

# City of Dallas

## Water Supply Expansion



# Agenda

- Water Supply
- Watershed and Yield
- Supply Expansion Considerations
- Next Steps



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- Water Supply History
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# Water Supply History

- Mercer Dam and reservoir were constructed in the late 1950s, raised in the early 1970s, and flashboards added in 2000
- Current reservoir size and storage water right is for 1500 ac-ft (488 MG)
- Industrial water demand decreased, extending the water supply for non-industrial uses
- If current trends continue, Dallas faces serious water shortages in the next several years
- Dallas can currently capture approximately 1% of the annual watershed yield
- Proposed reservoir size and storage right would be 5000 ac-ft (1,400 MG) representing 3.3% of the annual average watershed yield

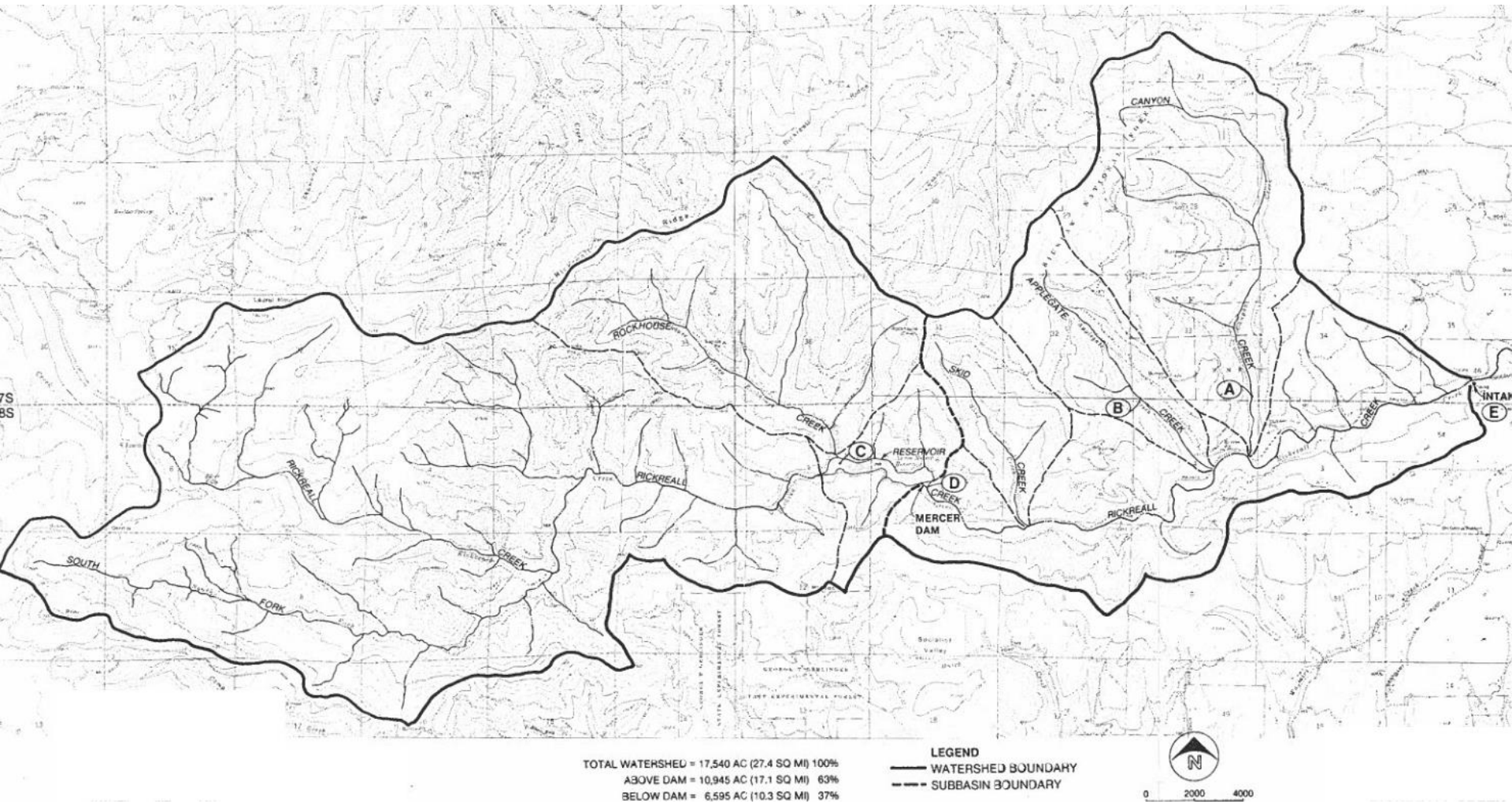


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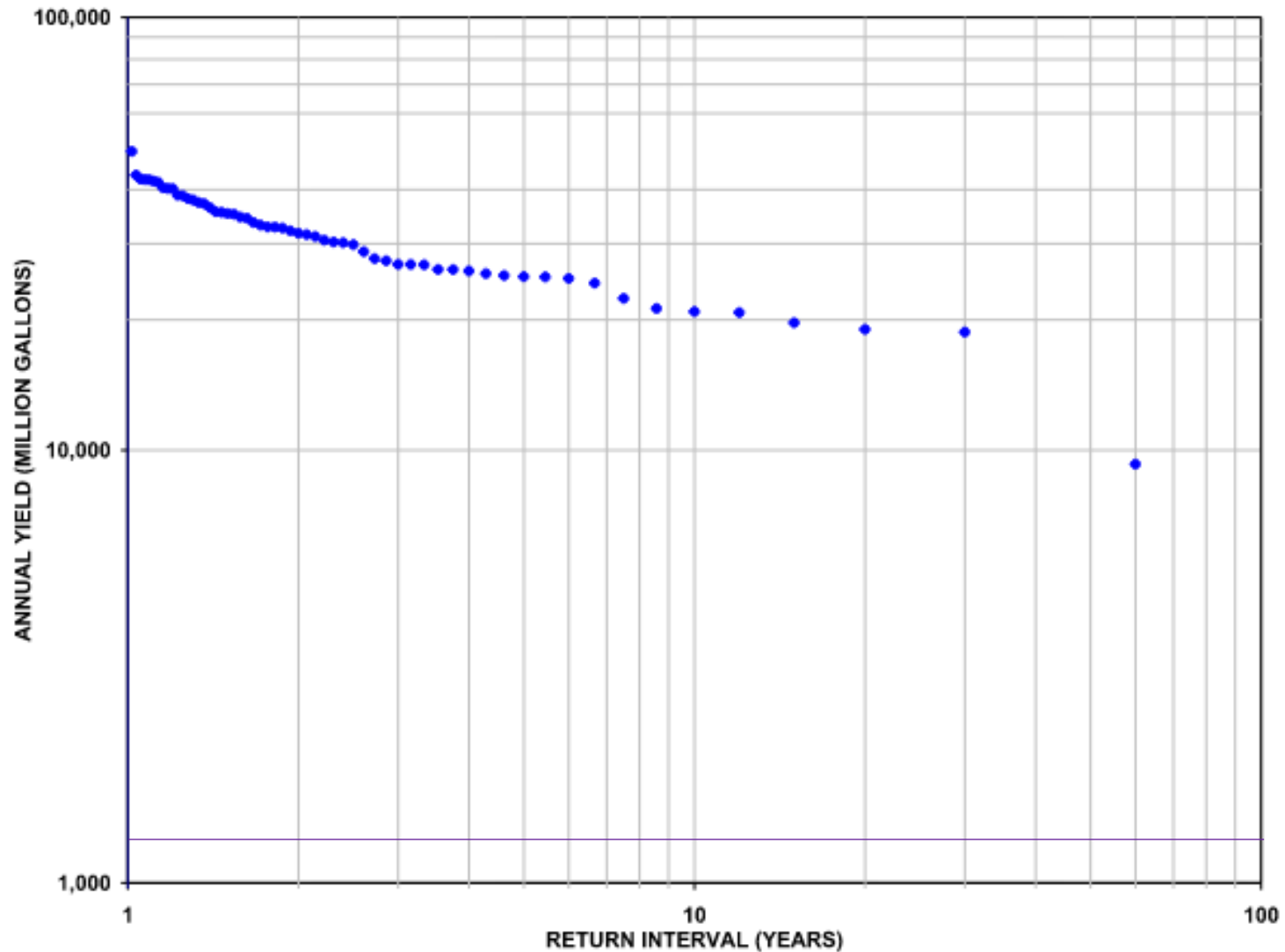


