



NRCS LITTLE RIVER WATERSHED DAM NO. 25

Watershed Dam Rehabilitation Stakeholder Engagement Meeting December 15, 2016

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INTRODUCTIONS



- Golder Associates Inc.
- USDA Natural Resources Conservation Service
- Georgia Soil & Water Conservation Commission
- Fulton County Soil & Water Conservation District
- Georgia State Financing and Investment Commission
- City of Milton, Georgia



Georgia State Financing
Investment Commission

Fulton County Soil & Water
Conservation District





AGENDA



- Overview of NRCS Watershed Program and State of Georgia Rules for Dam Safety
- Little River Dam No. 25 background information
- Little River Dam No. 25 present studies
- Rehabilitation Alternatives to be studied
- Future activities
- Questions



NRCS WATERSHED PROGRAM BACKGROUND

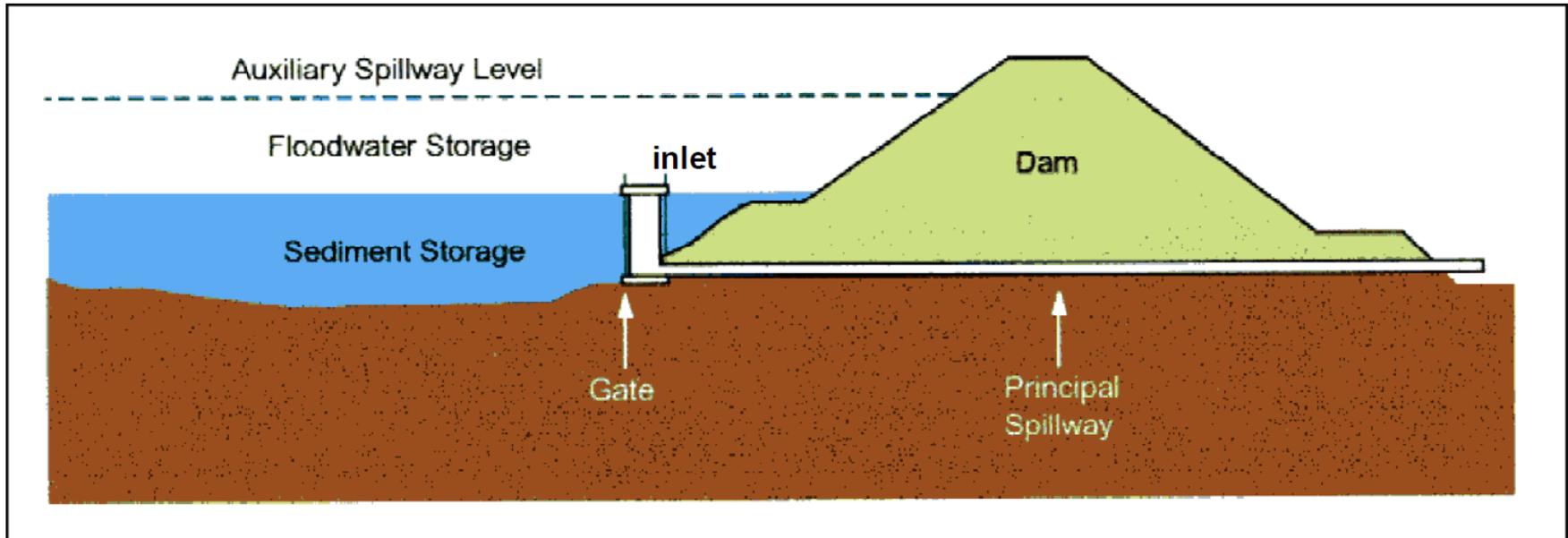
- Soil Erosion Service (1933), then Soil Conservation Service (1935), then NRCS (1994)
- NRCS Watershed Protection and Flood Prevention Conservation Program constructed more than 11,000 flood control dams in 47 states since 1948.
- Watershed Program (PL-534 Flood Control Act of 1944 and PL-566 Watershed Protection and Flood Prevention Act); Pilot Watershed Program (1952-1954); and Resource Conservation and Development Program
- Benefits include: flood control, erosion control, sediment control, recreation, fish and wildlife habitat, watershed protection, water quality, groundwater recharge, water supply





