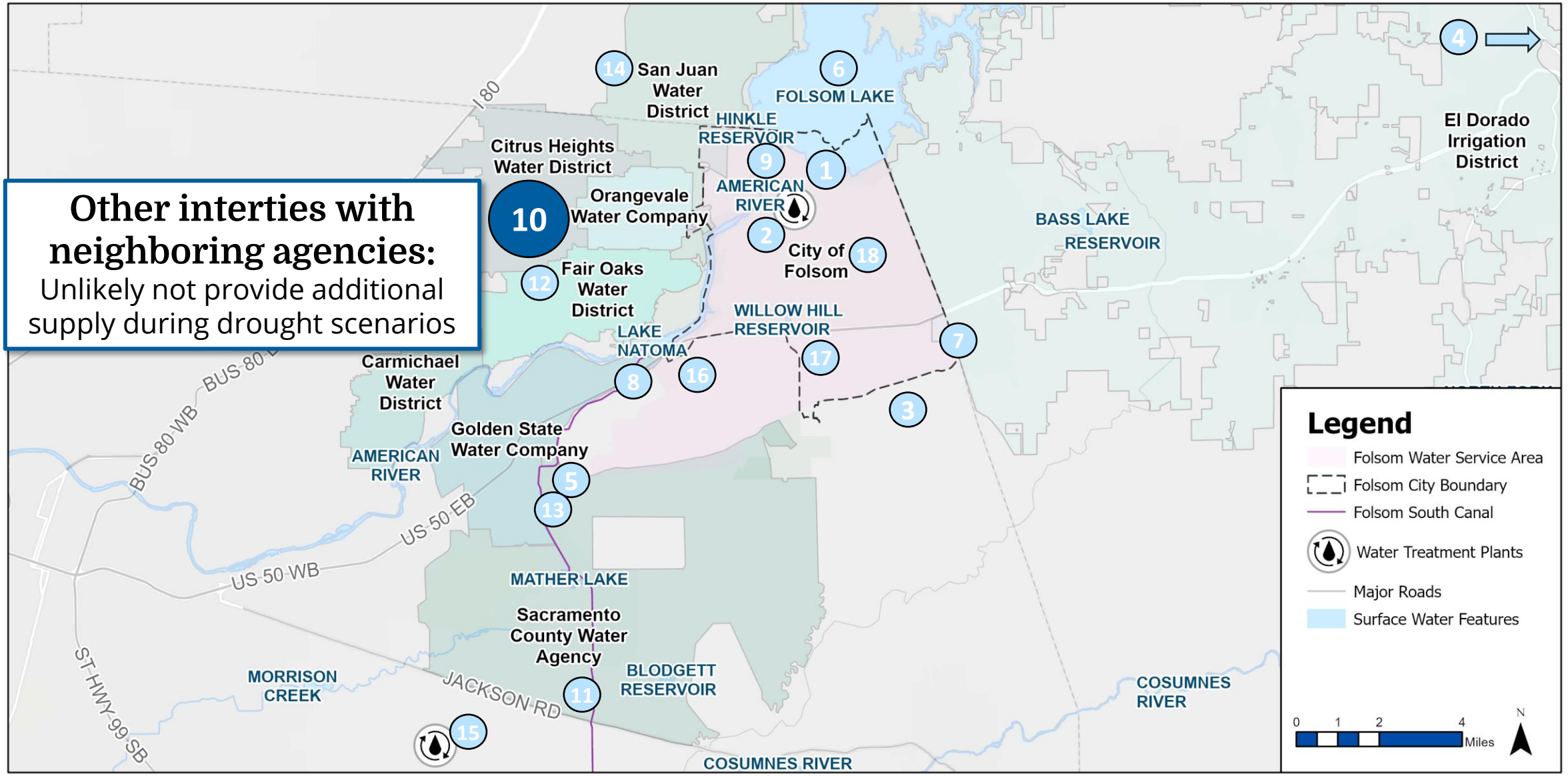
Alternatives Screened Out for Reliability & Resiliency



