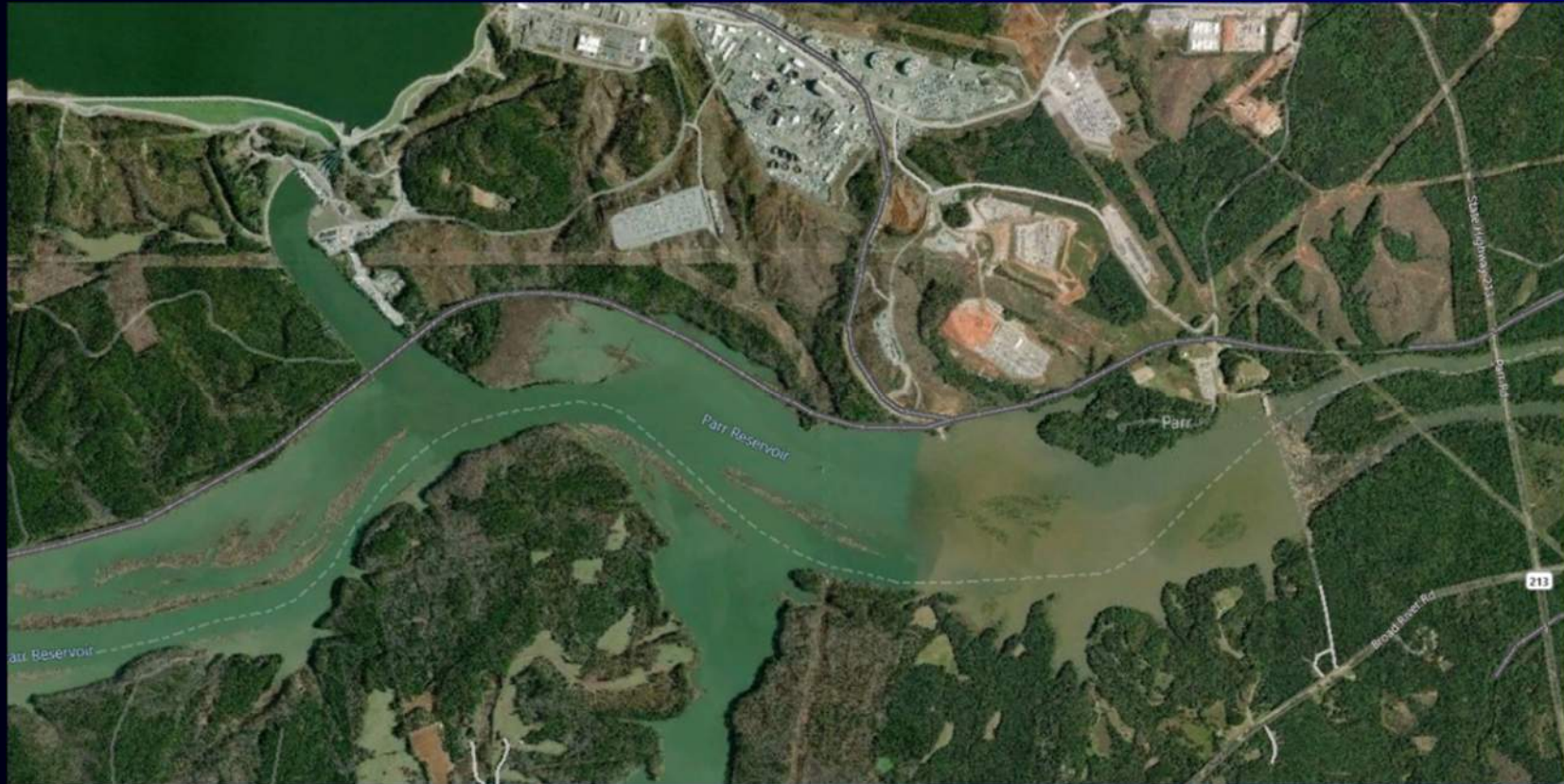


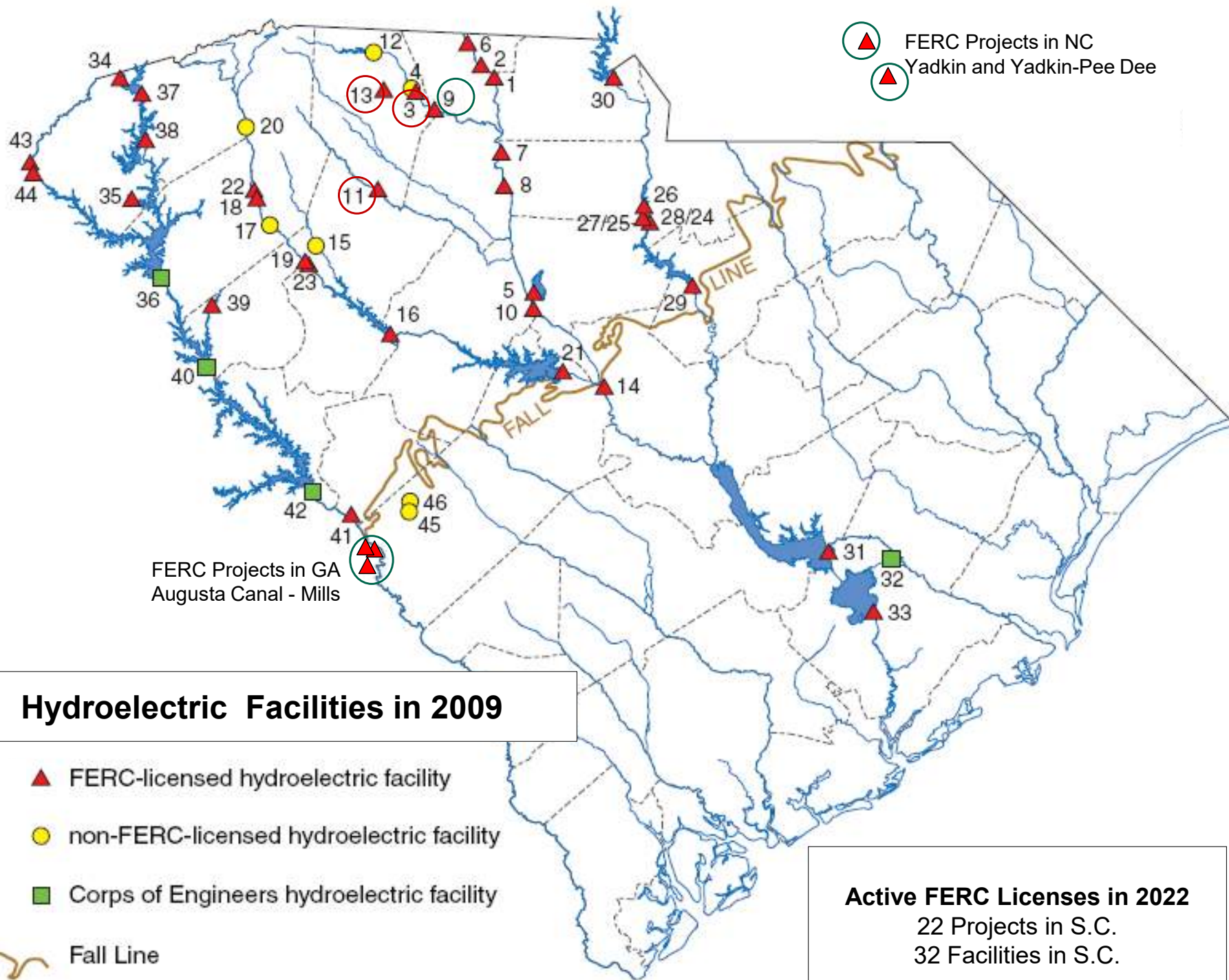
FERC Licensing of Hydropower Projects



Broad River Basin

Bill Marshall
South Carolina Department of Natural Resources





Hydroelectric Facilities in 2009

- ▲ FERC-licensed hydroelectric facility
- non-FERC-licensed hydroelectric facility
- Corps of Engineers hydroelectric facility

 Fall Line

Active FERC Licenses in 2022

22 Projects in S.C.
32 Facilities in S.C.

Hydropower Licensing

Federal laws

- Federal Power Act (FPA)
- Electric Consumers Protection Act
- Fish and Wildlife Coordination Act
- National Environmental Policy Act



Hydropower Licensing

FPA Section 10(a)

- Project must serve public interest, not just power interests
- FERC must consider consistency of license with comprehensive plans
- State comprehensive plans apply
 - S.C. Water Plan
 - State Wildlife Action Plan

Hydropower Licensing

FPA Section 10(j)

- License should adequately and equitably protect, mitigate damages to, and enhance fish and wildlife resources affected by the project
- States may recommend license conditions for PM&E of fish and wildlife resources



FERC Licensing Process

Public Input Opportunities

- Pre-Application Document
- Study Requests, Study Plans
- Draft License Application
- NEPA Scoping
- Ready for Environmental Analysis
- Environmental Assessment or EIS



DNR Responsibilities

Title 50 and 48 – SC Code of Laws

- Wildlife & fisheries protection
- Game, nongame, & endangered species
- Marine resources
- WMA lands & Heritage Preserves
- Hunting & fishing licenses
- Watercraft equipment & operation
- Geological survey
- Soil & water conservation



DNR Responsibilities

Title 49 – SC Code of Laws

- Water resources planning & coordination (SC Water Plan)
- Drought response planning & coordination
- Aquatic plant management
- Flood mitigation
- State scenic rivers