NRCS Watershed Dams

Cross Section of a Watershed Dam



<http://www.watershedcoalition.org>



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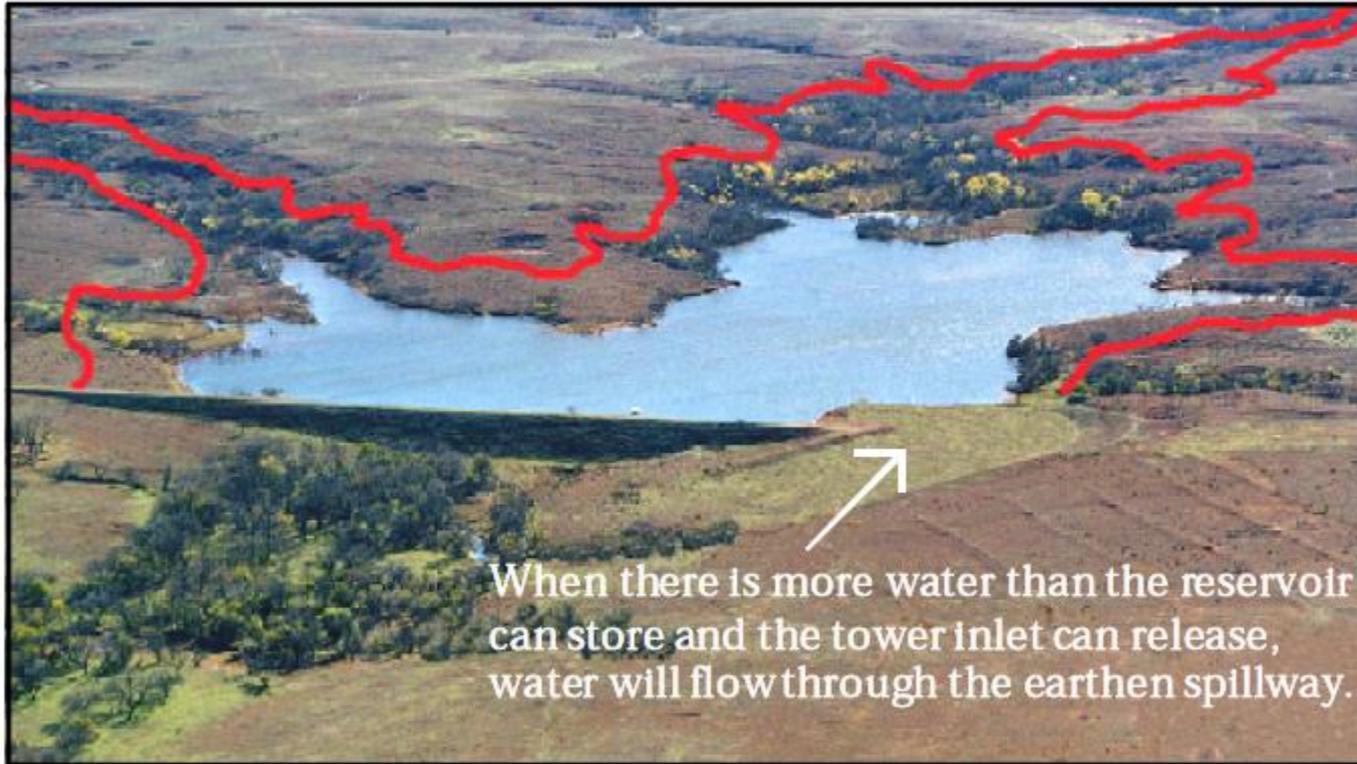
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NRCS Watershed Dams

