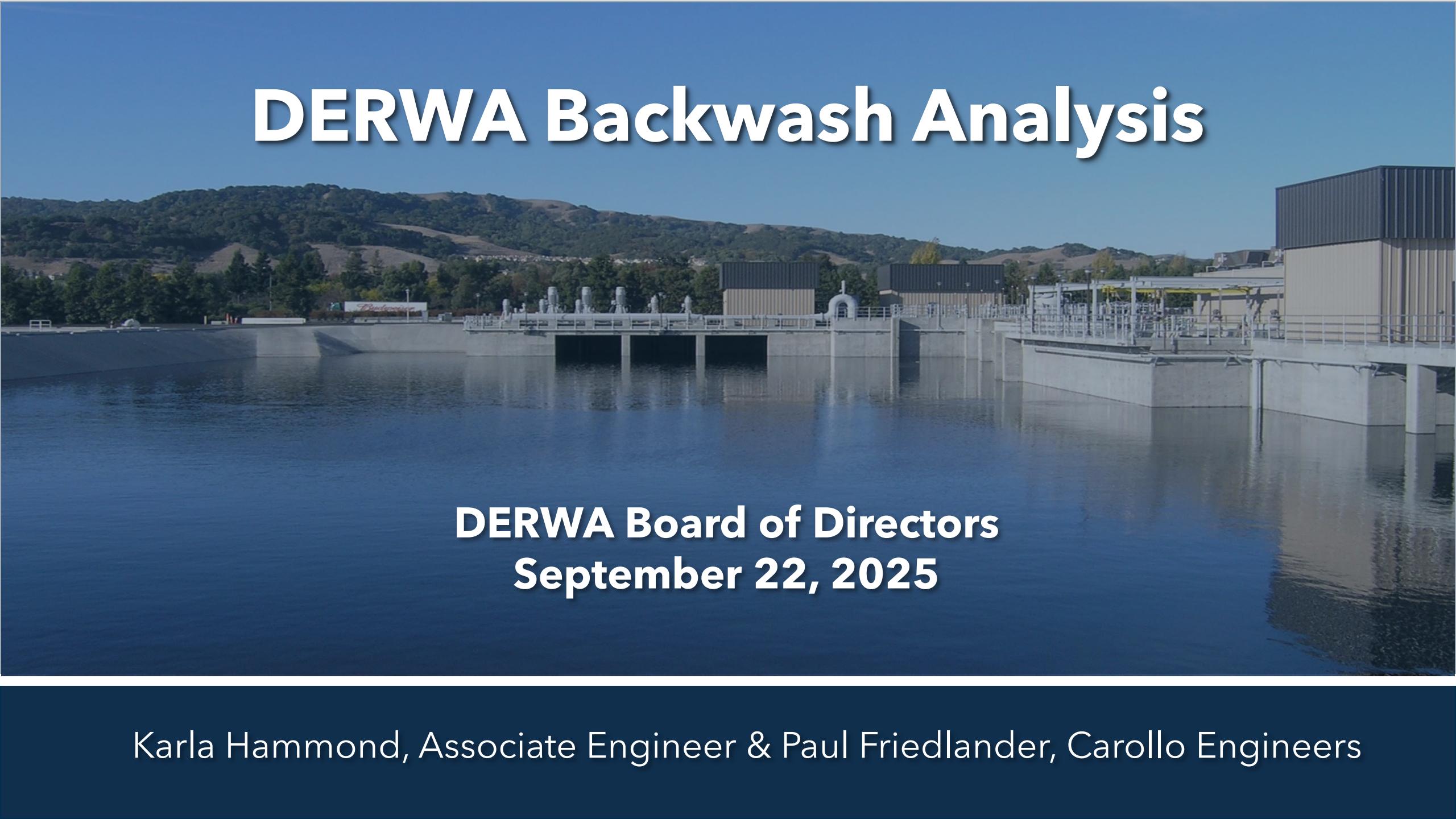


DERWA Backwash Analysis

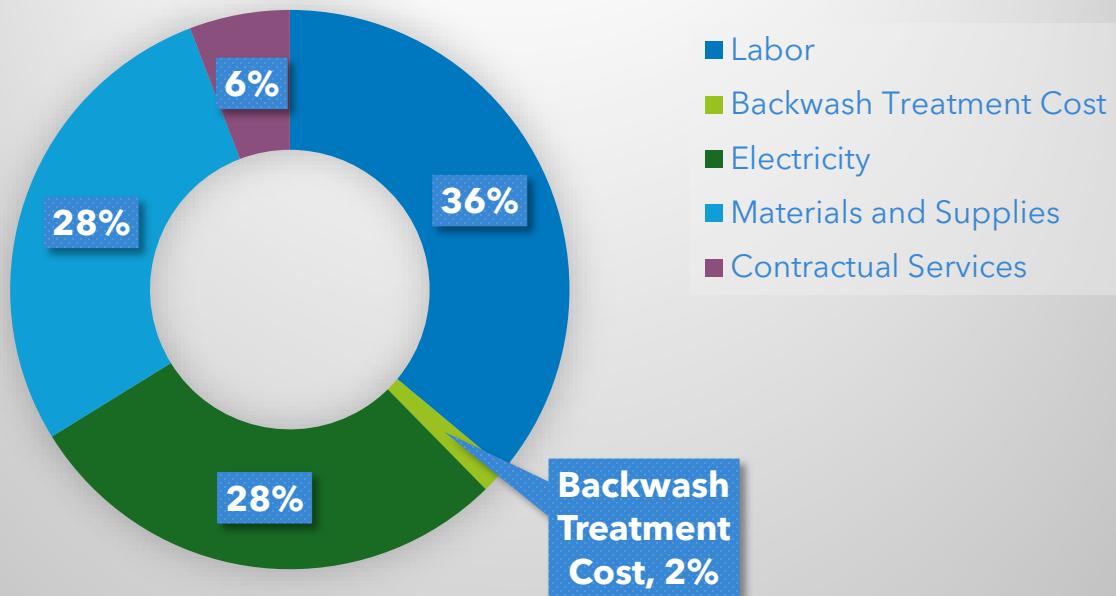
A wide-angle photograph of a large, dark blue reservoir. In the background, there are rolling hills covered in green vegetation. On the right side of the reservoir, there is a large industrial