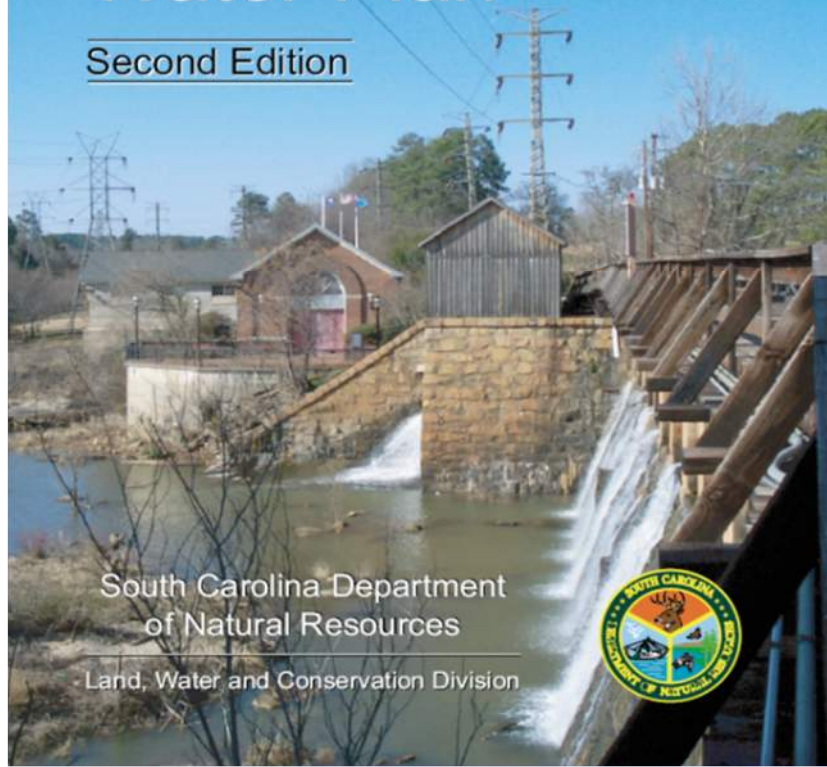
DNR Interest & Objectives

- Recognize the river and reservoir as important public trust resources
- Manage the project to achieve public benefits
- Maintain & enhance water quality to meet State standards
- Provide downstream flows consistent with the S.C. Water Plan
- Establish a Drought Plan or Low-inflow Protocol



South Carolina Water Plan

Second Edition



South Carolina Department
of Natural Resources

Land, Water and Conservation Division

Management Guidelines for Streams

Minimum Required Flows are Needed

- To protect and maintain stream health, functions and values:
 - *Water Quality*
 - *Fish and wildlife*
 - *Navigation*
 - *Control Saltwater Intrusion*
- Minimum flows should reflect seasonality and variability of streamflow, e.g. monthly average flows

