

## Implementation Ease



**Permitting:** For both treatment scenarios, it is anticipated that pilot studies will be required to further define treatment capabilities. In the case of the treatment wetland, additional study is needed to determine wetland treatment capabilities related to nutrient reduction and PFAS removal.



**Political/Public Opinion:** It is anticipated that public opinion will be favorable related to establishing wetland treatment and RIB sites that could potentially enhance recreation or environmental conditions in the surrounding areas.



**Land Acquisition:** The use of RIBs will require significant land for implementation and requires favorable underlying geological conditions to achieve the desired recharge efficiency. The availability of land within the target recharge area may necessitate multiple recharge sites utilizing varied recharge methods.



**Conveyance Obstacles:** The conveyance distance for this project is more than 80 miles and will require significant coordination for several large pipelines. The urban portion of the route from the WRF to the treatment wetland includes congested urban ROWs.

## Operational Complexity



**Governance:** This project will require multiple agencies to form a cooperative agreement to provide the resources for ongoing operation, maintenance, and monitoring of the proposed facilities. It is anticipated the JEA will provide operational oversight of treatment facilities at their WRFs and at the JEA-owned treatment wetland.



**Monitoring:** Ground water recharge wells will require monitoring of water quality prior to discharge (Chapter 62-610, FAC Part V). For recharge scenarios using treatment wetlands, monitoring may be required within the wetland to confirm water quality treatment meets AWT standards prior to discharge to RIBs.



**Training and Operations:** The lower treatment scenario relies on passive treatment processes which will require minimal operator training. The higher treatment scenario employs a number of processes that require significant operator training and staffing.

## Key Assumptions

- Treatment cost lower value is based on the assumption that the wetlands would provide the required nutrient reduction and PFAS removal.
- The wetland treatment site is assumed to be owned by JEA. No land acquisition costs are included in the above cost estimates.

## Key Questions to be Answered by Further Study

### Treatment:

- Define treatment wetland capabilities with regard to nutrient reduction and PFAS removal based on JEA pilot wetland study results and define necessary acres of treatment wetland to achieve required performance
- Evaluate nutrient removal treatment options (denitrification filters versus ozone treatment)

### Conveyance:

- Perform a route study to identify major potential conflicts

### Recharge:

- Determine required acres of RIBs and recharge wells based on site specific geotechnical characteristics
- Study the distribution of 40 MGD to multiple sites given the complexity of recharging the full volume at a single location

## References

Saint Johns River Water Management District (2023) "Updated Cost Equation for Apr 2023" SJRWMD. Provided April 2024.

Gainesville Regional Utilities (No Date) "GRU\_SWNP\_ROM\_jd\_21\_9". Provided May 2024.