

# 146 Years of Water Supply

## **The Historical Development of a Reliable System of Water Supply for the City of Norfolk**





# 146 Years of Water Supply

## The First Step

In 1873, the Moores Bridges Pumping Station is built in Princess Anne County supplying parts of Norfolk with untreated lake water







5169  
1915



# Early Water Sources

These “lakes” were formed when small creeks of the Chesapeake Bay and Broad Creek were dammed up and allowed to fill with rain water, they included:

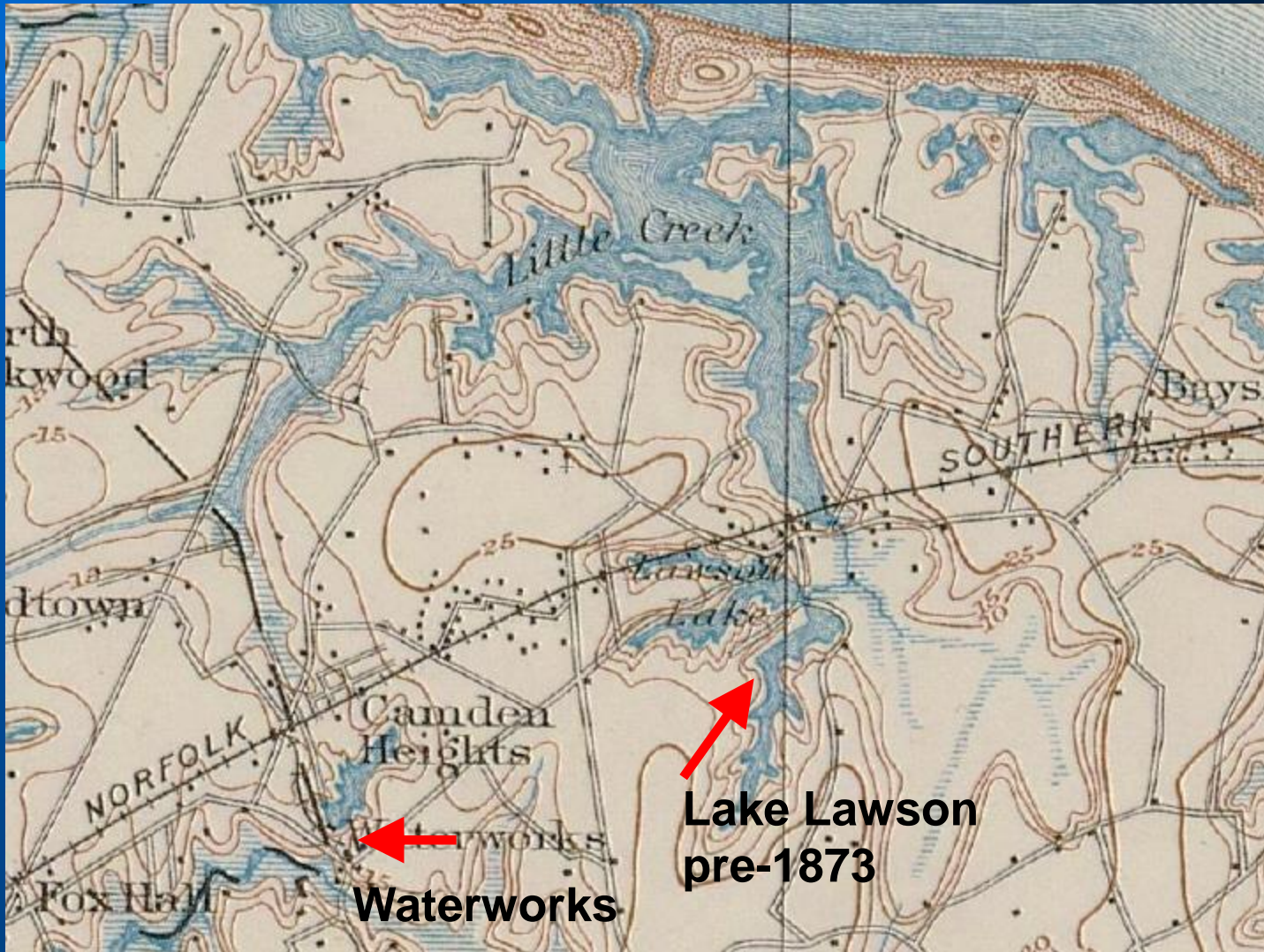
- Lake Wright
- Lake Taylor
- Lake Lawson
- Lake Smith
- Lake Bradford
- Lake Joyce
- Artesian Well at Moores Bridges