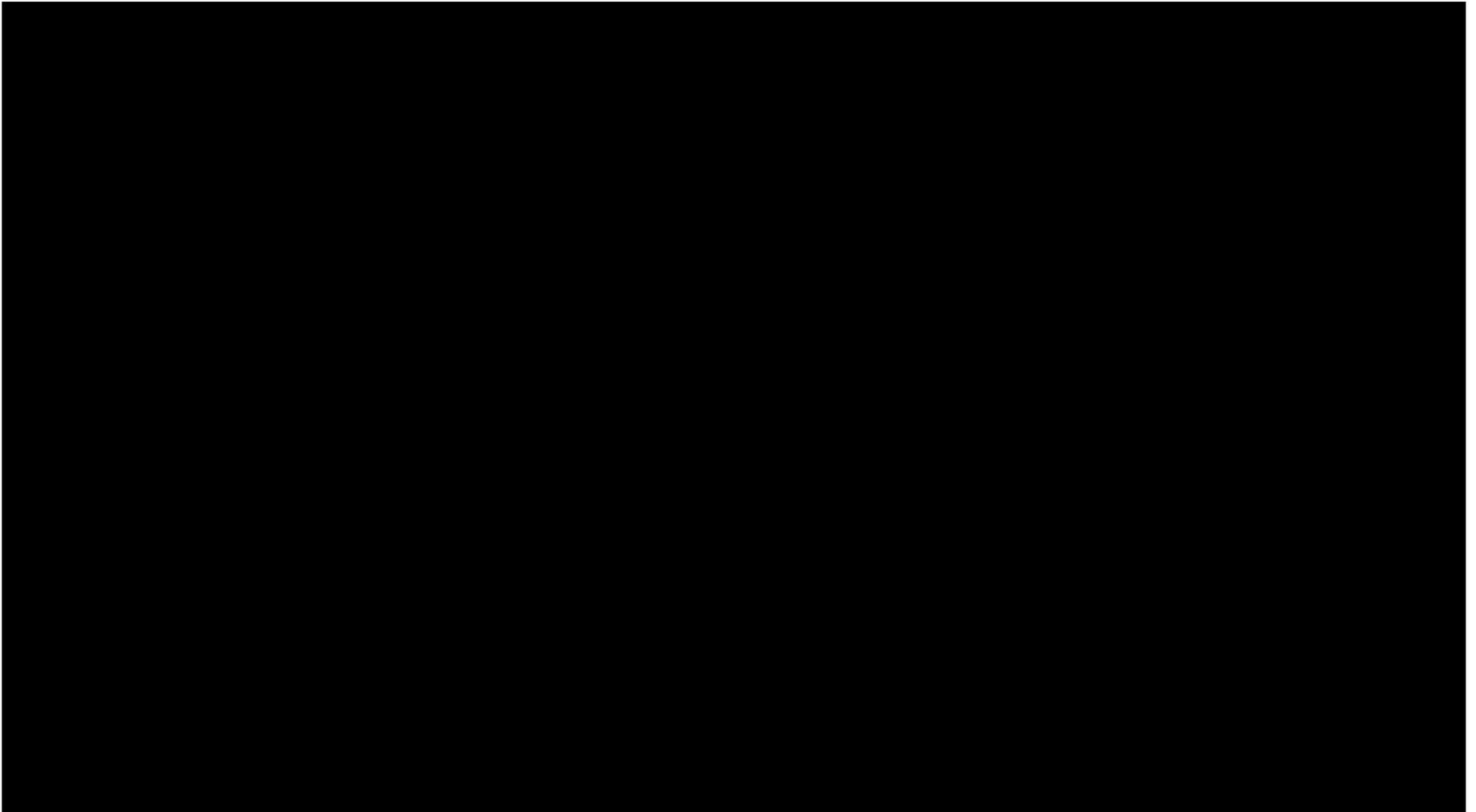
Flood Storage



<http://www.watershedcoalition.org>



NRCS Watershed Dams – NWC Video



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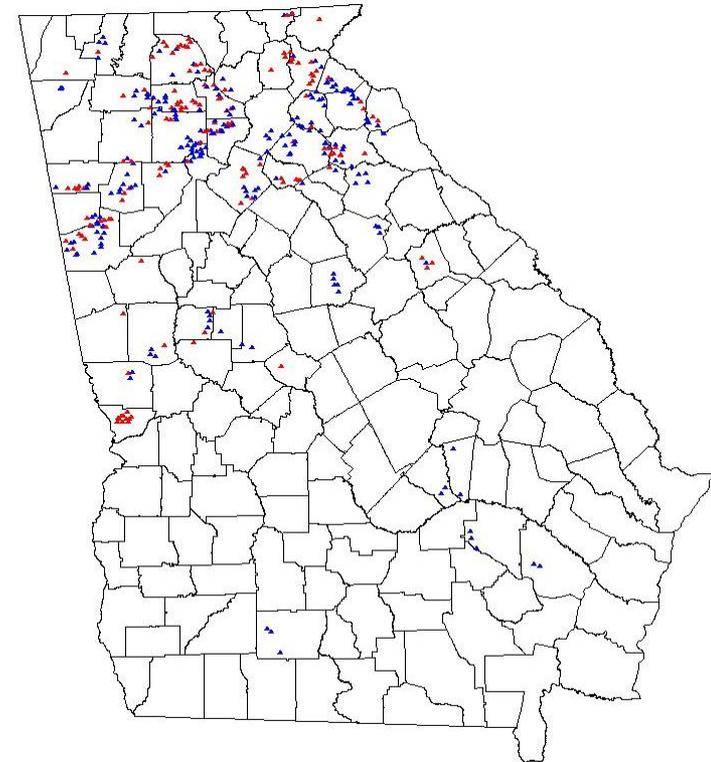
*Fulton County Soil & Water
Conservation District*





