

ST. LUCIE RIVER / C-23 WATER QUALITY PROJECT



ABOUT THE PROJECT

The water quality restoration/storage project located at McCarty Ranch Extension and Preserve will keep nearly 9 billion gallons of water from entering the North Fork of the St. Lucie River annually. This will result in a 21% reduction in excess freshwater discharge from the C-23 Canal into the river.

KEY FACTS

This water quality/storage treatment project will take approximately 1,871 acres of fallow citrus grove at McCarty Ranch Extension and a 528-acre water impoundment, located at McCarty Ranch Preserve, and convert them into a shallow water storage facility consisting of seven reservoirs capable of receiving water diverted from the C-23 Canal. It also will capture an annual average of 53 inches of rain fall on the property reducing the need to discharge.



FUNDING NEEDED

- \$9,093,927 Million Total for Areas 4-7
- \$180K Annual Operating Cost

21%

Reduction in excess freshwater discharge from the C-23 Canal into the North Fork of the St. Lucie River.

RECHARGE

the local water table.

56,959 LBS. & 7,703 LBS. NITROGEN & PHOSPHORUS

Removed from the water entering the North Fork of the St. Lucie River.

6.330 BILLION

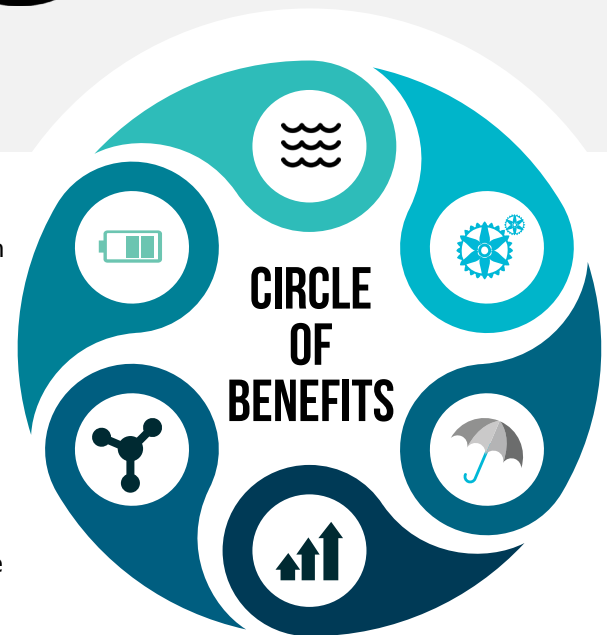
gallons of water diverted from the C-23 Canal annually.

2.554 BILLION

gallons of rainfall and excess water during annual wet season stored annually.

8.884 BILLION

gallons total will be kept from entering the North Fork of the St. Lucie River annually.



ALTERNATE WATER SOURCE

The Water Quality Storage/Treatment Project is the precursor to the City's future alternative water supply. A proposed future cyclic surface water treatment plant will be built to treat the water being pumped from the C-23 Canal to drinking water standards. A certain amount of this treated water will be distributed for public consumption and the rest will be stored in on-site deep aquifer storage and recovery wells (ASRs). The stored water will then be recovered and distributed for consumption ensuring that Port St. Lucie is able to meet growing water needs for generations to come.

AREA 1

Completion Date: July 2019
Area Size: 210 acres
Actual Cost: \$1,889,448
Gallons of water pumped from C-23 Canal: 692,108,434

ANNUAL REDUCTION OF NUTRIENTS

Total Phosphorus: 820 LBS.
Total Nitrogen: 6,061 LBS.
Total Suspended Solids: 17,317 LBS.

Funding Received:

- \$200,000 from South Florida Water Management District (SFWMD) Cooperative Funding Program for construction-related costs.
- \$752,103 from Florida Department of Environmental Protection (FDEP) FY17 Section 319(h) Grant to be used for construction-related costs.