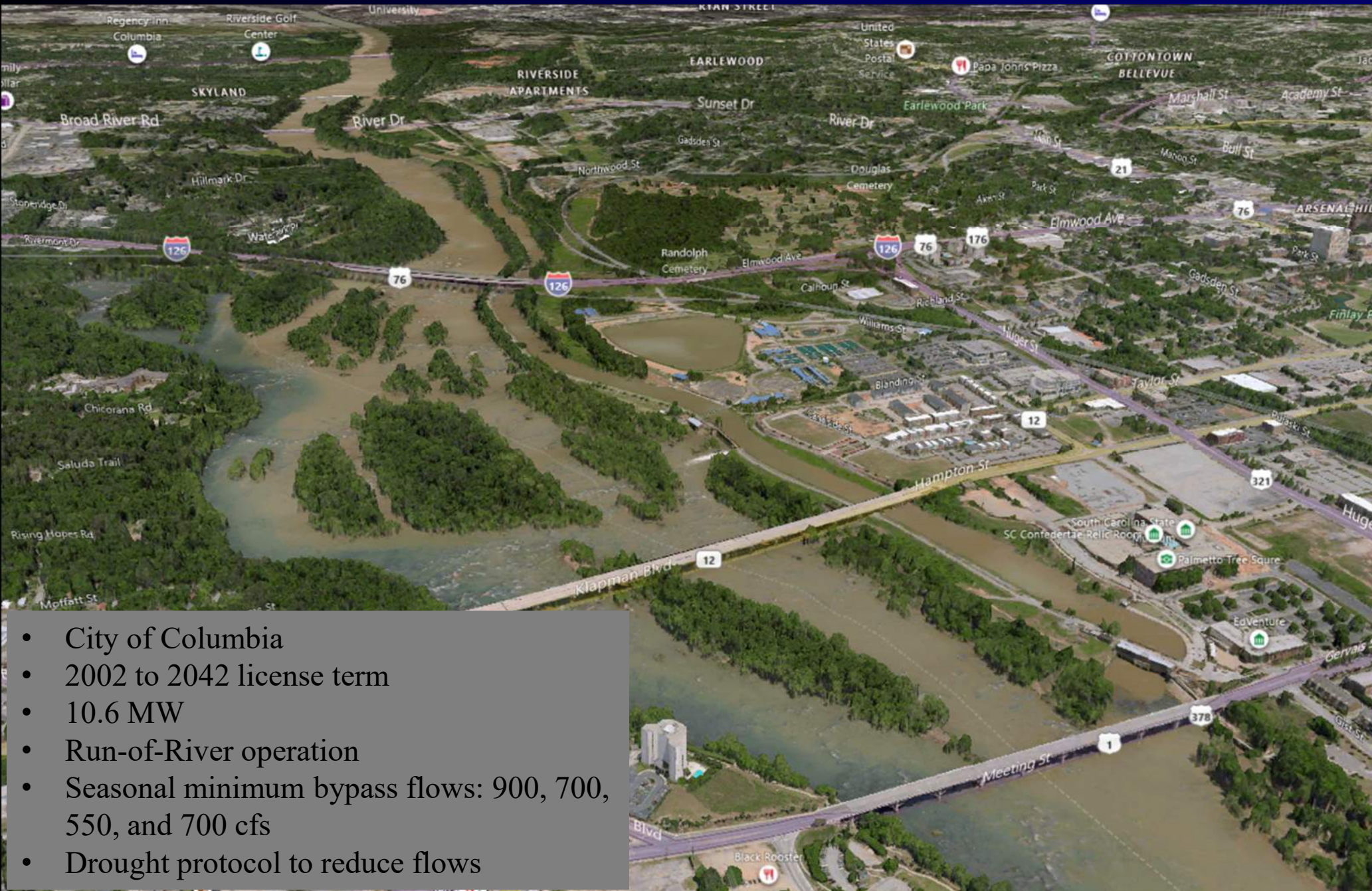


DNR Interest & Objectives

- Protect & enhance fish and wildlife populations and habitats
- Protect & enhance public opportunity for outdoor recreation
- Prevent impairment of water uses by invasive, exotic aquatic plants
- Improve recreational safety at the project
- Protect cultural & historic resources



Columbia Hydroproject



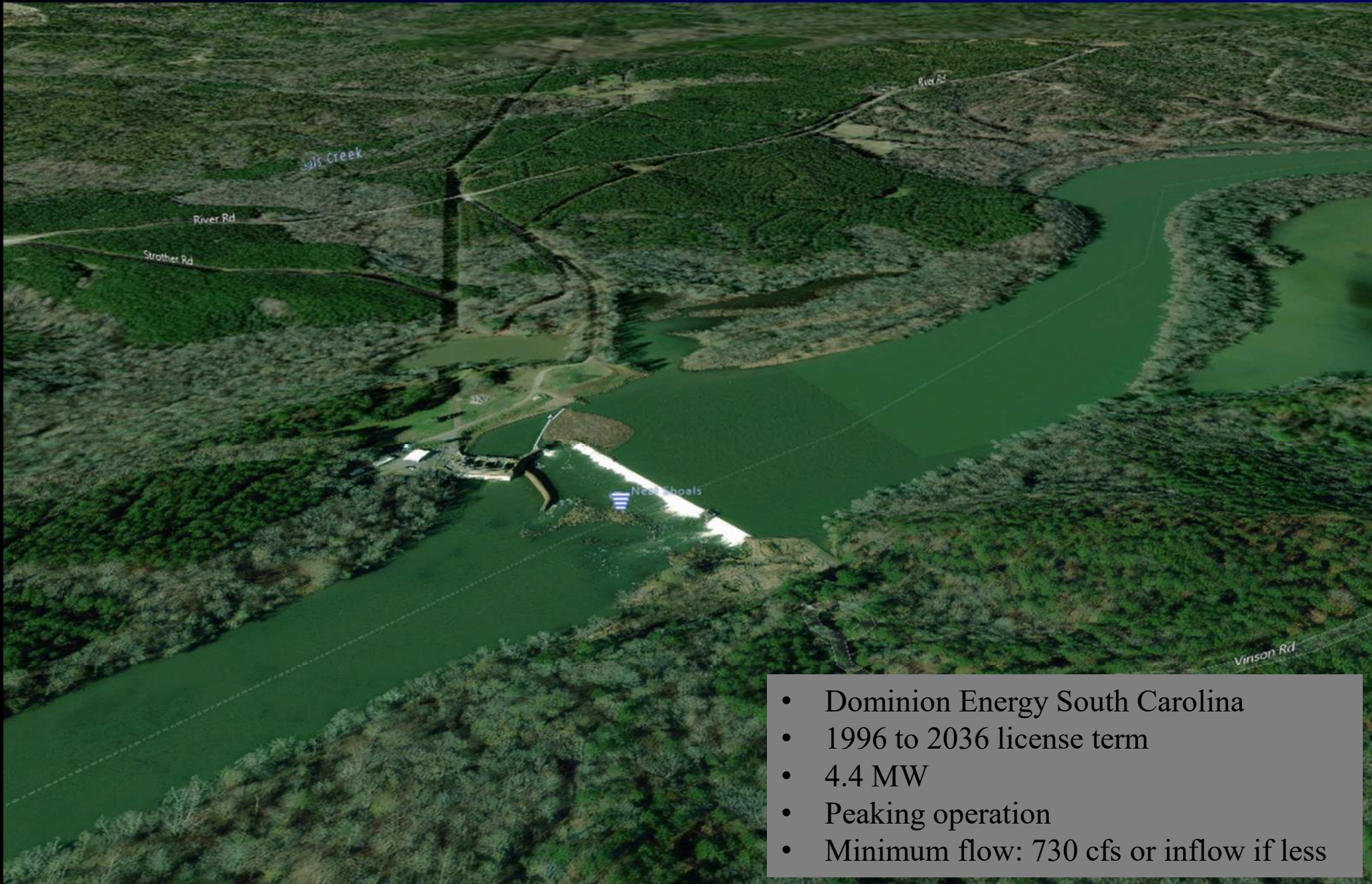
- City of Columbia
- 2002 to 2042 license term
- 10.6 MW
- Run-of-River operation
- Seasonal minimum bypass flows: 900, 700, 550, and 700 cfs
- Drought protocol to reduce flows