# Pre-1885





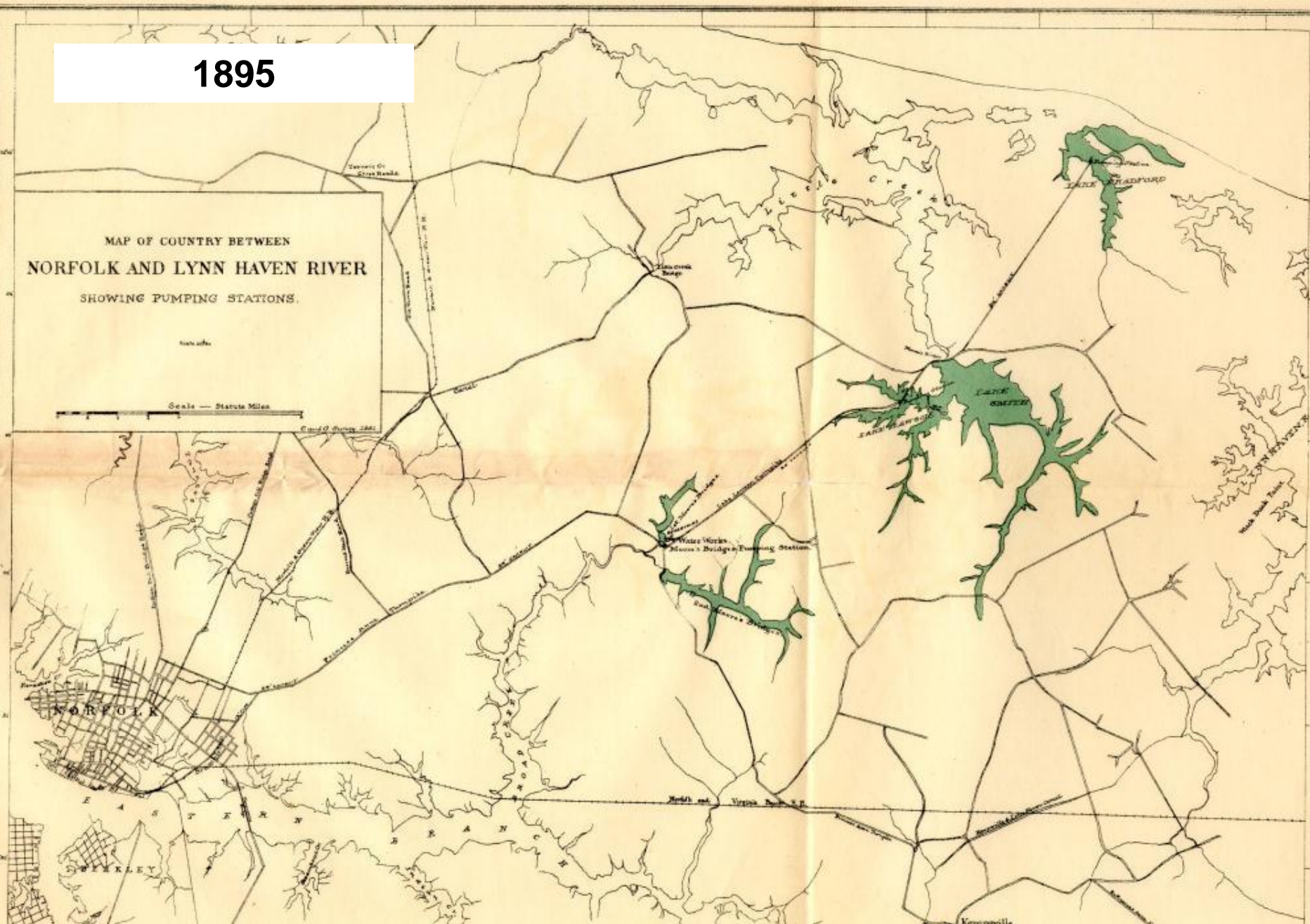
1895

MAP OF COUNTRY BETWEEN  
NORFOLK AND LYNN HAVEN RIVER  
SHOWING PUMPING STATIONS.

Scale 1:100,000

Scale — Statute Miles

Copyright 1895



# 1898

- **This year marked several major improvements for the Norfolk Water System:**
  - **The “Intown Reservoir System” is formed after the City floods low lying areas between Moores Bridges and Lake Smith. The resulting Little Creek Reservoir connects all of the reservoirs together and allows the water to flow by gravity to the Moores Bridges Water Treatment Plant.**
  - **A new filter building is constructed allowing the City to “treat” the lake water for the first time.**



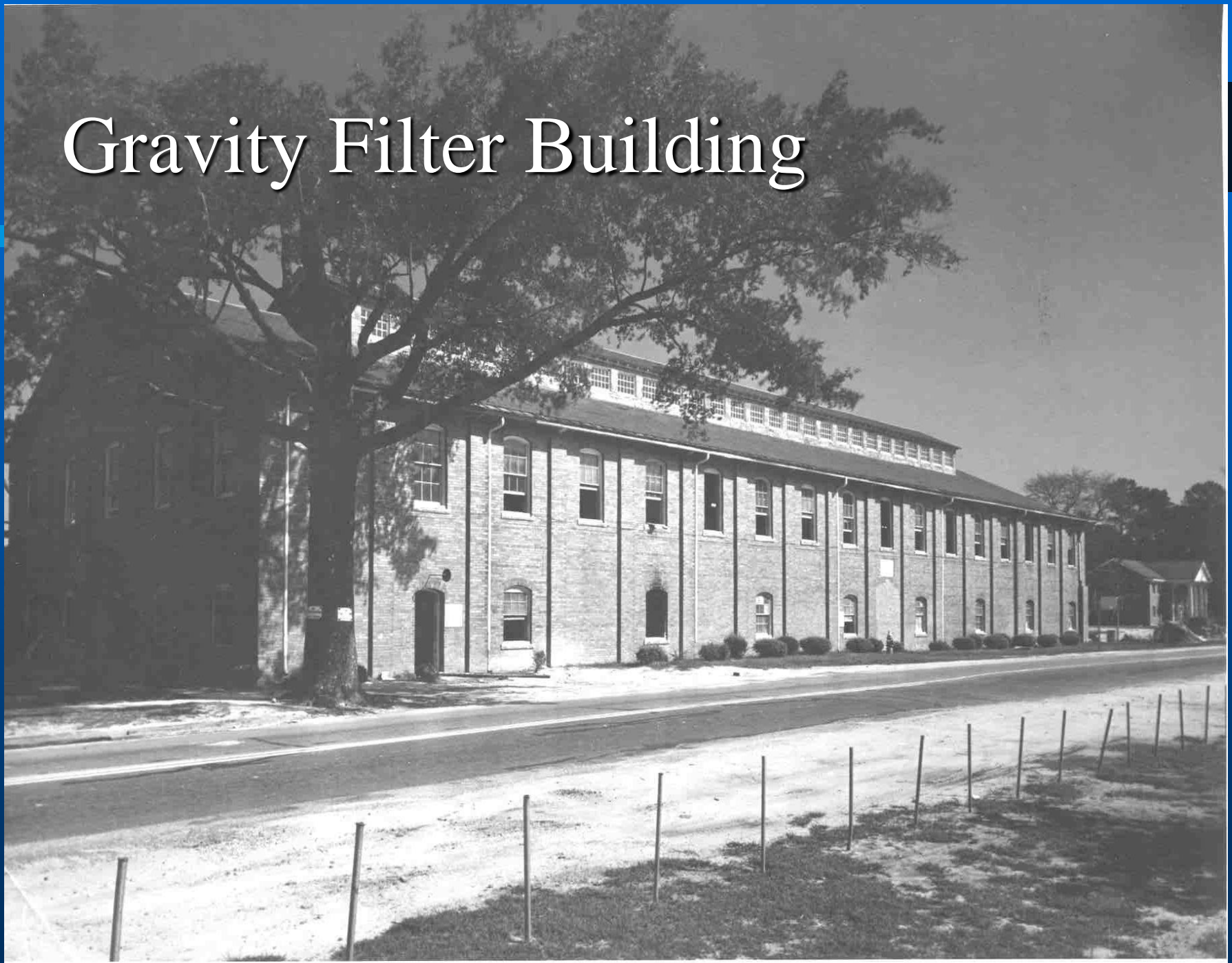
*Survey  
of  
LITTLE CREEK  
and  
TRIBUTARIES  
showing Contour Line  
of Overflow Level  
at Pump House  
Scale: 800 ft. 1 in.*