# Watershed

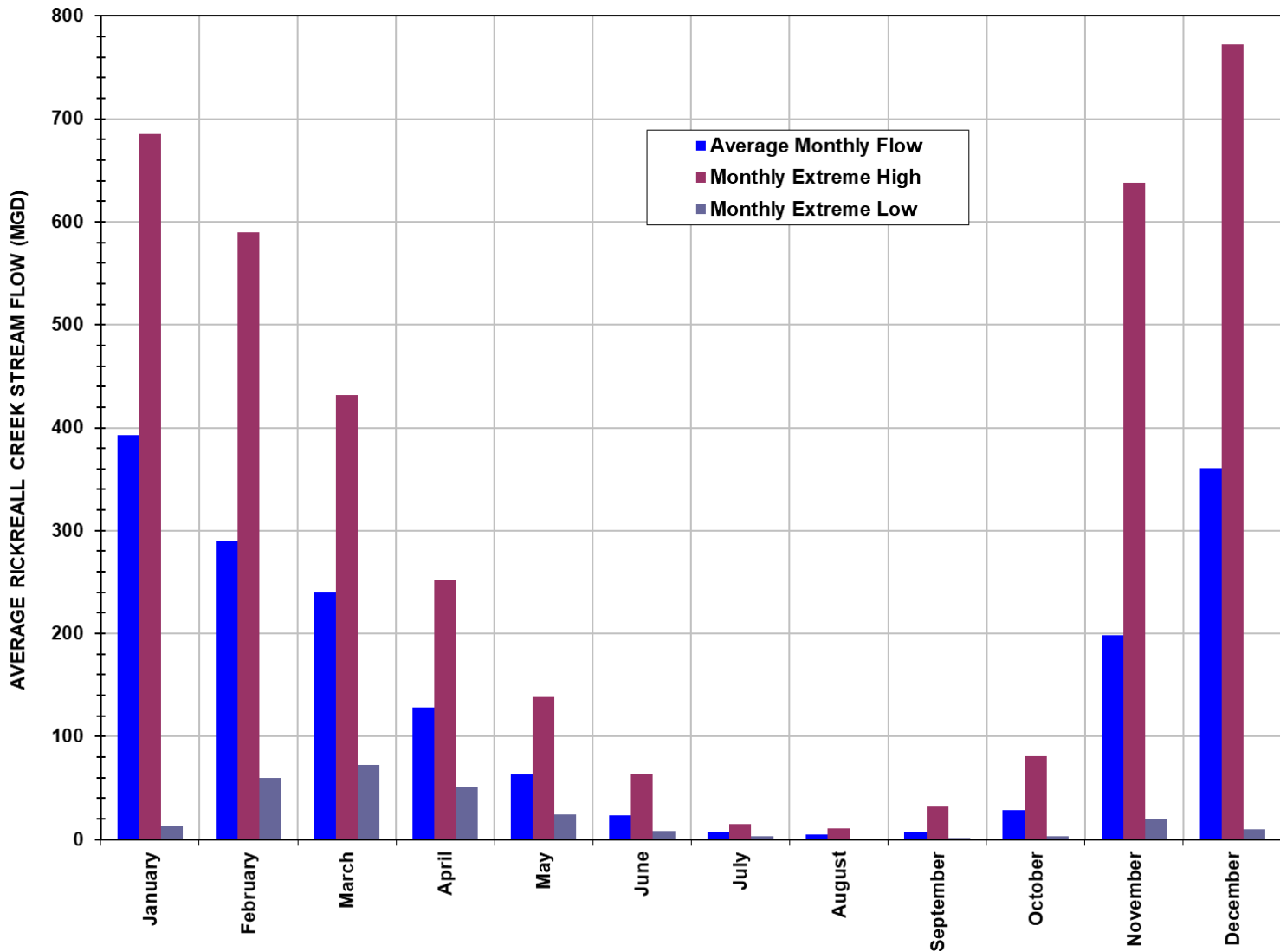


# Annual Watershed yield at Raw Water Intake location

Rickreall Creek Yield Probability



# Watershed monthly Yields at Raw Water Intake





# Time to achieve full Reservoir with Average November yield at Reservoir

<b>Reservoir Volume status at Nov 1</b>	<b>Reservoir volume, Ac-Ft</b>	<b>Reservoir Volume, MG</b>	<b>Reservoir Volume to fill, MG</b>	<b>Days to fill from Nov 1 avg flow*</b>
Full	5000	1400	0	0.0
80%	4000	1120	280	4.4
60%	3000	840	560	8.8
50%	2500	700	700	11.0
40%	2000	560	840	13.2
25%	1250	350	1050	16.4
20%	1000	280	1120	17.5
10%	500	140	1260	19.7

\* assume 75% capture at reservoir, 25% min release (average of 21 mgd)