Parr Shoals Hydroproject



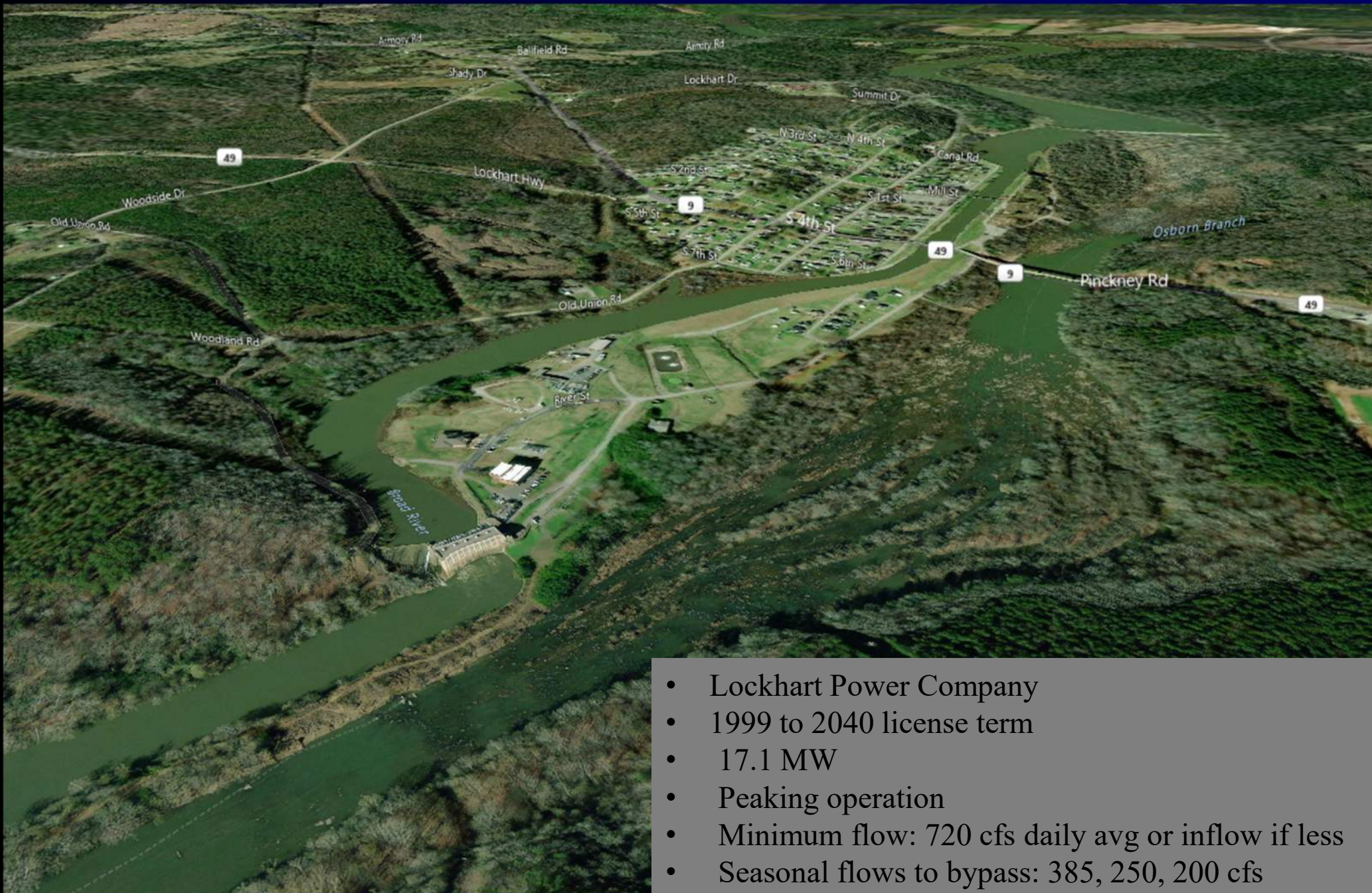
- Dominion Energy South Carolina
- 2020 to 2070 license term
- 526 MW
- Parr facility: modified Run-of-River operation
- Fairfield facility: pumped-storage peaking operation
- Seasonal minimum target outflows and compliance outflows based on net inflows: 2300, 1500, and 1000 cfs