facility with several buildings, pipes, and structures. The water in the reservoir is calm, reflecting the sky and the surrounding landscape.

**DERWA Board of Directors
September 22, 2025**

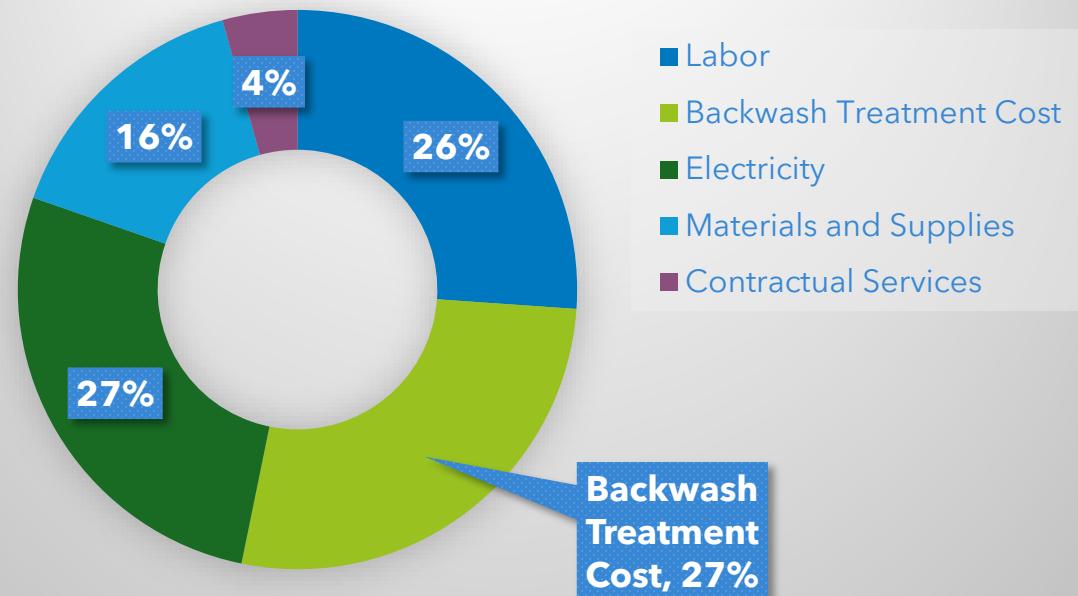
Karla Hammond, Associate Engineer & Paul Friedlander, Carollo Engineers