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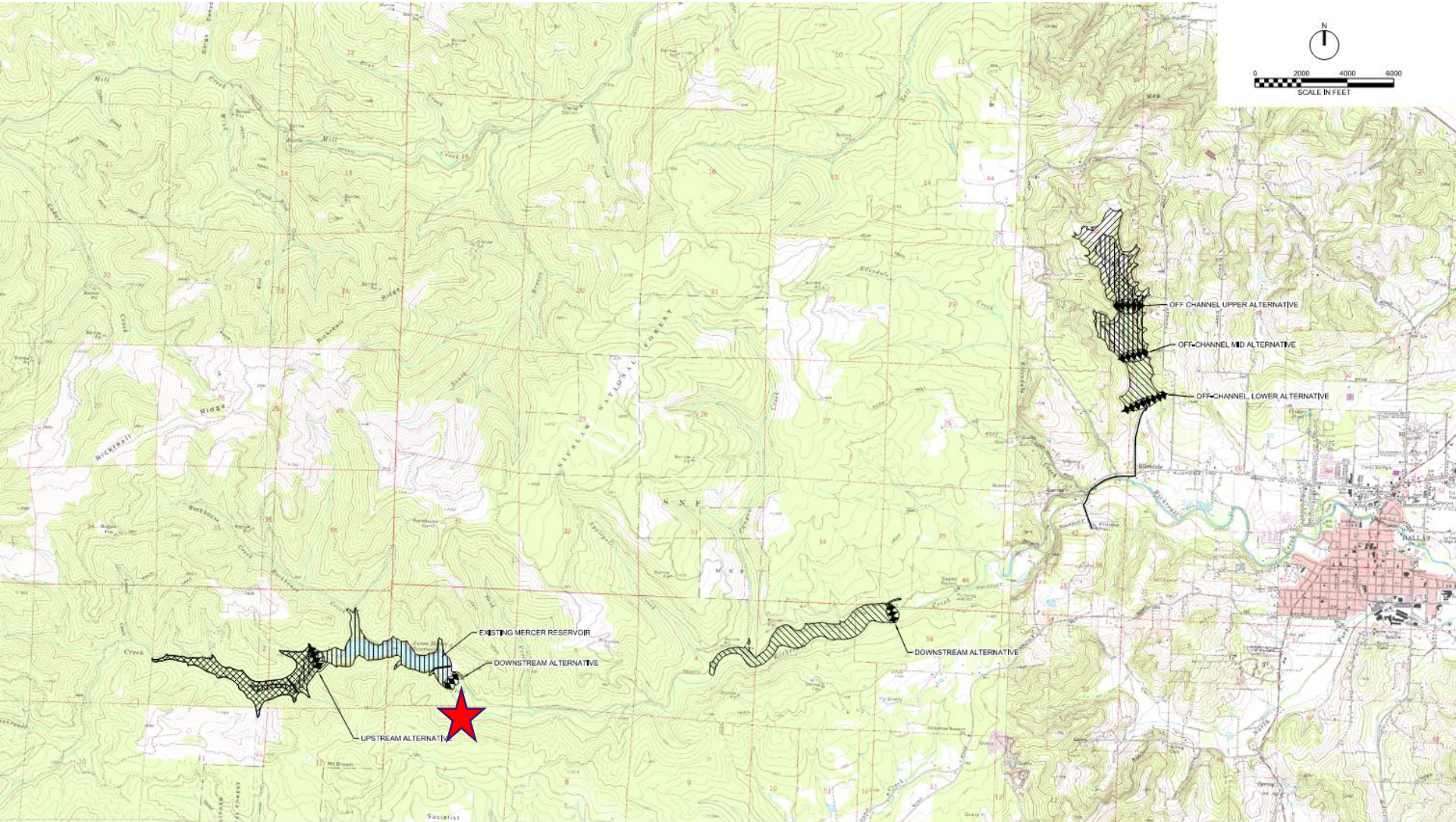
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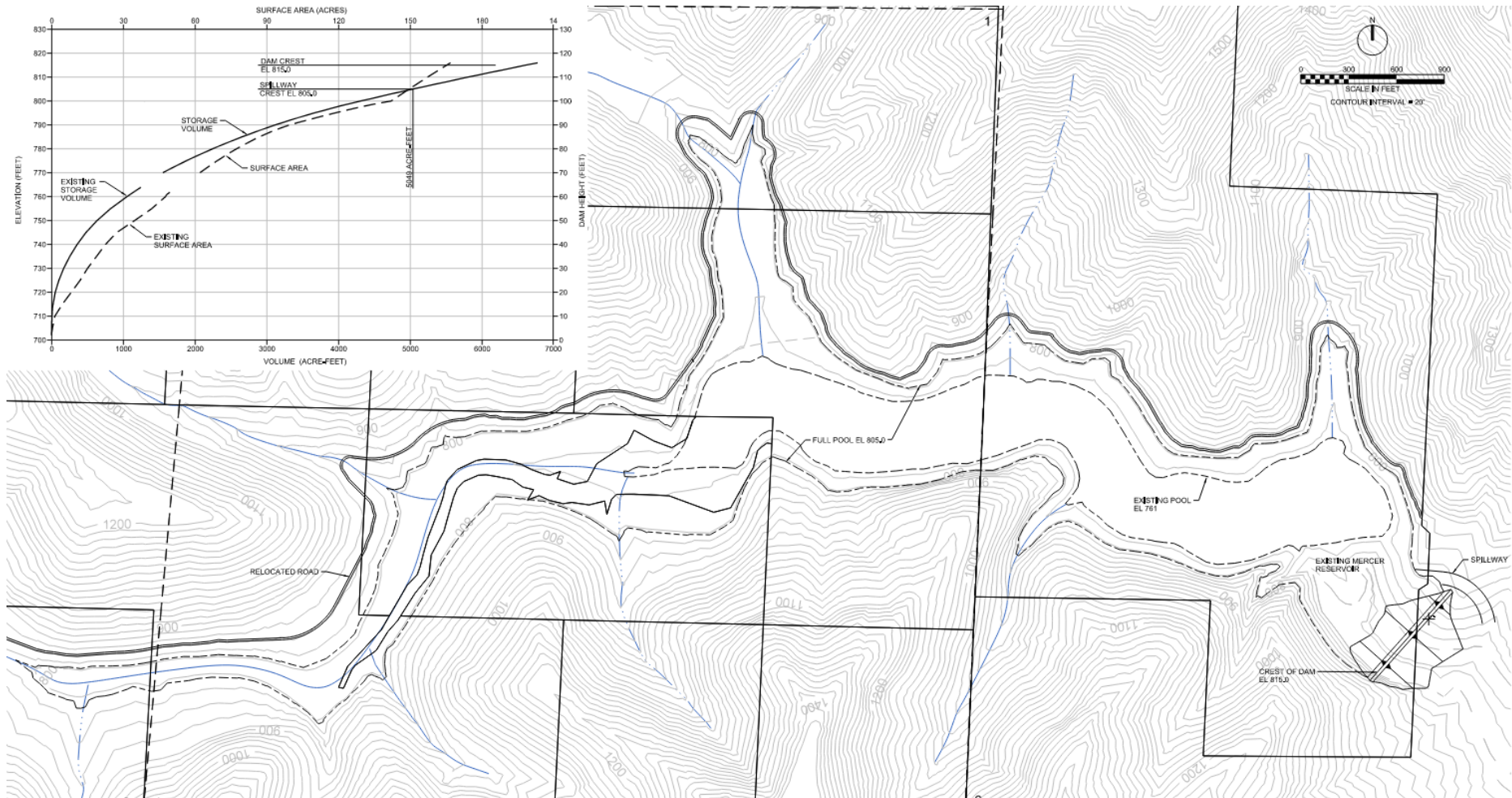
# Storage expansion sites considered