STATE OF GEORGIA WATERSHED DAM REHABILITATION PROGRAM

- State of Georgia has 357 NRCS watershed dams constructed in the last half century.
- Exempt from GA Rules for Dam Safety until November 1, 2000.
- 189 dams are classified as high hazard.
- Pilot Rehabilitation Program in 1999
- Planning Studies in 2004 to 2006
- Gwinnett County CIP Program 2001 to 2011 – 9 dams rehabilitated
- GA SWCC – Rehabilitation Program
 - 2009 – 2011: 5 dams rehabilitated
 - 2011 – 2015: 2 dam rehabilitated
 - 2013 – Present: 3 dams under-construction
 - 2014 & 2016 – 2 dams under design





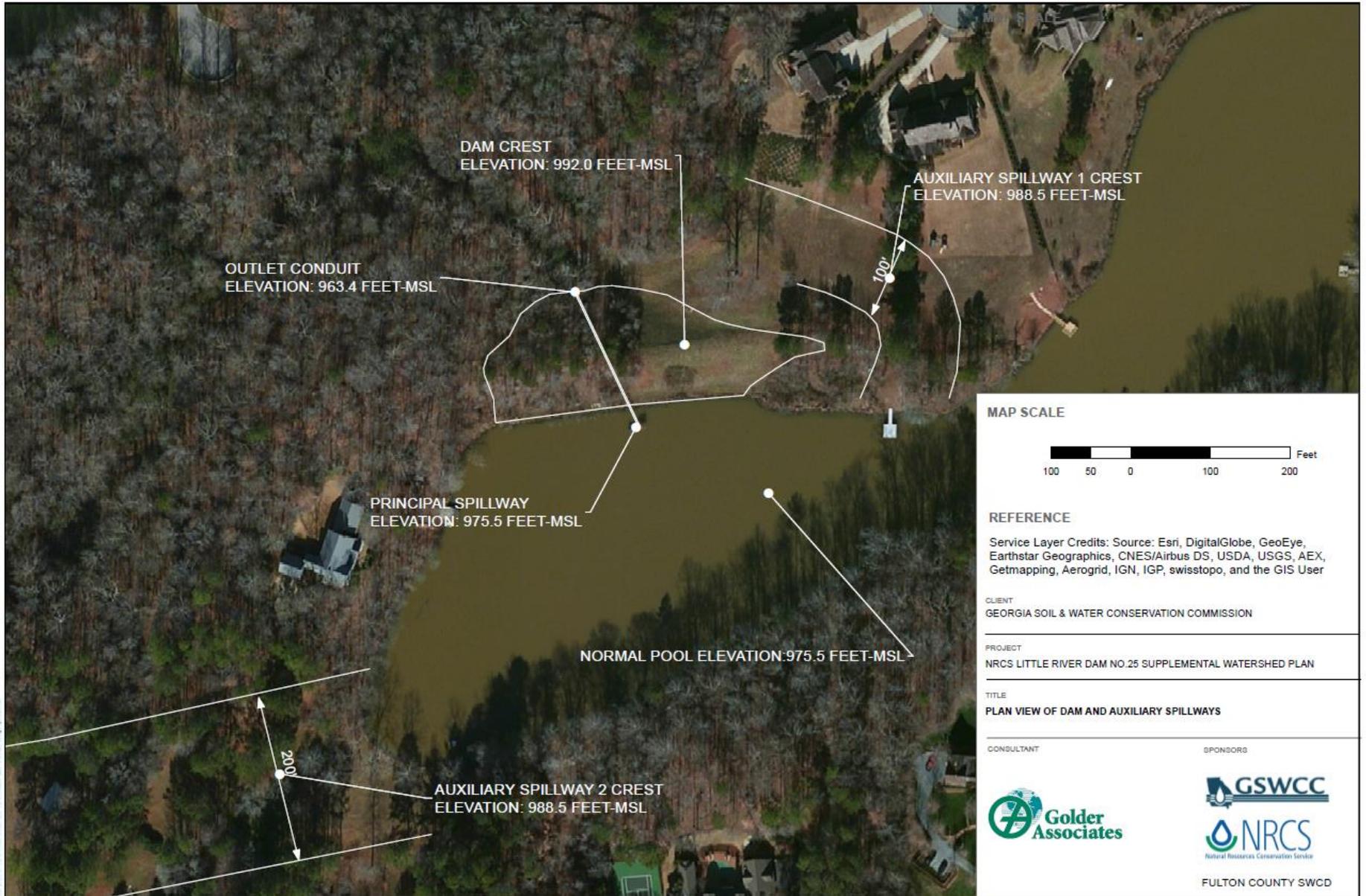
LITTLE RIVER DAM NO. 25 INFORMATION