Neal Shoals Hydroproject



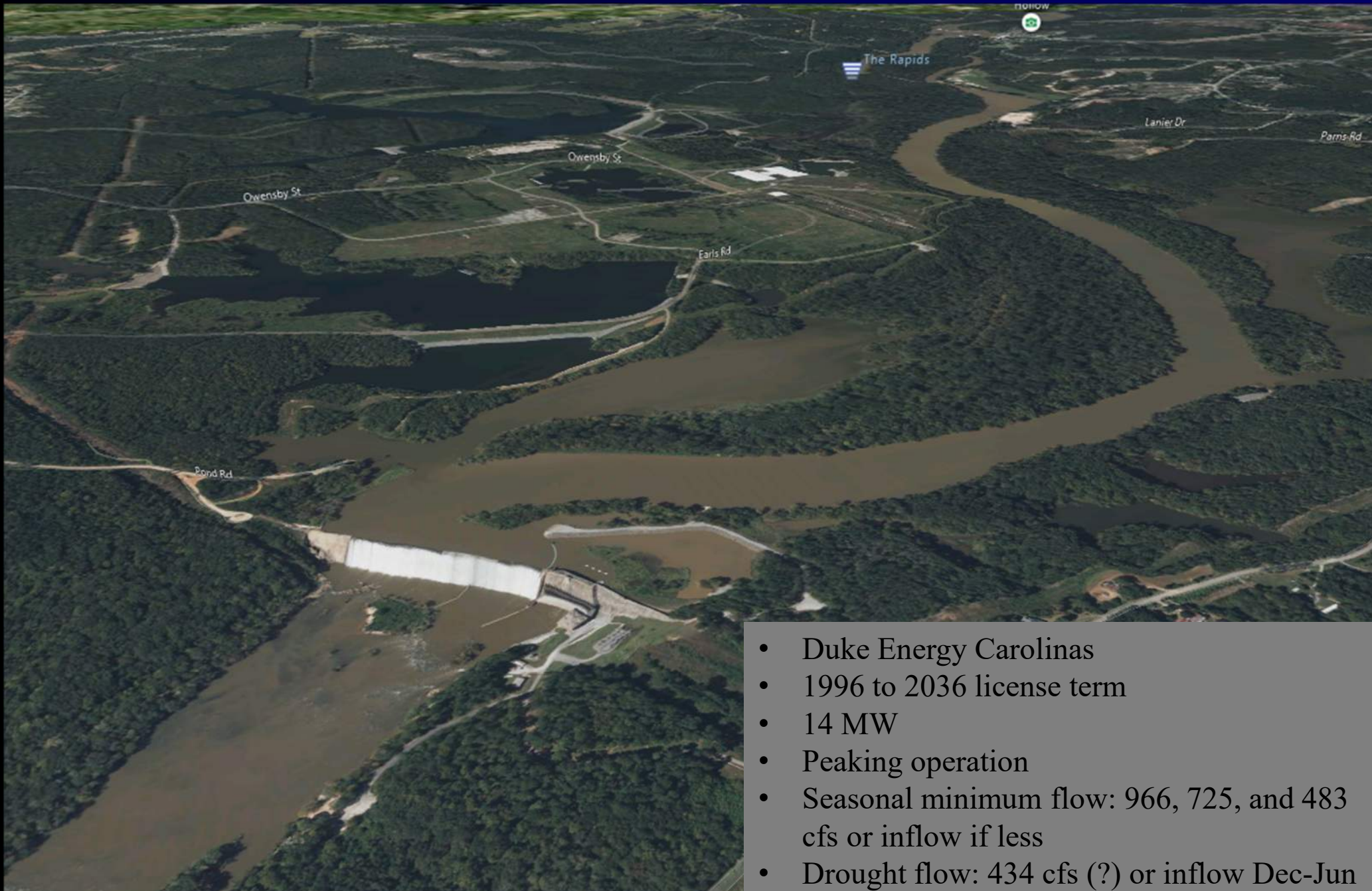
- Dominion Energy South Carolina
- 1996 to 2036 license term
- 4.4 MW
- Peaking operation
- Minimum flow: 730 cfs or inflow if less

