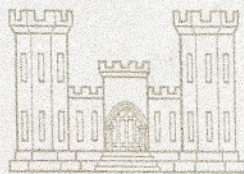


BUGGS ISLAND DAM AND RESERVOIR PROJECT

ROANOKE RIVER
VIRGINIA AND NORTH CAROLINA



DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS
OFFICE OF THE DISTRICT ENGINEER
NORFOLK, VIRGINIA

SEPTEMBER 1948

PURPOSE

The Buggs Island Dam and reservoir is being constructed for flood control, generation of hydroelectric power, and other allied uses. The reservoir is one unit of a comprehensive reservoir system planned for the Roanoke River Basin to control the widely fluctuating flows of the Roanoke River and its tributaries (see map on inside back cover for the location of these proposed reservoirs). The space in the upper portion of the reservoir will be reserved exclusively to control floods on the Roanoke River below the dam. The lower part of the reservoir space will be used for the storage of water to regulate the low flows of the Roanoke River, to produce hydroelectric power at the site, to dilute industrial and other wastes now emptied into the Roanoke River, and for future navigation. Incidental benefits will result from recreation on the lake, and from fish and wildlife preservation in and around the lake and in the river downstream.

WATERSHED

The Roanoke River rises in the Allegheny Mountains west of Roanoke, Virginia, flows eastwardly toward the Atlantic Ocean for a distance of 400 miles, and empties into Albemarle Sound, North Carolina (see map on inside of back cover). From its source the Roanoke River flows in a southeasterly direction through the states of Virginia and North Carolina. Its principal tributary, the Dan River, also rises in the Allegheny Mountains west of Danville, Virginia, flows eastwardly for 200 miles and empties into the Roanoke River at Clarksville, Virginia. The Roanoke River from Clarksville upstream for a distance of 110 miles to the mouth of Pigg River is locally known as the Staunton River.

The Roanoke River Basin, roughly pear shaped, is approximately 220 miles long, from 10 to 100 miles wide, and has an area of 9,580 square miles above the river mouth at Albemarle Sound. A small portion of the upper basin lies in the Allegheny and Blue Ridge Mountains, which include high rugged ridges at elevations up to 4,000 feet above sea level. The major portion of the basin is in the Piedmont Plateau, which is characterized by broad rolling areas with elevations between 200 and 900. Most of the streams in the Piedmont are swift and somewhat crooked and traverse the area in well defined



BUGGS ISLAND PROJECT

CONSTRUCTION

BY

CORPS OF ENGINEERS, U. S. ARMY

OFFICE OF THE DISTRICT ENGINEER

NORFOLK, VIRGINIA



PURPOSES OF PROJECT

Flood Control.
Hydroelectric Power.
Low Water Regulation for Navigation and
Pollution Abatement.
Incidental Benefits Include Recreation
and Fish and Wildlife Preservation.

RIVER FLOWS AT DAM SITE

NATURAL FLOW:

Average Annual Flow 7,850 cubic feet per second
Maximum Flow of Record (1940) . . . 270,000 cubic feet per second
Minimum Flow of Record (1932) . . . 467 cubic feet per second

REGULATED FLOW:

Maximum (For flood control) 60,000 cubic feet per second
Average for Power 6,850 cubic feet per second

RESERVOIR

COUNTIES AFFECTED:

State of Virginia Mecklenburg, Charlotte, Halifax
State of North Carolina Granville, Vance, Warren

LENGTH AT ELEVATION 320:

Roanoke River 56 miles
Dan River, Above Junction 34 miles

Length of Shoreline at Elevation 300 800 miles
Maximum Width at Elevation 300 2 miles
Storage at Elevation 320 2,921,000 acre-feet
Storage at Elevation 300 1,576,000 acre-feet
Controlled Flood Storage 1,345,000 acre-feet
Reservoir Surface at Elevation 300 51,200 acres
Reservoir Surface at Elevation 320 87,900 acres
Drainage Area of Roanoke River above
Dam Site 7,800 square miles

DAM

LENGTH:

Concrete Portion 2,785 feet
Earth Portion 19,572 feet

MAXIMUM HEIGHT:

Concrete Portion 144 feet
Earth Portion 45 feet

CREST GATES:

Type Tainter
Number 22
Size (Length by height) 42 by 32 feet

SLUICES:

Number Six 5-feet 8-inches by 10-foot inlets

ELEVATIONS (Feet above mean sea level)

Top of Dam 332
Base of Dam (Approximate) 188
Crest of Spillway 288
Maximum, Flood-Control Pool 320
Maximum, Power Pool 300

POWERHOUSE GENERATORS

INITIAL INSTALLATION:

3 units @ 32,000 kilowatts each 96,000 kilowatts
1 unit @ 12,000 kilowatts 12,000 kilowatts
2 Station Service units @ 1,000 kilowatts . . 2,000 kilowatts

FUTURE INSTALLATIONS:

3 units @ 32,000 kilowatts each 96,000 kilowatts

CONSTRUCTION QUANTITIES (Approximate)

Concrete 700,000 cubic yards
Earth Excavation 500,000 cubic yards
Rock Excavation 300,000 cubic yards
Earth Fill 1,200,000 cubic yards
Drilling for Foundation 60,000 linear feet

MAY 1950

from 1948 information