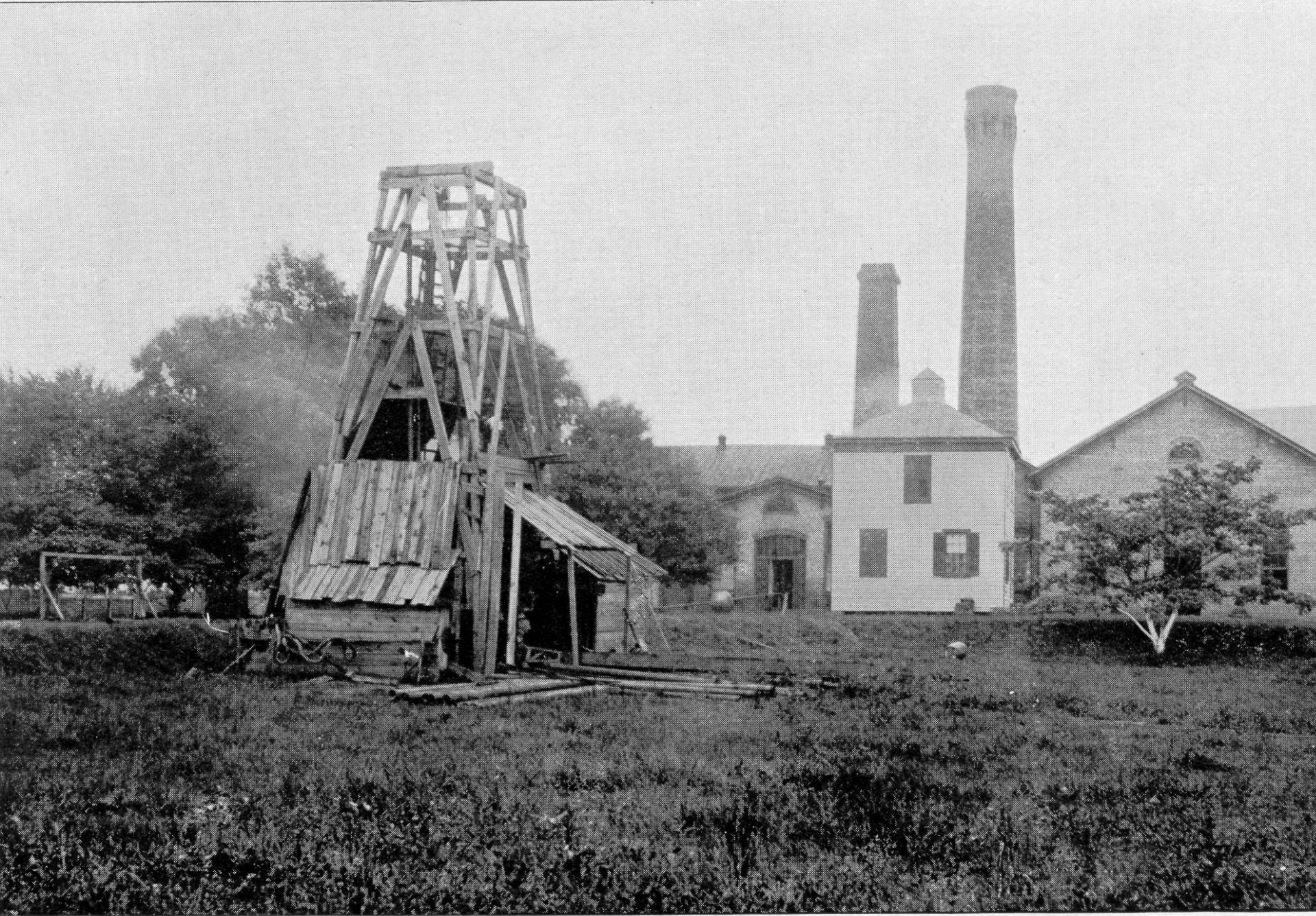
*Graham & Pidd*

*Scales of Profiles:  
Horizontal 200 ft. 1 inch  
Vertical 2 ft. 1 inch*



# Gravity Filter Building





*ARTESIAN WELL-BORING AT MOORE'S BRIDGES.*

# 1918

The Norfolk City Water System acquired the facilities and distribution system of the Norfolk County Water Company. This resulted in the following benefits:

- Consolidated city and suburban distribution systems
- Allowed elimination of redundant water lines
- Brought Stumpy Lake into the raw water supply



# 1918

Acquisition and development of Lake Prince and the construction of the 37<sup>th</sup> Street Water Treatment Plant