DERWA O&M Comparison

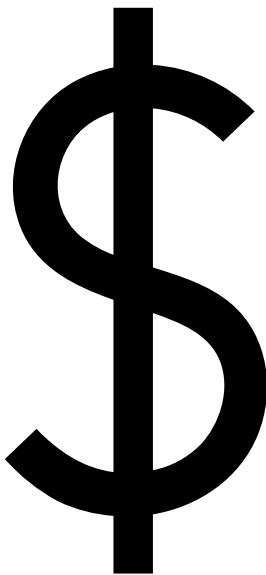
FY21 DERWA O&M Costs



FY26 DERWA O&M Costs



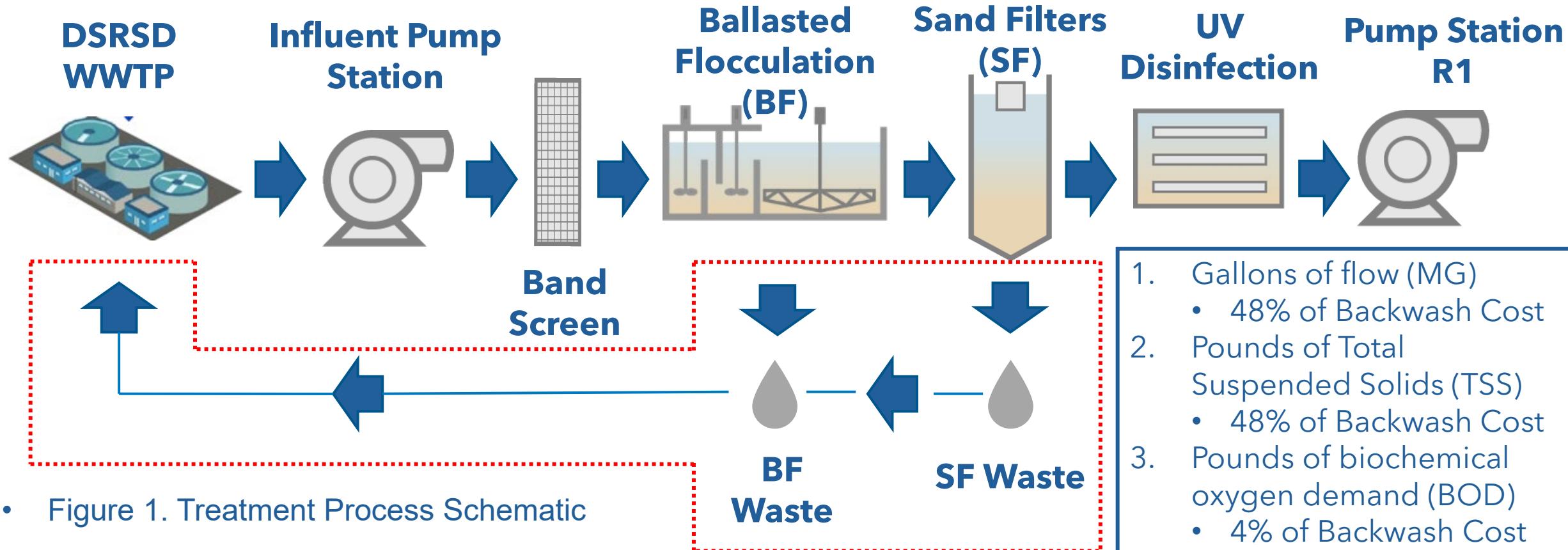
Actual Backwash Treatment Costs



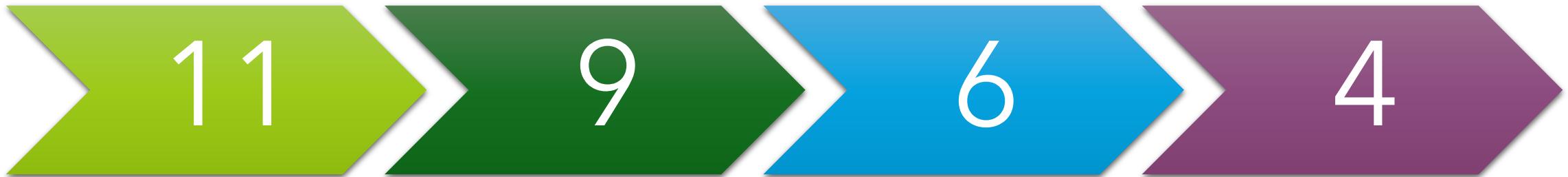
- FY 2023 Actual billing
- \$36,000

- FY 2024 Actual billing
- \$1,279,988

DERWA RWTP Overview



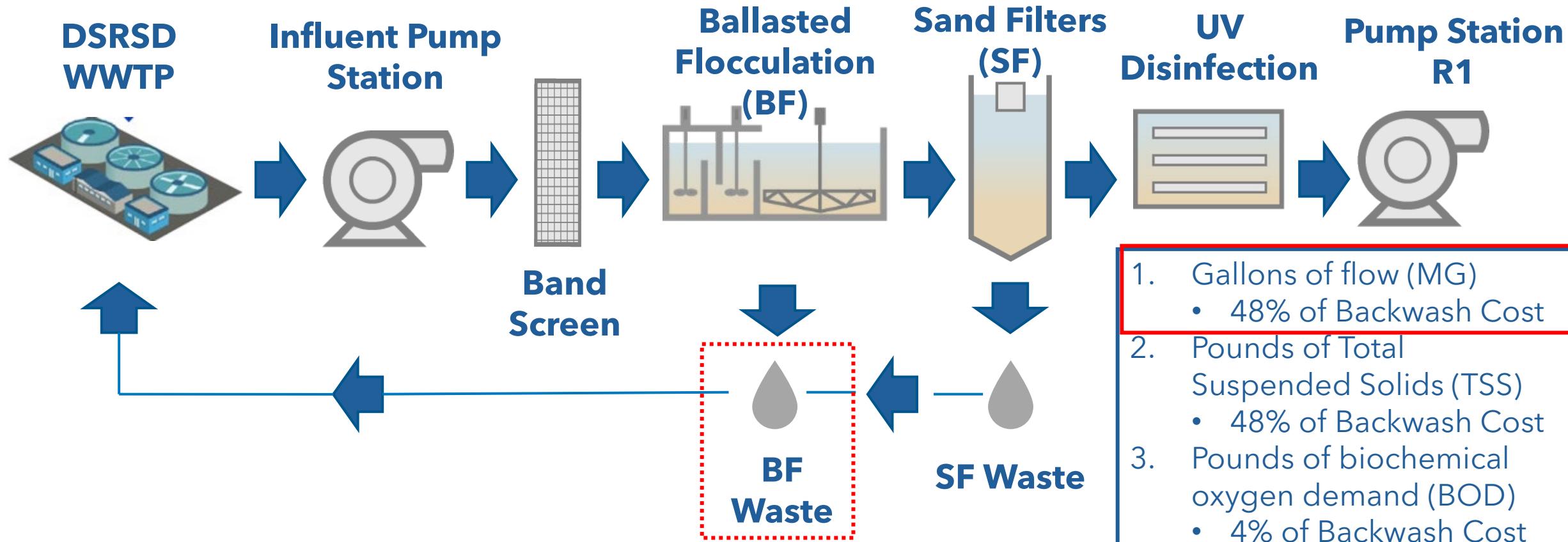