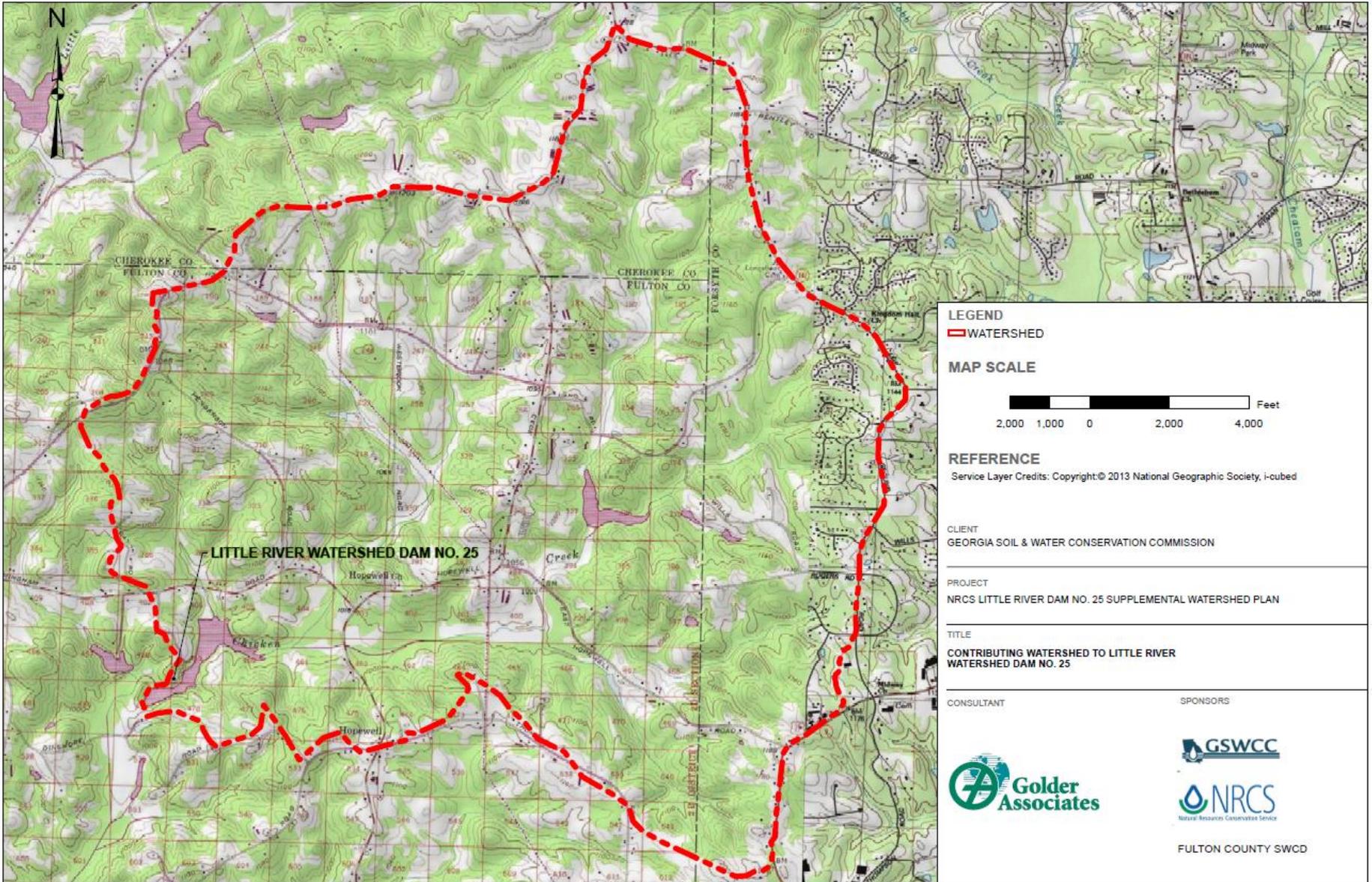
- LR-25 was designed and constructed in 1960.
- One of 17 watershed dams in the Little River Watershed. 10 structures in Fulton County and 7 structures in Cherokee County.
- LR-27 structure is upstream of LR-25
- The LR-25 reservoir receives runoff from a 9.74 square mile (mi²) watershed.
- Dam Height = ~35 ft.
- Spillways = 30 diameter concrete pipe with a single stage riser & 2 earthen vegetated spillways on the left and right abutments. Left = 200 ft.; Right = 100 ft.
- Storage = ~52.8 million gallons at normal pool & ~578 million gallons at the dam crest.
- Dam classified as a high hazard dam (no permit).