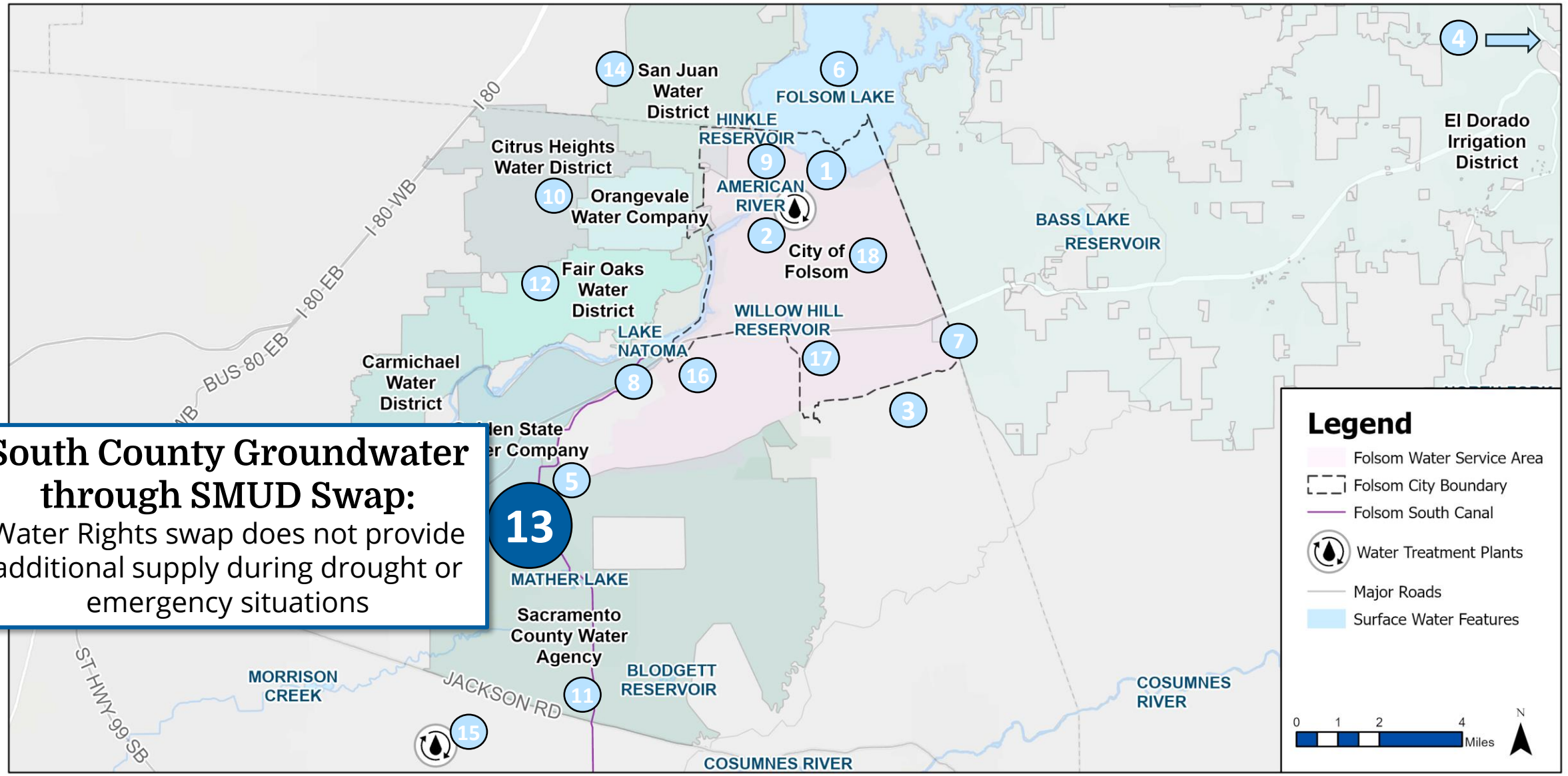
ID	Project Name
10	Other interties with neighboring agencies
13	South County Groundwater through SMUD Swap
14	North County Groundwater through SJWD Swap
18	Conservation

