

Water Beyond 2000

Upground Reservoir Project

Reservoirs

A series of three reservoirs are planned for construction on 2,500 acres of land owned by the City of Columbus in northwest Delaware County. The reservoirs will be filled with water from the Scioto River during periods of high flow.

Reservoir Design Features:

Reservoir Sites

The upground reservoirs are being sized and designed based upon updated safe yield and storage volume requirements, embankment stability analyses, and construction methods determined from the subsurface investigations.

Geotechnical Investigations

- Shallow bedrock, shallow granular deposits and shallow groundwater levels were found on all three reservoir sites.
- This site geology requires use of a synthetic liner at each reservoir site.
- The reservoir embankments will be constructed of properly compacted soil, which will be excavated from the interior portions of each reservoir site.
- The embankments will have a minimum crest width of at least 15 feet to allow construction of a perimeter roadway on the embankment crest.

Reservoir Sizes

- Reservoir Site R-1: 400 acres, 4.3 billion gallons storage volume
- Reservoir Site R-2: 850 acres, 9.4 billion gallons storage volume
- Reservoir Site R-3: 350 acres, 4.4 billion gallons storage volume
- Once complete, the three upground reservoirs will provide an additional supply in excess of 53 MGD for City of Columbus and Del-Co Water Company consumers.

Inlet and Outlet Structures

- A 72-inch diameter pipeline will link the three reservoirs to the raw water pump station.
- Individual inlet and outlet pipes will then be extended from this transmission pipeline to each reservoir.
- Isolation valves will direct the flow into or out of each reservoir, and allow each reservoir to be filled individually.
- The outlet structure of each reservoir will be a cast-in-place concrete structure with multiple openings at varying depths. A valve at the river outlet structure will control the actual rate of release from each reservoir.
- A 72-inch pipe will carry the water from the outlet structure at each reservoir to a release facility on the Scioto River (located near the Pump Station site). The ultimate discharge location to the river will be near Fry Road.

Site Drainage

- Surface water creeks, streams, swales and agricultural ditches will be diverted around the proposed footprint of each upground reservoir site.
- New perimeter ditches will be provided on each site to intercept the subsurface drainage from field tiles and surface drainage that currently flows through and over each reservoir area.
- The use of two-stage ditch design is being proposed for the perimeter ditches.

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Reservoir Operation, Maintenance and Inspection Facilities

- 20-foot wide access roads will be provided from the public road right-of-way to each reservoir, with 15-foot wide roads extended around the perimeter of the reservoir crest for maintenance and site inspection.
- A single lane boat launch ramp will be provided for maintenance purposes at each reservoir.

Reservoir Site Security

- The majority of each reservoir site will have restricted access, with perimeter fencing and gated access for authorized personnel only.
- Video cameras will be installed to provide 24-hour remote surveillance of the site.

Estimated Construction Costs:

• Reservoir Site R-1.....	\$56,976,000
• Reservoir Site R-2.....	\$93,388,000
• Reservoir Site R-3.....	\$50,712,000

There are no easements or additional property acquisition costs associated with reservoir site construction.

Preferred Construction Sequence for Reservoirs:

- Reservoir Site R-2 is recommended to be the initial reservoir project for construction.
- Reservoir Site R-3 is recommended to be the second reservoir project for construction provided that the additional geotechnical and environmental screenings are completed without any significant findings.
- Reservoir Site R-1 is recommended as the final reservoir for construction.

Construction Timeline:

- Construction of the first reservoir is anticipated to begin in spring of 2011.
- Filling of first reservoir estimated to begin in fall of 2013.
- Construction of the second and third reservoirs will be evaluated as service population and water demand increases.



City of Columbus
Michael B. Coleman, Mayor

Contact Information:

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Please submit your comments on the project at:

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