Lockhart Hydroproject



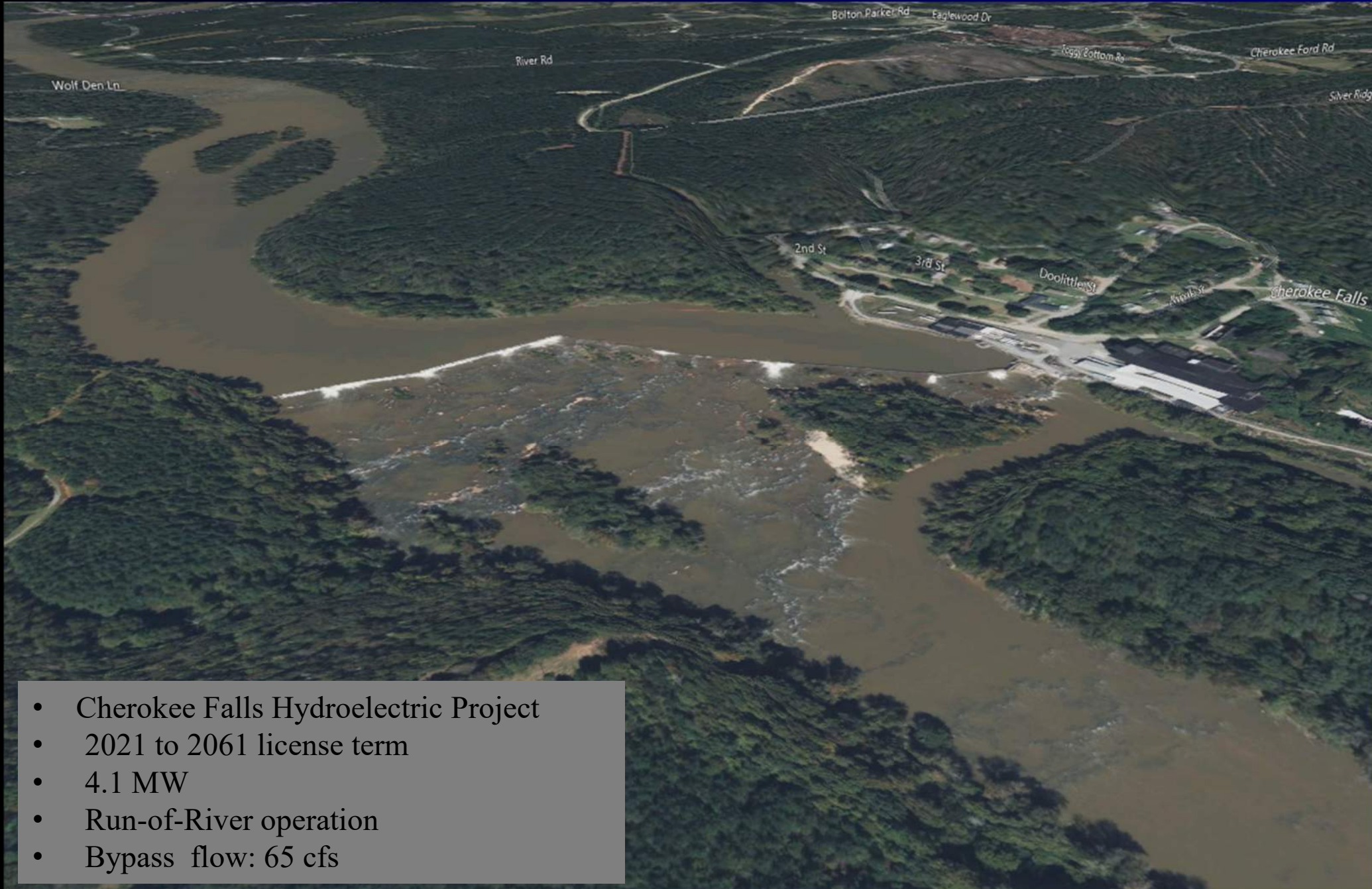
- Lockhart Power Company
- 1999 to 2040 license term
- 17.1 MW
- Peaking operation
- Minimum flow: 720 cfs daily avg or inflow if less
- Seasonal flows to bypass: 385, 250, 200 cfs