Alternatives Screened Out for Reliability & Resiliency

Other interties with neighboring agencies:
Unlikely not provide additional supply during drought scenarios



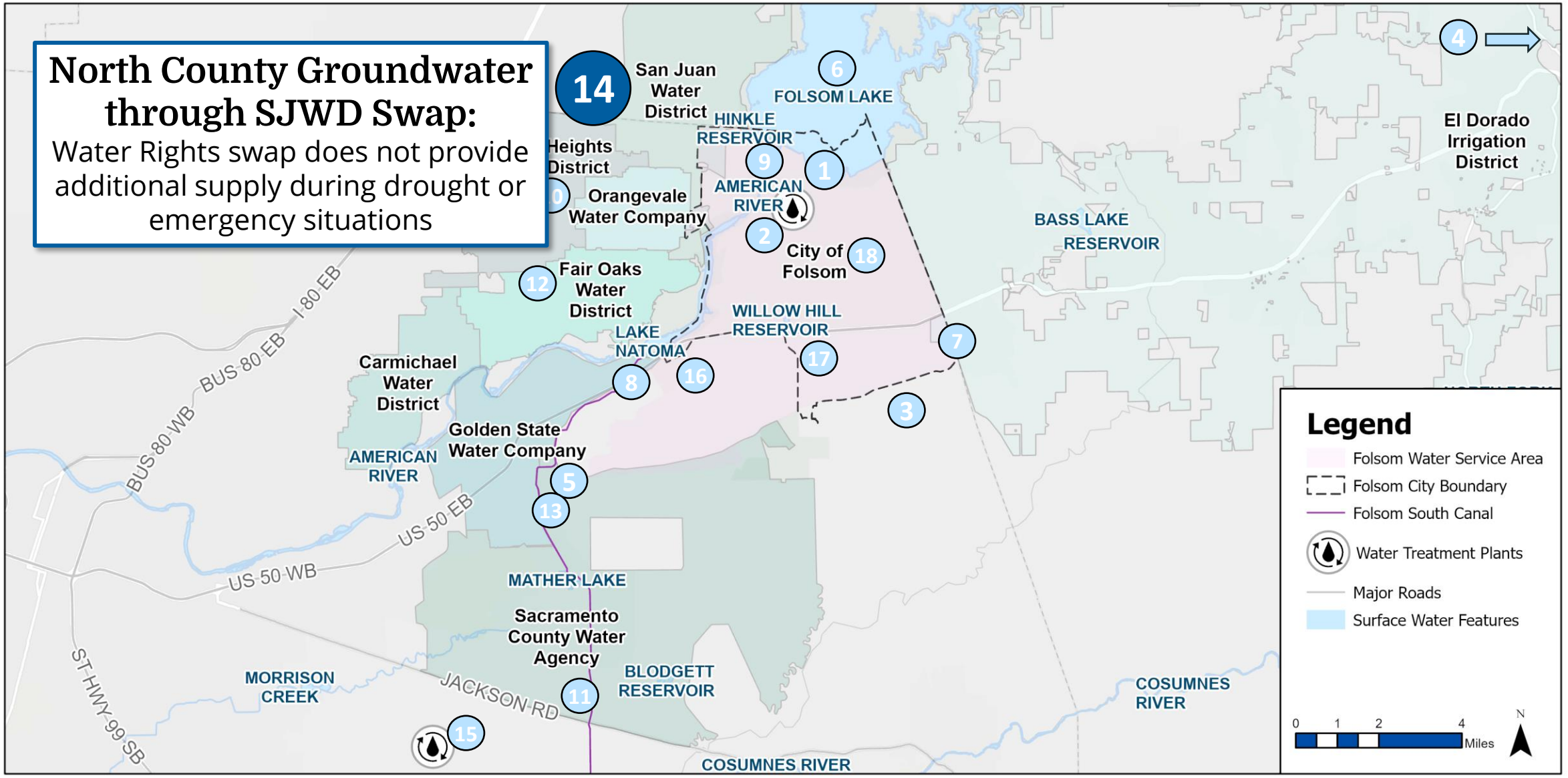
Alternatives Screened Out for Reliability & Resiliency