AREA 2

Completion Date: August 2020
Area Size: 275 acres
Actual Cost: \$2,577,525
Gallons of water pumped from C-23 Canal: 938,135,651

ANNUAL REDUCTION OF NUTRIENTS

Total Phosphorus: 1,111 LBS.
Total Nitrogen: 8,215 LBS.
Total Suspended Solids: 23,472 LBS.

Funding Received:

- **\$2,024,020 Grants Awarded**
- Legislative grant for \$1,080,000 (\$180,000 for design and \$900,000 for construction)
- Indian River Lagoon National Estuary Program funding received for \$300,000.
- Florida Department of Environmental Protection (FDEP) for FY18 Section 319(h) Grant \$644,020 (for construction-related costs).

AREA 3

Completion Date: March 2021
Area Size: 280 acres
Estimated Cost: \$2,605,109
Gallons of water pumped from C-23 Canal: 932,714,685

ANNUAL REDUCTION OF NUTRIENTS

Total Phosphorus: 1,105 LBS.
Total Nitrogen: 8,168 LBS.
Total Suspended Solids: 23,337 LBS.

Funding Received:

- Legislative grant for \$180,000 for design.
- \$680,356 FDEP Section 319(h)
- \$500,000 State Water Quality Restoration Grant
- \$448,700 SFWMD AWS
- IRL Water Quality Improvement Projects, \$193,940

AREA 4

Area Size: 304 acres
Estimated Cost: \$2,762,154
Gallons of water pumped from C-23 Canal: 1,012,661,658

ANNUAL REDUCTION OF NUTRIENTS

Total Phosphorus: 1,199 LBS.
Total Nitrogen: 8,868 LBS.
Total Suspended Solids: 25,337 LBS.

Funding Received:

- \$487,200 SFWMD AWS
- \$193,940 IRL Water Quality Improvement Projects
- \$718,950 FDEP Section 319(h) grant
- \$1,024,862 Legislative grant for construction

Funding Pending:

- \$1,380,000 FDEP Water Protection Funds

AREA 7A

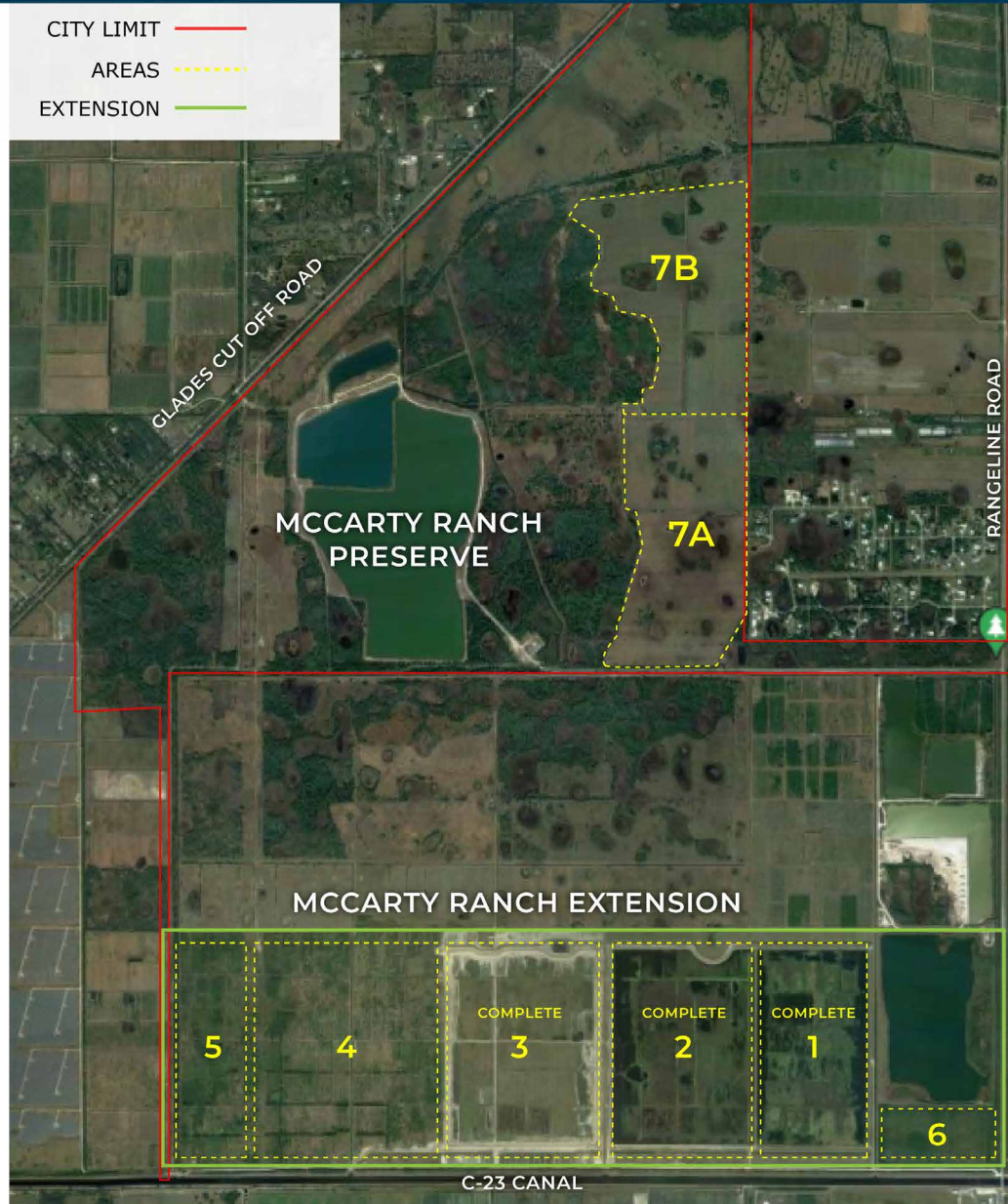
Area Size: 234 acres
Estimated Cost: \$5,200,857
Gallons of water pumped from C-23 Canal: 1,144,763,333

ANNUAL REDUCTION OF NUTRIENTS

Total Phosphorus: 1,320 LBS.
Total Nitrogen: 9,762 LBS.
Total Suspended Solids: 27,891 LBS.

AREA MAP

*ALL AREAS WILL BE COMPLETE WITHIN TWO YEARS OF RECEIVING FUNDING.



AREA 5

Area Size: 77 acres
Estimated Cost: \$1,088,000
Gallons of water pumped from C-23 Canal: 256,496,538

ANNUAL REDUCTION OF NUTRIENTS

Total Phosphorus: 304 LBS.
Total Nitrogen: 2,246 LBS.
Total Suspended Solids: 6,418 LBS.

Funding Received:

- \$193,940 IRL Water Quality Improvement Projects
- \$450,228 FDEP Section 319(h) grant

Funding Pending:

- \$324,483 SFWMD (AWS-2021) (CAPTEC)
- \$544,000 FDEP Water Protection Funds

AREA 6

Area Size: 40 acres
Estimated Cost: \$705,858
Gallons of water pumped from C-23 Canal: 133,244,955

ANNUAL REDUCTION OF NUTRIENTS

Total Phosphorus: 158 LBS.
Total Nitrogen: 1,167 LBS.
Total Suspended Solids: 3,334 LBS.

Funding Received:

- \$193,940 IRL Water Quality Improvement Projects
- \$64,100 SFWMD AWS
- \$231,936 FDEP Section 319(h) grant

Funding Pending:

- \$353,000 FDEP Water Protection Funds

AREA 7B

Area Size: 294 acres
Estimated Cost: \$7,516,760
Gallons of water pumped from C-23 Canal: 1,424,284,770

ANNUAL REDUCTION OF NUTRIENTS

Total Phosphorus: 1,687 LBS.
Total Nitrogen: 12,473 LBS.
Total Suspended Solids: 35,636 LBS.