Ninety-nine Islands Hydroproject



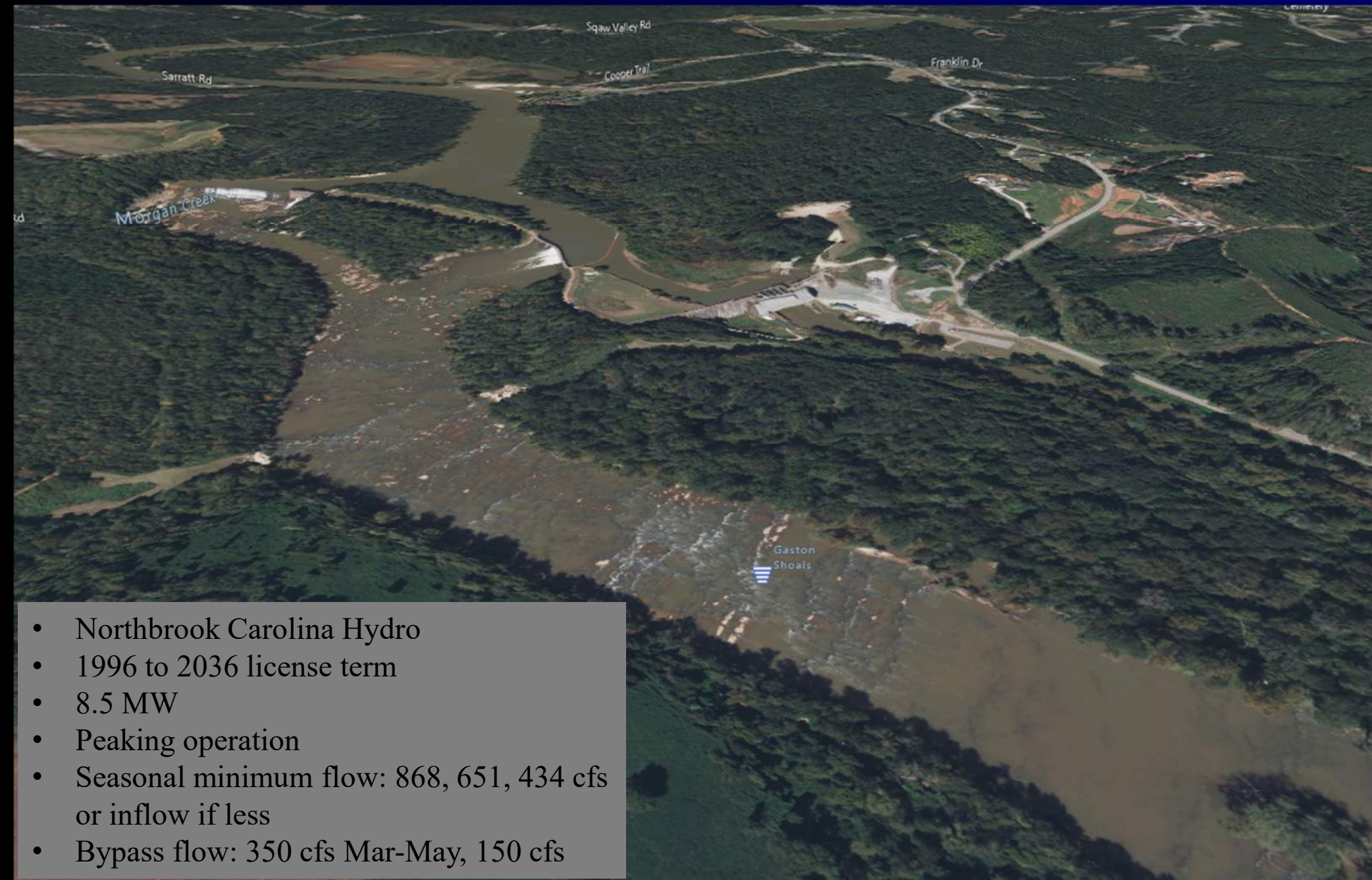
- Duke Energy Carolinas
- 1996 to 2036 license term
- 14 MW
- Peaking operation
- Seasonal minimum flow: 966, 725, and 483 cfs or inflow if less
- Drought flow: 434 cfs (?) or inflow Dec-Jun

Cherokee Falls Hydroproject



- Cherokee Falls Hydroelectric Project
- 2021 to 2061 license term
- 4.1 MW
- Run-of-River operation
- Bypass flow: 65 cfs

Gaston Shoals Hydroproject



- Northbrook Carolina Hydro
- 1996 to 2036 license term
- 8.5 MW
- Peaking operation
- Seasonal minimum flow: 868, 651, 434 cfs or inflow if less
- Bypass flow: 350 cfs Mar-May, 150 cfs

Pacolet Hydroproject



- Lockhart Power Company
- 2011 to 2052 license term
- 1.9 MW (?)
- Modified run-of-river operation with peaking no more than 75 days/year
- Bypass flow: 22 to 49 cfs

End



Boatright Shoals, Broad River