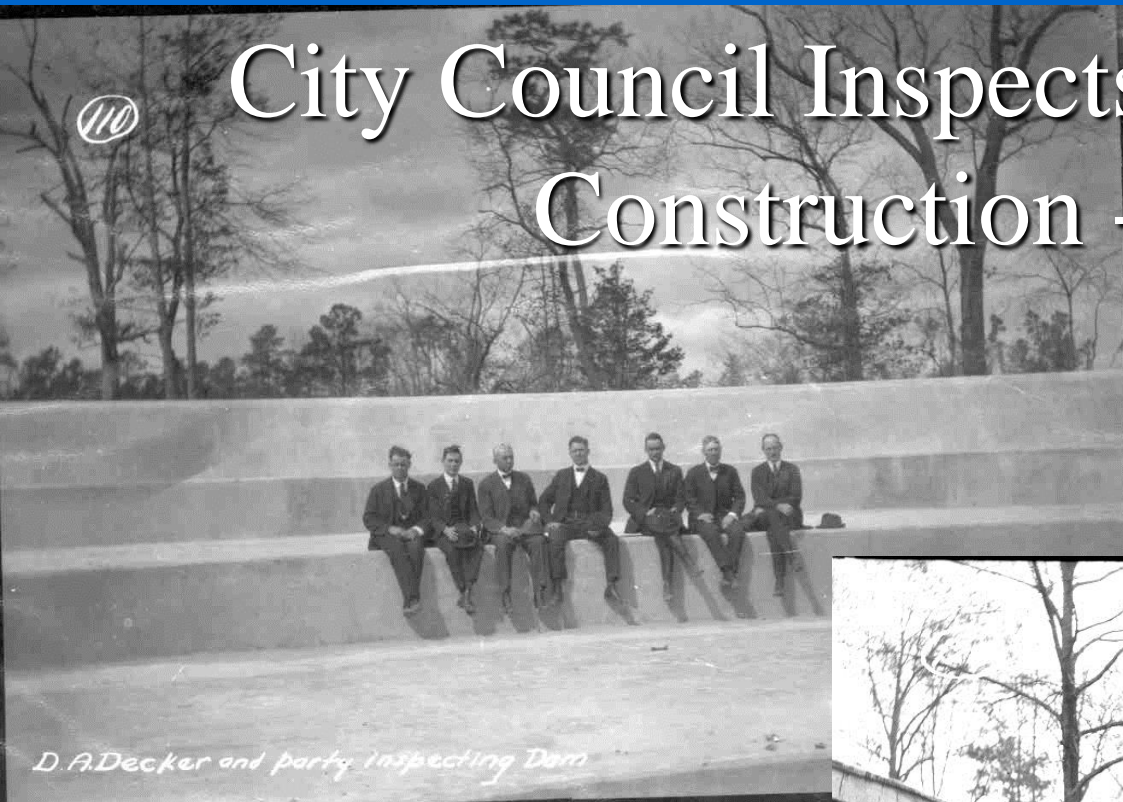


**Dredging for Lake Prince Dam**



110

# City Council Inspects Lake Prince Construction - 1921



*D. A. Decker and party inspecting Dam*



*City Council & Party Inspecting Dam*

3-24-21



# Construction of the 37<sup>th</sup> Street WTP September, 1921



RESERVOIR - LOOKING NORTH.  
9-2-1921.

#3457.  
F.T.C.

# 37<sup>th</sup> Street Water Treatment Plant



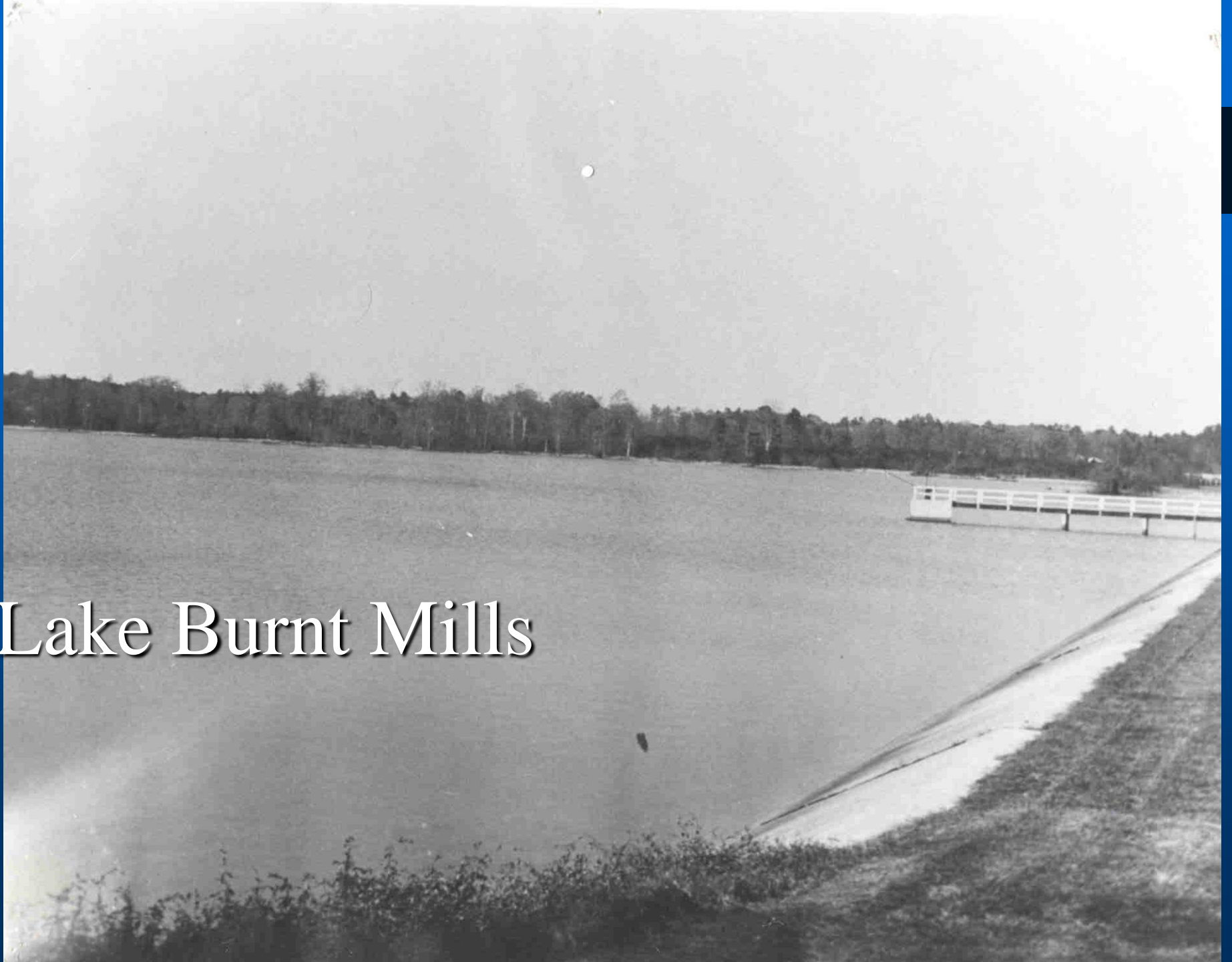
# World War II Period

Development of the Burnt Mills Reservoir and  
Blackwater & Nottoway River Pumping Stations