- New second reservoir sites that kept existing Mercer Dam and Reservoir (two dams/reservoirs)
- New single reservoir sites that replaced existing Mercer Dam and Reservoir (a single dam/reservoir)
- On Channel and off channel

# Preferred Alternative Location



# Preferred Alternative – Single Reservoir, replacing Mercer Dam at the Current Dam Site



# Project Benefits

- Correcting existing deficiencies
  - Probably Maximum Flood
  - Fish Passage
  - Seismic Resiliency
  - Improved Dam outlet
  - Potential to create gravel transport
- Water Quality
  - Lower water temperatures at low flows
  - Controlled access to reservoir



# Project Benefits

- Water Quantity
  - Increase dry season flows significantly
  - Water to enhance fish passage, spawning, rearing, and transport
  - Water for agricultural water rights holders during irrigation season
  - Potential for wildfire fighting use
  - Meet community water needs into the future
- Climate resiliency
  - Storage of a small portion (3% of annual average watershed yield) for beneficial use for all
- Other
  - City owns most property around the current location
  - Construction materials likely available nearby
  - Continued use of existing water infrastructure

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# Next Steps

- Water Rights Storage Permit Application has been submitted to OWRD
- Interim downstream fish passage improvement at current spillway project with ODFW, OWRD, and City.

