NRCS Little River Watershed Dam No. 25

WATERSHED DAM REHABILITATION
PUBLIC ENGAGEMENT MEETING – ENVIRONMENTAL ASSESSMENT UPDATE

February 6, 2019

Gregg W. Hudock – PE
ghudock@golder.com

NRCS

GSWCC
Georgia Soil and Water Conservation Commission

Georgia State Financing
Investment Commission

Fulton County Soil & Water Conservation District

AGENDA

Overview of NRCS Watershed Program

State of Georgia Rules for Dam Safety

Little River Dam No. 25 background information

Little River Dam No. 25 past and present studies

Rehabilitation Alternatives Studied

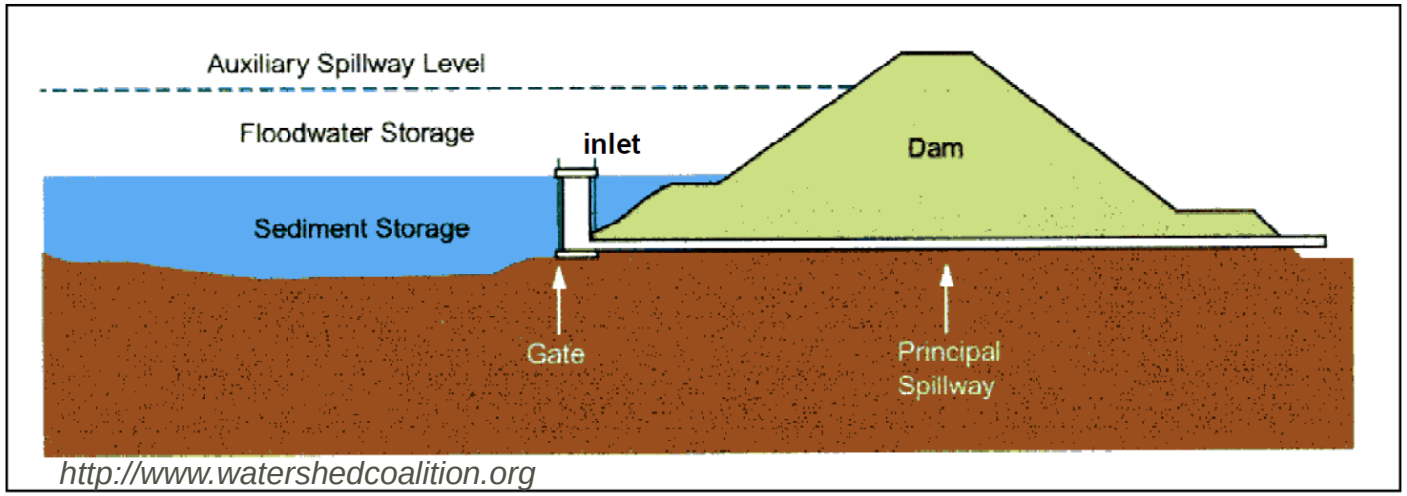
Future activities

Questions

NRCS Watershed Program

OVERVIEW

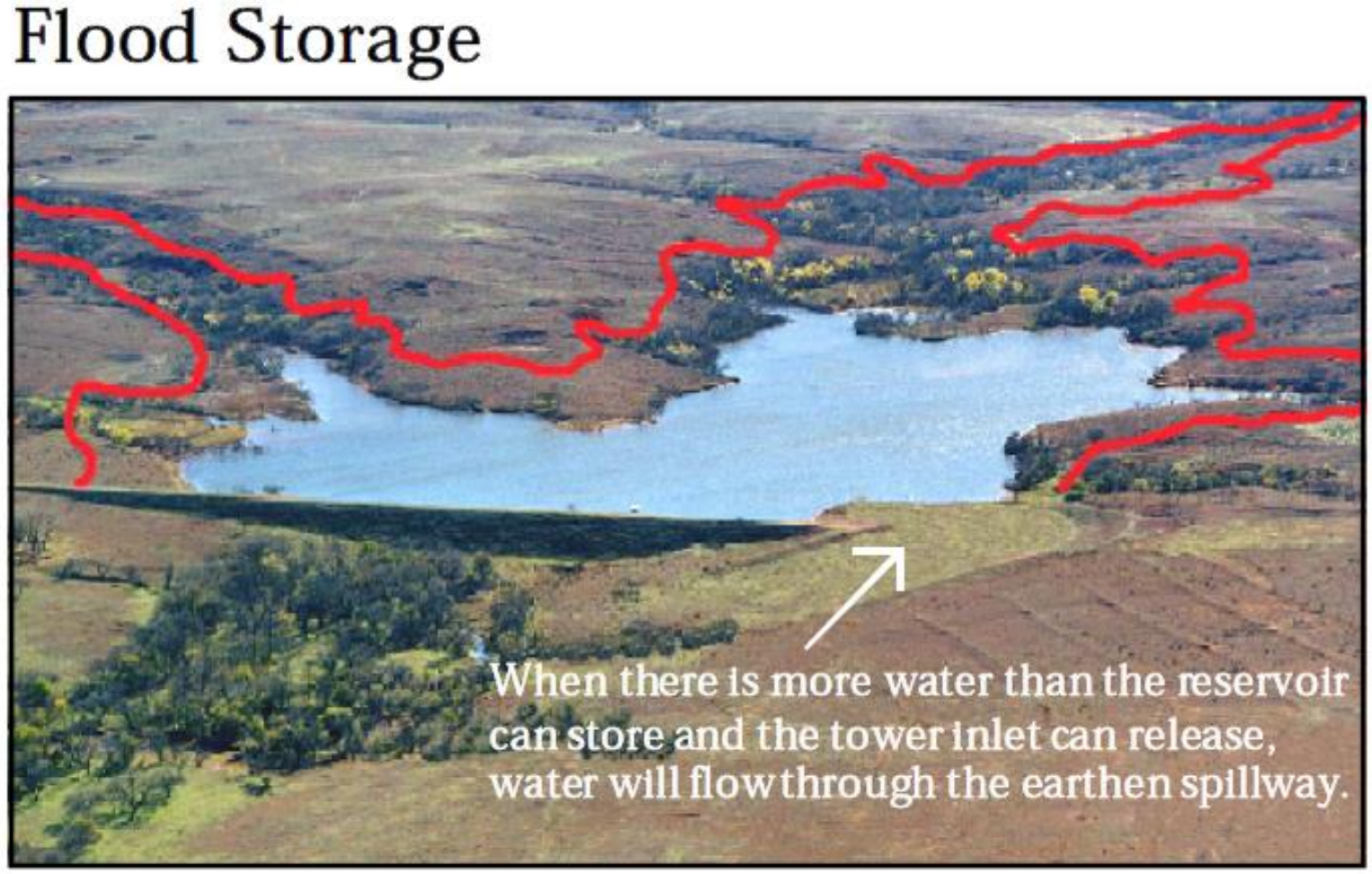
- Little River #25 (LR-25) is a NRCS flood control dam.
- NRCS Watershed Protection and Flood Prevention Conservation Program constructed more than 11,000 flood control dams in 47 states beginning in 1948.



http://www.watershedcoalition.org

NRCS Watershed Program & State of Georgia Rules for Dam Safety

OVERVIEW



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State of Georgia Rules for Dam Safety

OVERVIEW

- Definition of a “dam”:
  - Height >25 ft.
  - Storage at Maximum Pool >100 acre feet.
- Dam classifications:
  - Category I – High Hazard
  - Category II – Low Hazard
- Rules and Engineering Guidelines used to make sure dams are in compliance with modern design criteria and dam safety criteria
- Intent is to Protect Public Safety and Health