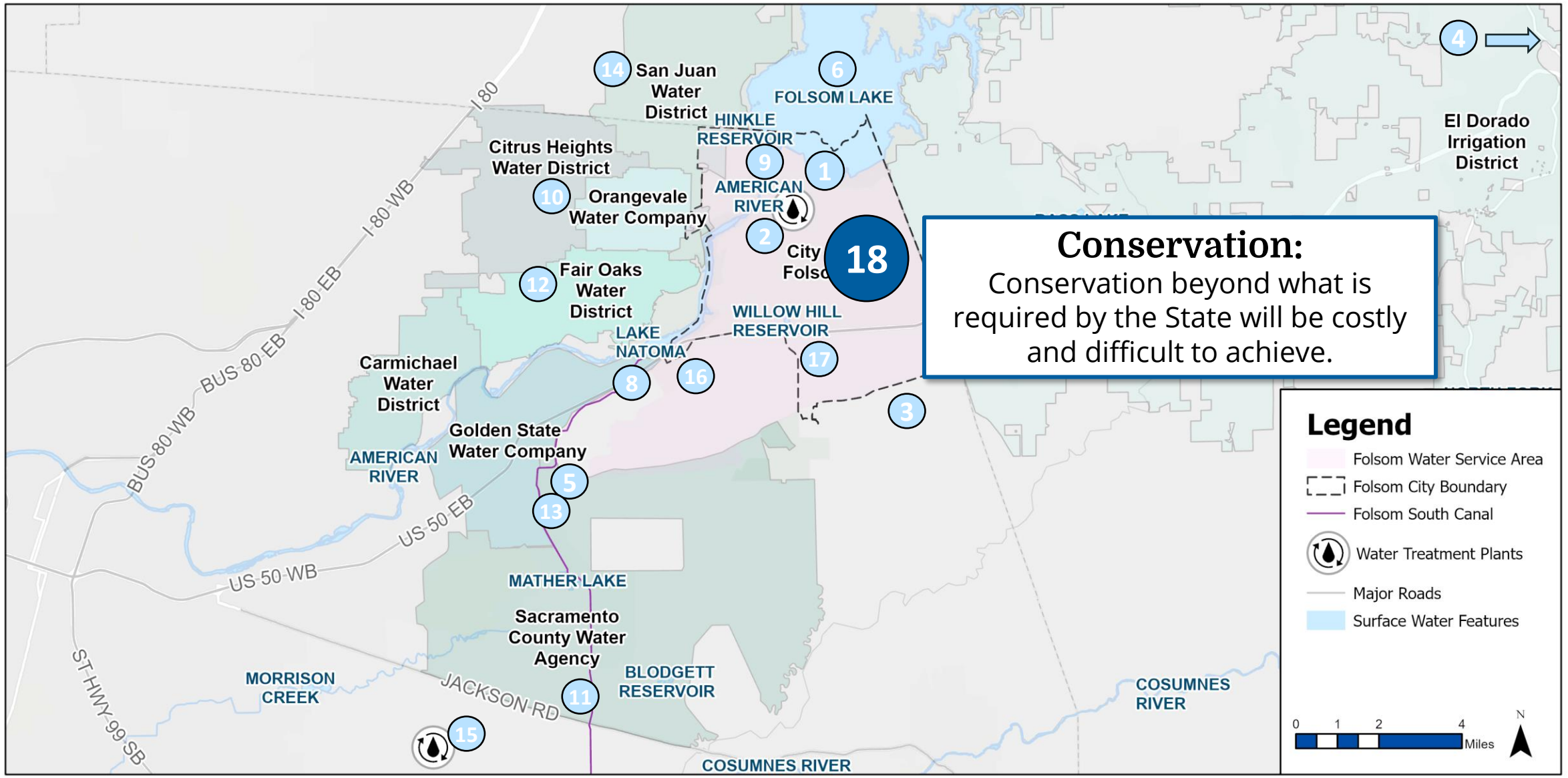
South County Groundwater through SMUD Swap:
Water Rights swap does not provide additional supply during drought or emergency situations