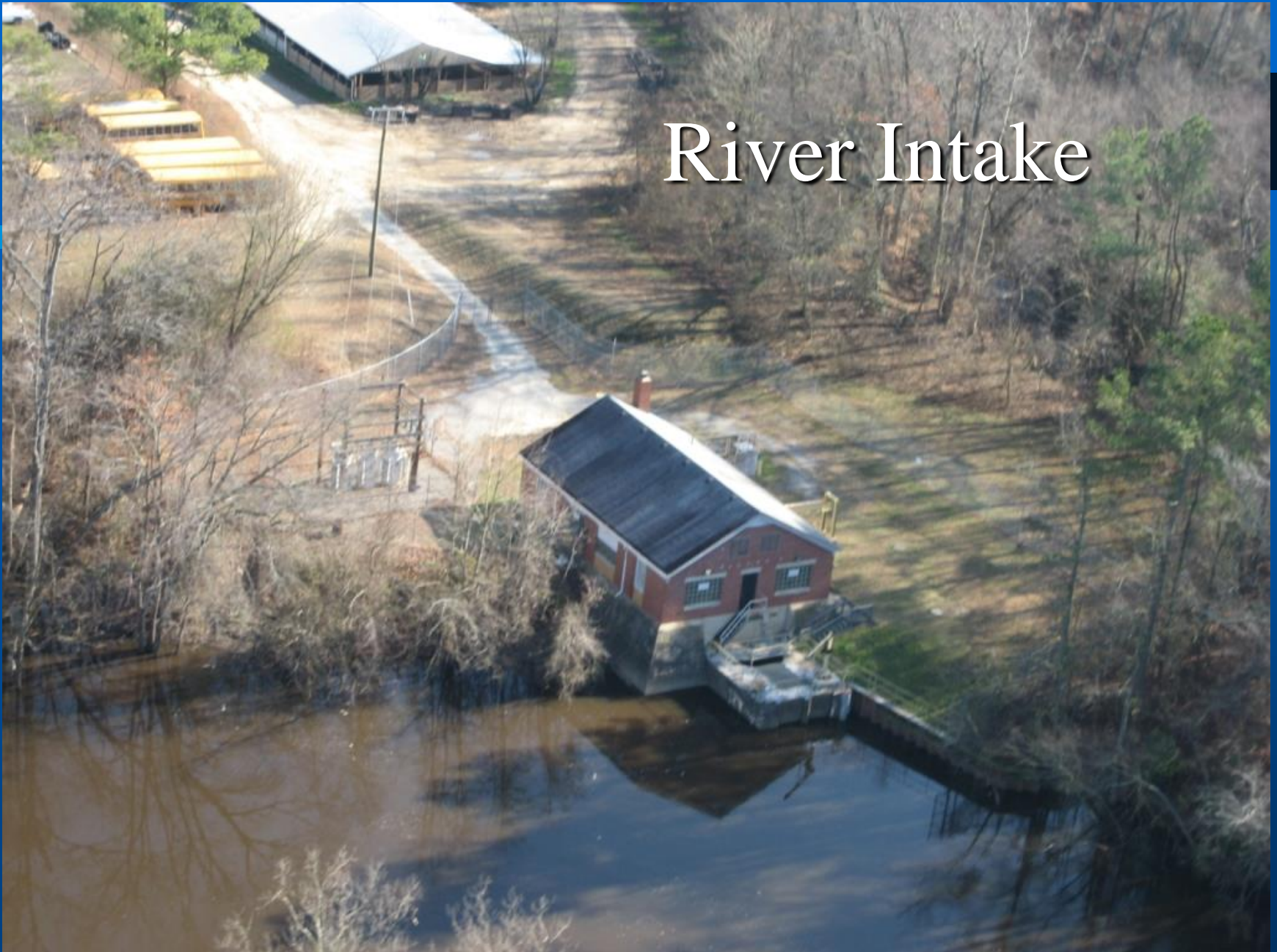




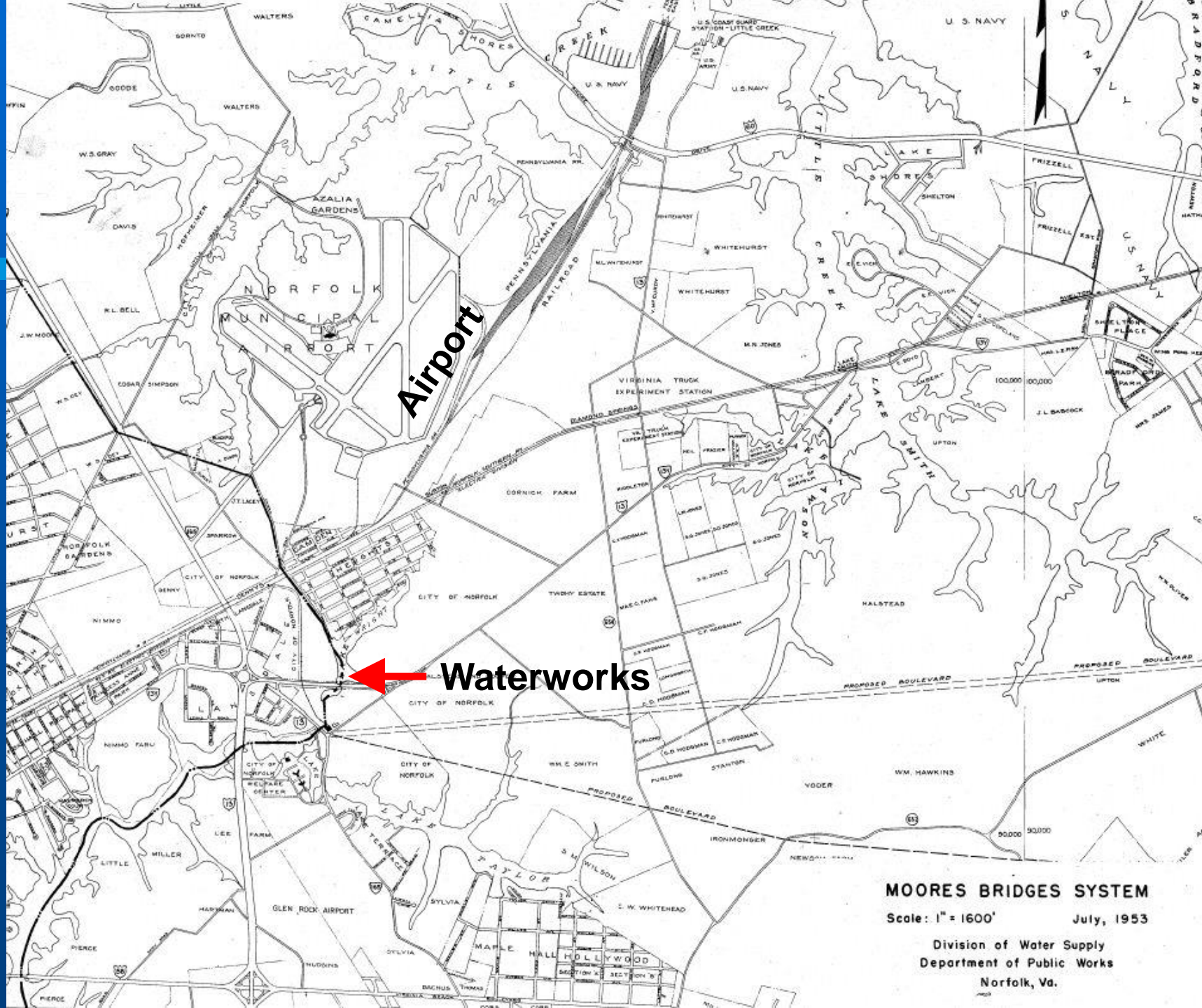
# Lake Burnt Mills



# River Intake





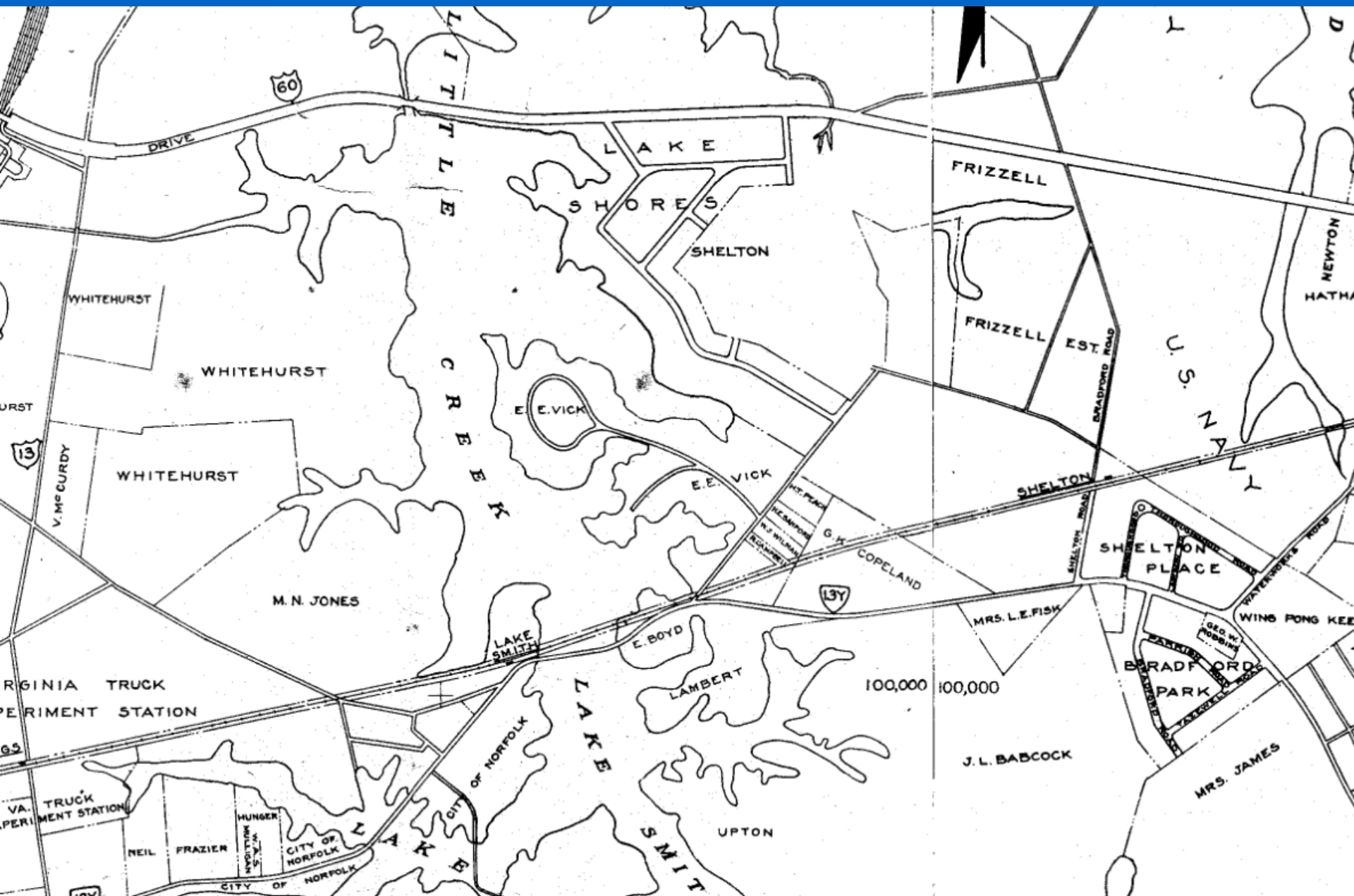


# MOORES BRIDGES SYSTEM

Scale: 1" = 1600'

July, 1953

Division of Water Supply  
Department of Public Works  
Norfolk, Va.