LR-25 Dam

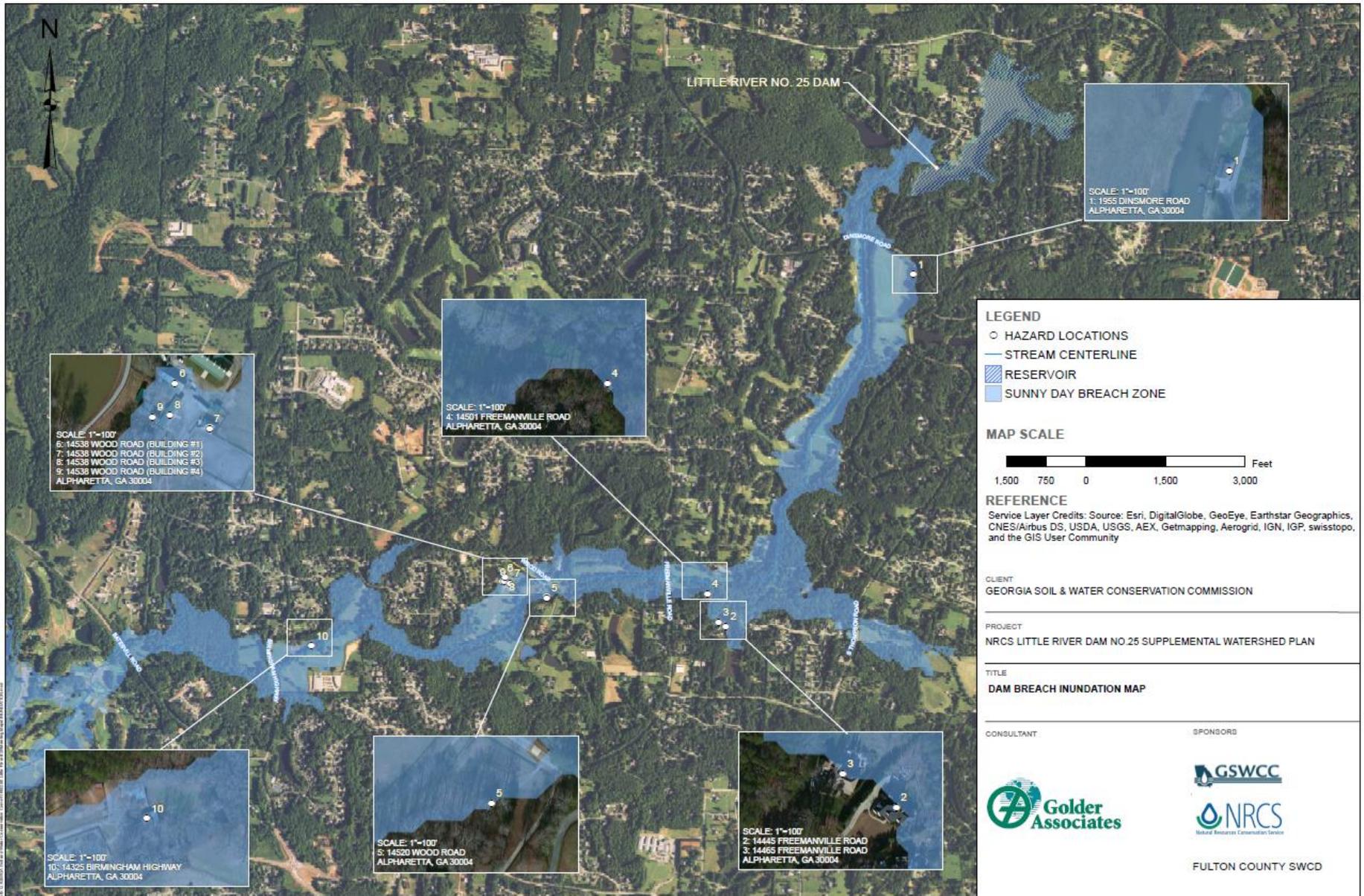


LR-25 Watershed





LR-25 Dam Breach Inundation Map



SCALE: 1"=100'
1: 1955 DINSMORE ROAD
ALPHARETTA, GA 30004

SCALE: 1"=100'
6: 14538 WOOD ROAD (BUILDING #1)
7: 14538 WOOD ROAD (BUILDING #2)
8: 14538 WOOD ROAD (BUILDING #3)
9: 14538 WOOD ROAD (BUILDING #4)
ALPHARETTA, GA 30004

SCALE: 1"=100'
4: 14501 FREEMANVILLE ROAD
ALPHARETTA, GA 30004

SCALE: 1"=100'
10: 14325 BIRMINGHAM HIGHWAY
ALPHARETTA, GA 30004

SCALE: 1"=100'
5: 14520 WOOD ROAD
ALPHARETTA, GA 30004

SCALE: 1"=100'
2: 14445 FREEMANVILLE ROAD
3: 14465 FREEMANVILLE ROAD
ALPHARETTA, GA 30004

- LEGEND**
- HAZARD LOCATIONS
 - STREAM CENTERLINE
 - ▨ RESERVOIR
 - SUNNY DAY BREACH ZONE



REFERENCE
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

CLIENT
GEORGIA SOIL & WATER CONSERVATION COMMISSION

PROJECT
NRCS LITTLE RIVER DAM NO.25 SUPPLEMENTAL WATERSHED PLAN

TITLE
DAM BREACH INUNDATION MAP



FULTON COUNTY SWCD



LITTLE RIVER DAM 25 PRESENT STUDIES



- **Existing Dam is SAFE and operating as designed**
- Dam Assessments completed in 2007 confirmed High Hazard Classification with 8 structures in the breach inundation zone
- Minor repairs are needed to the embankment and principal spillway
- Supplemental Watershed Plan will determine compliance with GA SDP and NRCS Design criteria and recommend alternatives
- **Typical to find a lack of spillway capacity for design storms and erosion of earthen spillway**



REHABILITATION ALTERNATIVES



- Alternatives to be studied:
 - Do nothing
 - Breach the dam
 - Non structural
 - Structural



TYPICAL STRUCTURAL ALTERNATIVES





TYPICAL STRUCTURAL ALTERNATIVES





TYPICAL STRUCTURAL ALTERNATIVES





TYPICAL STRUCTURAL ALTERNATIVES





TYPICAL STRUCTURAL ALTERNATIVES



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NEXT STEPS



- Site work:
 - Geotechnical Investigation
 - Cultural Resources Evaluation
 - Natural Resources Evaluation
- Alternatives Analyses/Costs
- Public Meeting(s)
- NRCS Watershed Plan Update
- Design
- Permitting
- Construction

- Schedule: typically 2 to 3 years start to finish (depends on funding)



QUESTIONS?

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