Alternatives Screened Out for Reliability & Resiliency

North County Groundwater through SJWD Swap:
Water Rights swap does not provide additional supply during drought or emergency situations



Alternatives Screened Out for Reliability & Resiliency



Next Steps

Next Steps

1

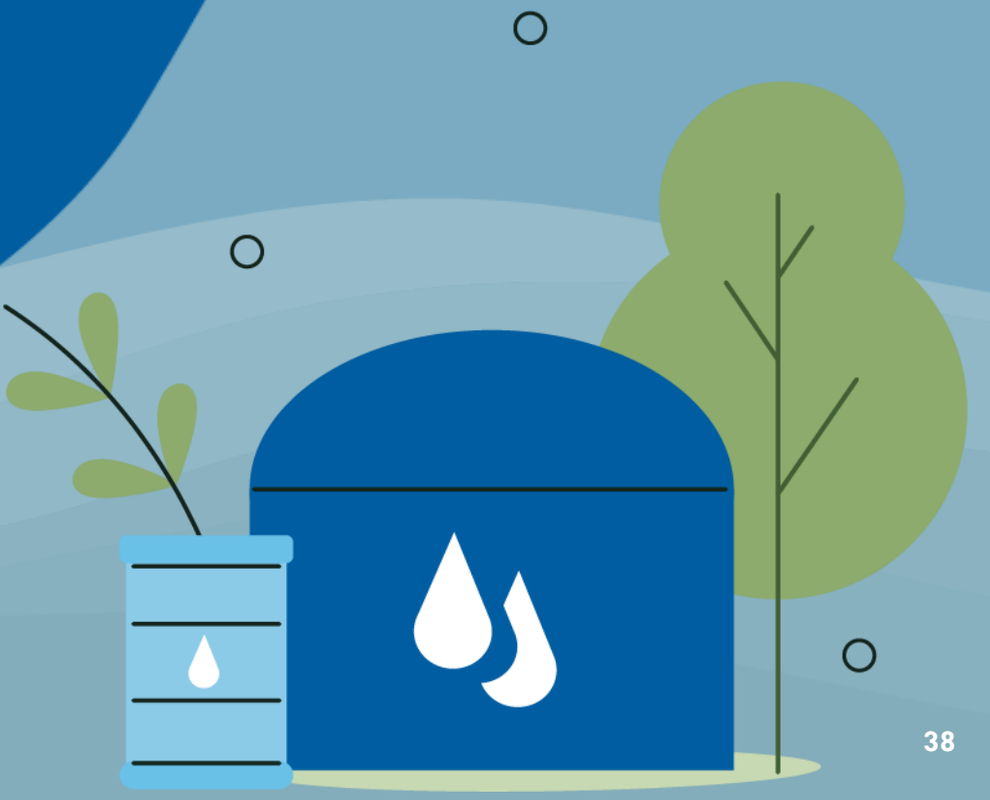
Technical team will develop supply portfolios using input from today's workshop.

2

Next meeting is **Tues., October 15.** Visit the City's website for updates.

Questions?

TALK TO OUR TEAM AFTER THE WORKSHOP



Thanks for Attending!

CITY OF
FOLSOM
DISTINCTIVE BY NATURE