# 1963

## Development of the Western Branch Reservoir



# Western Branch Reservoir





# 1966

## Development of Deepwell Emergency Supply





**Four deep wells drilled in Suffolk to augment supply**



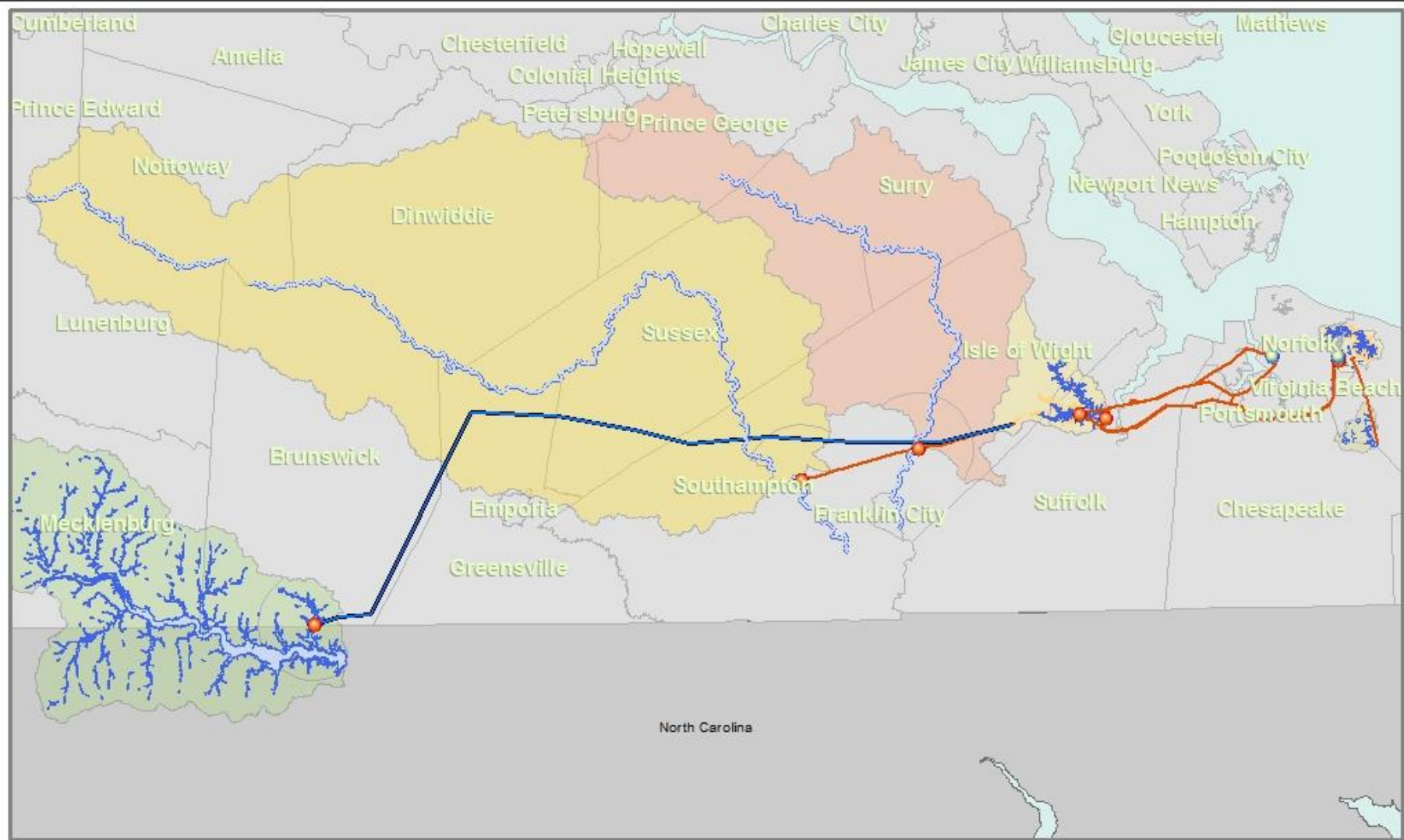
# Current Water System

- Water Treatment Plants
  - Moores Bridges
  - 37<sup>th</sup> Street
- Reservoirs
  - Western Branch Reservoir
  - Lake Prince
  - Lake Burnt Mills
  - Lake Whitehurst
  - Lake Wright
  - Lake Smith
  - Little Creek Reservoir
  - Lake Lawson

# Current Water System

- Blackwater & Nottoway Rivers
- Four Deep Wells in Suffolk & Isle of Wight
- Virginia Beach System
  - Lake Gaston (1997)
  - Stumpy Lake – Sold to VB in 2001