Eleven (11) Options Identified



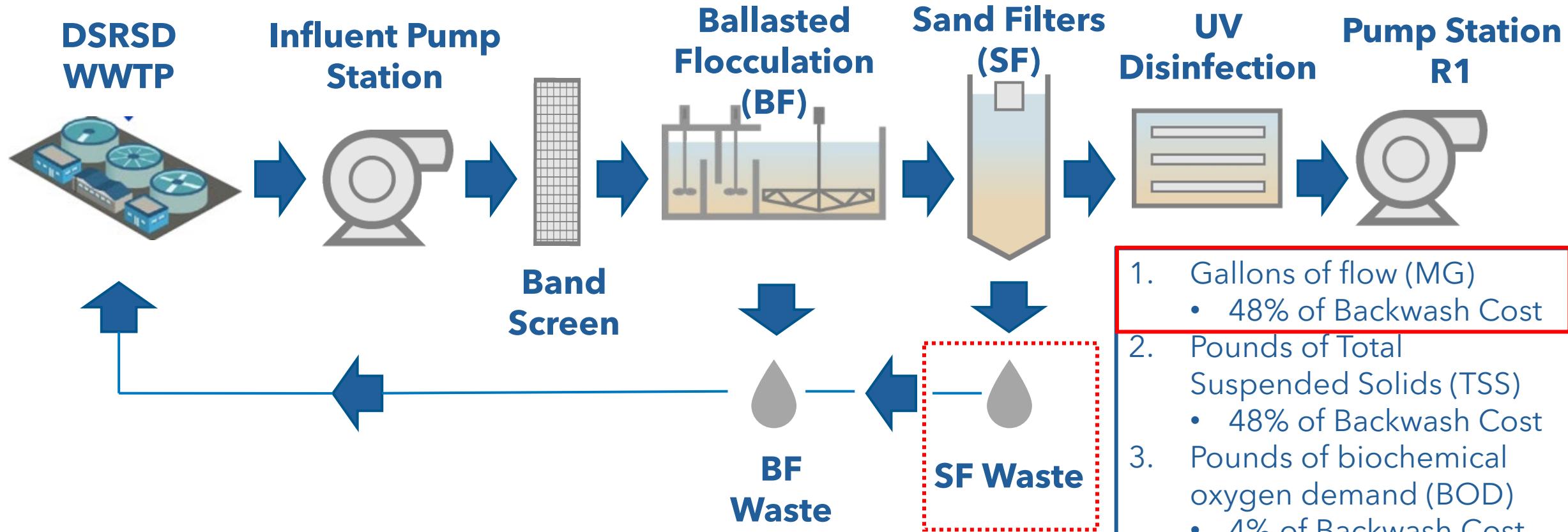
Four (4) Options Tested & Evaluated

RWTP	
1 BF Waste Rate	Test
2 Reduce SF Backwash Flow	Test
3 Reduce Chemical Usage at BF	Test
4 Sand Size in BF	Test*

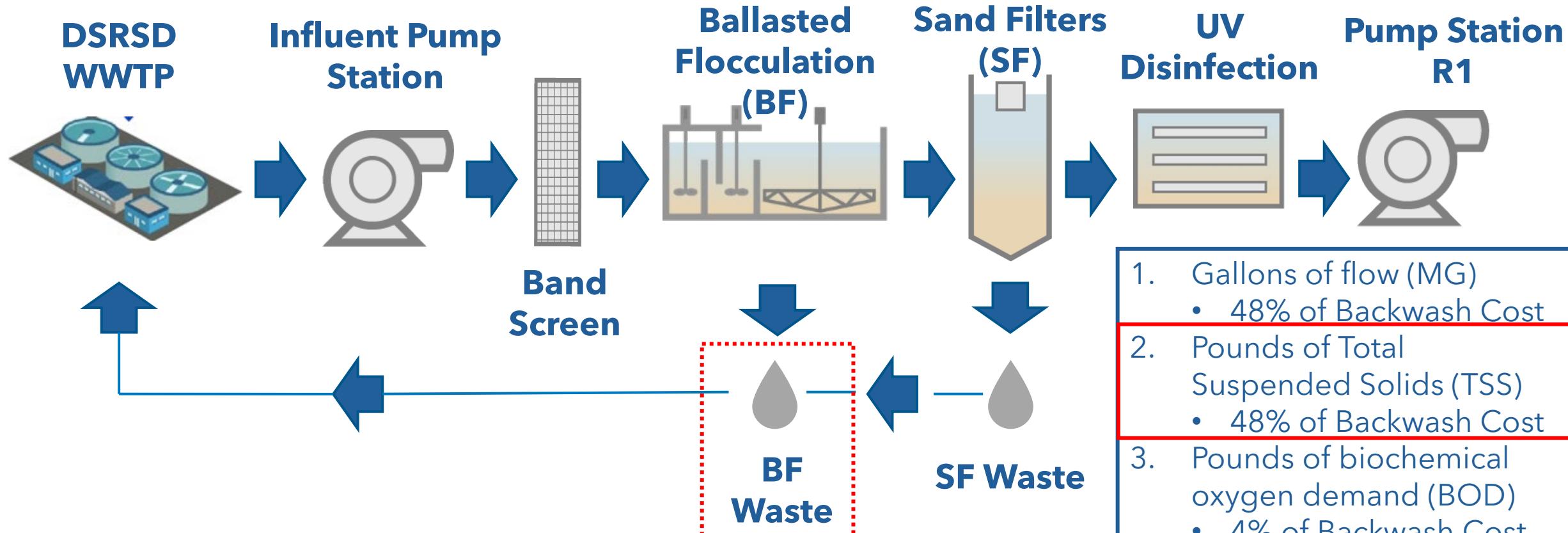
Option 1 - BF Waste Cycle Frequency



Option 2 Reduce SF Backwash Flow



Options 3 & 4 Reduce Chemical Usage at BF & Sand Size in BF



Summary

38% reduction
in BF waste
flow

- Potential
annual savings
of \$80,000

30% reduction
in SF waste
backwash flow

- Potential
annual savings
of \$120,000

Next Steps

- DSRSD WWTP Masterplan Update is ongoing
- Option 4 Sand Size in BF



Questions?

Karla Hammond, Associate Engineer & Paul Friedlander, Carollo Engineers