## Application for a Permit to Store Water in a Reservoir (Standard Review)

**OREGON** Oregon Water Resources Department  
 725 Summer Street NE, Suite A  
 Salem, Oregon 97301-1266  
 503-988-0900  
 www.oregon.gov/OWRD

You must use this form for any reservoir storing more than 9.2 acre-feet and with a dam more than 10 feet high.

### SECTION 1: APPLICANT INFORMATION AND SIGNATURE

Applicant				
NAME Gary Marks, Public Works Director	PHONE (nm) N/A			
PHONE (wk) (503) 831-3555	CELL (541) 425-5939	FAX		
ADDRESS 187 Court St				
CITY Dallas	STATE OR	ZIP 97338	E-MAIL * gary.marks@dallasor.gov	
Organization				
NAME City of Dallas	PHONE (503) 831-3555	FAX		
ADDRESS 187 Court St				
CITY Dallas	STATE OR	ZIP 97338	E-MAIL * see above	
Agent - The agent is authorized to represent the applicant in all matters relating to this application.				
AGENT / BUSINESS NAME Craig Massie/Jacobs	PHONE (541) 768-3476	FAX		
ADDRESS 1100 NE Circle Blvd Suite 300				
CITY Corvallis	STATE OR	ZIP 97330	E-MAIL * craig.massie@jacobs.com	

Note: Attach multiple copies as needed  
 \* by providing an e-mail address, consent is given to receive all correspondence from the Department electronically. (Paper copies of the final order documents will also be mailed.)

#### By my signature below I confirm that I understand:

- I am asking to use water specifically as described in this application.
- Evaluation of this application will be based on information provided in the application packet.
- I cannot legally store water until the Water Resources Department issues a permit to me.
- The Department encourages all applicants to wait for a permit to be issued before beginning construction of any proposed diversion. Acceptance of this application does not guarantee a permit will be issued.
- If I begin construction prior to the issuance of a permit, I assume all risks associated with my actions.
- If I get a permit, I must not waste water.
- If development of the water use is not according to the terms of the permit, the permit can be cancelled.
- The water use must be compatible with local comprehensive land use plans.
- Even if the Department issues a permit, I may have to stop using water to allow senior water right holders to get water to which they are entitled.

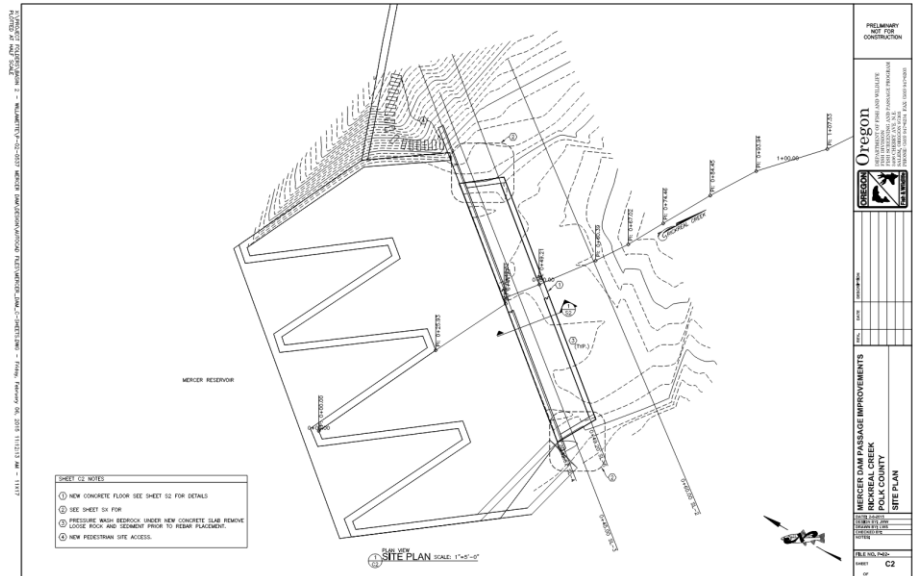
I/we affirm that the information contained in this application is true and accurate.

Applicant Signature: Gary Marks Gary Marks, Public Works Director Date: July 12, 2023

Applicant Signature: Mark Anderson Mark Anderson, CWRE Date: July 13, 2023

For Department Use: App. Number: \_\_\_\_\_

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# Questions