## Regional Map



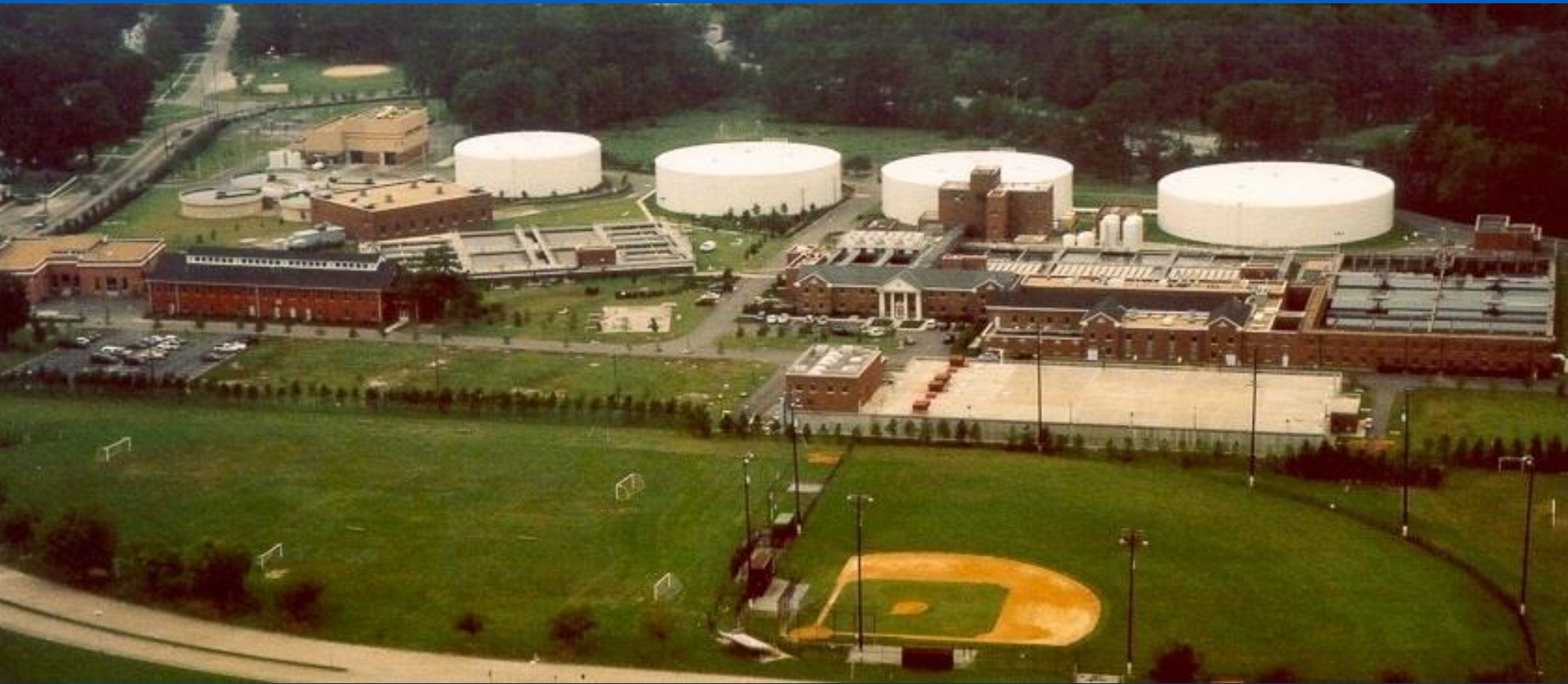
8 4 0 8 Miles

# Norfolk's Customers

- City of Norfolk Residents
- City of Virginia Beach (Lake Gaston)
- City of Chesapeake (raw & finished water)
- City of Portsmouth (raw water drought relief)
- City of Suffolk (raw water)
- Department of Defense
  - Norfolk Navy
  - Virginia Beach Navy, NAS Oceana
  - Virginia Beach Army, Fort Story
  - Coast Guard at Craney Island (raw water)



# Moore's Bridges Water Treatment Plant



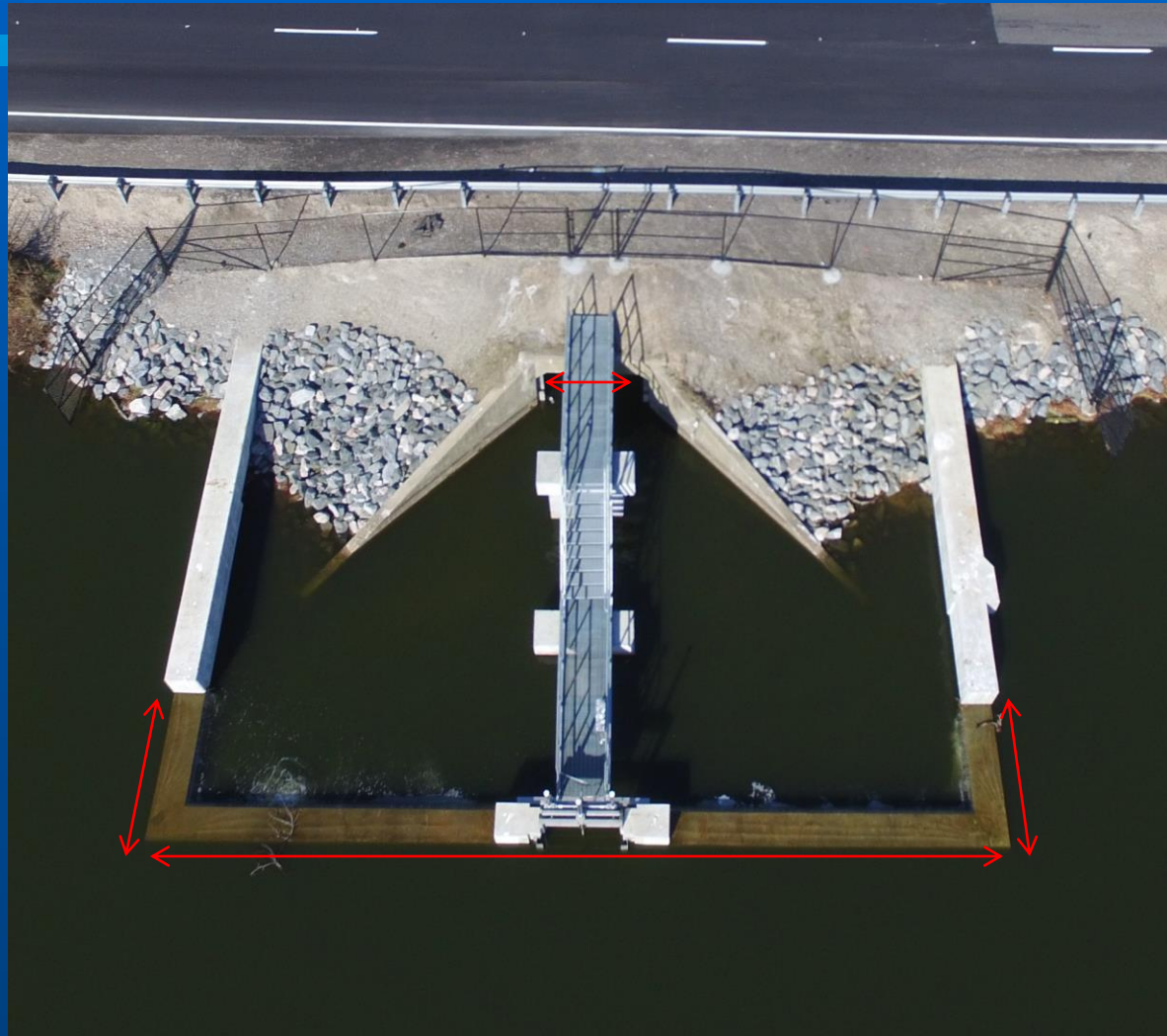


# 37<sup>th</sup> Street Treatment Plant





# Lake Smith Spillway 2019



# Lake Whitehurst Spillway





# Lake Whitehurst Spillway



# Lake Whitehurst Spillway





# Lake Whitehurst Spillway





A dynamic photograph of a large splash of water, likely from a fountain or a large container being tipped over. The water is captured mid-air, creating a dense cloud of droplets and bubbles. The background is a clear, bright blue sky. The overall scene conveys a sense of motion and surprise.

**Questions?**