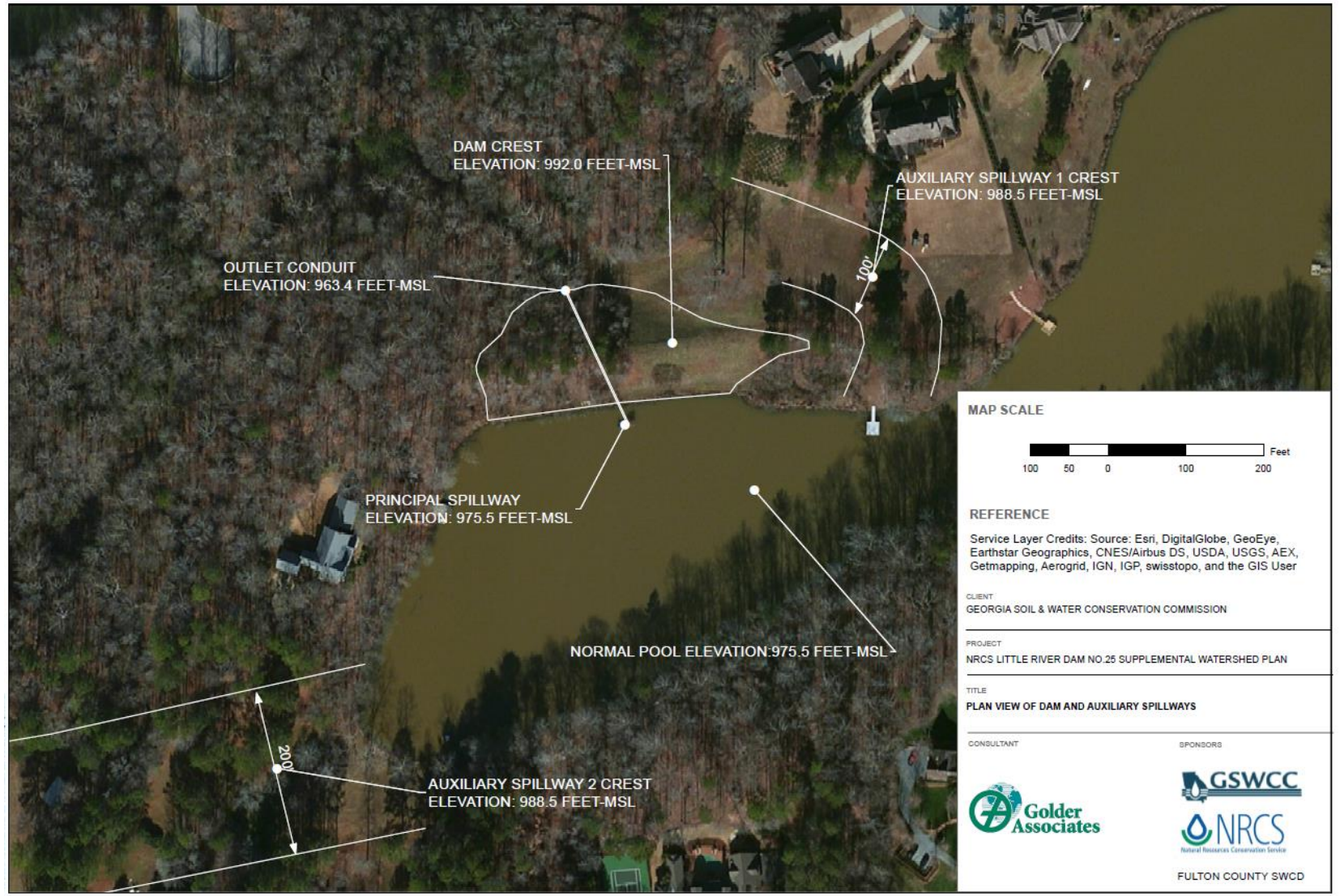
Recent Dam Breach Failure in Brazil

Little River Dam No. 25

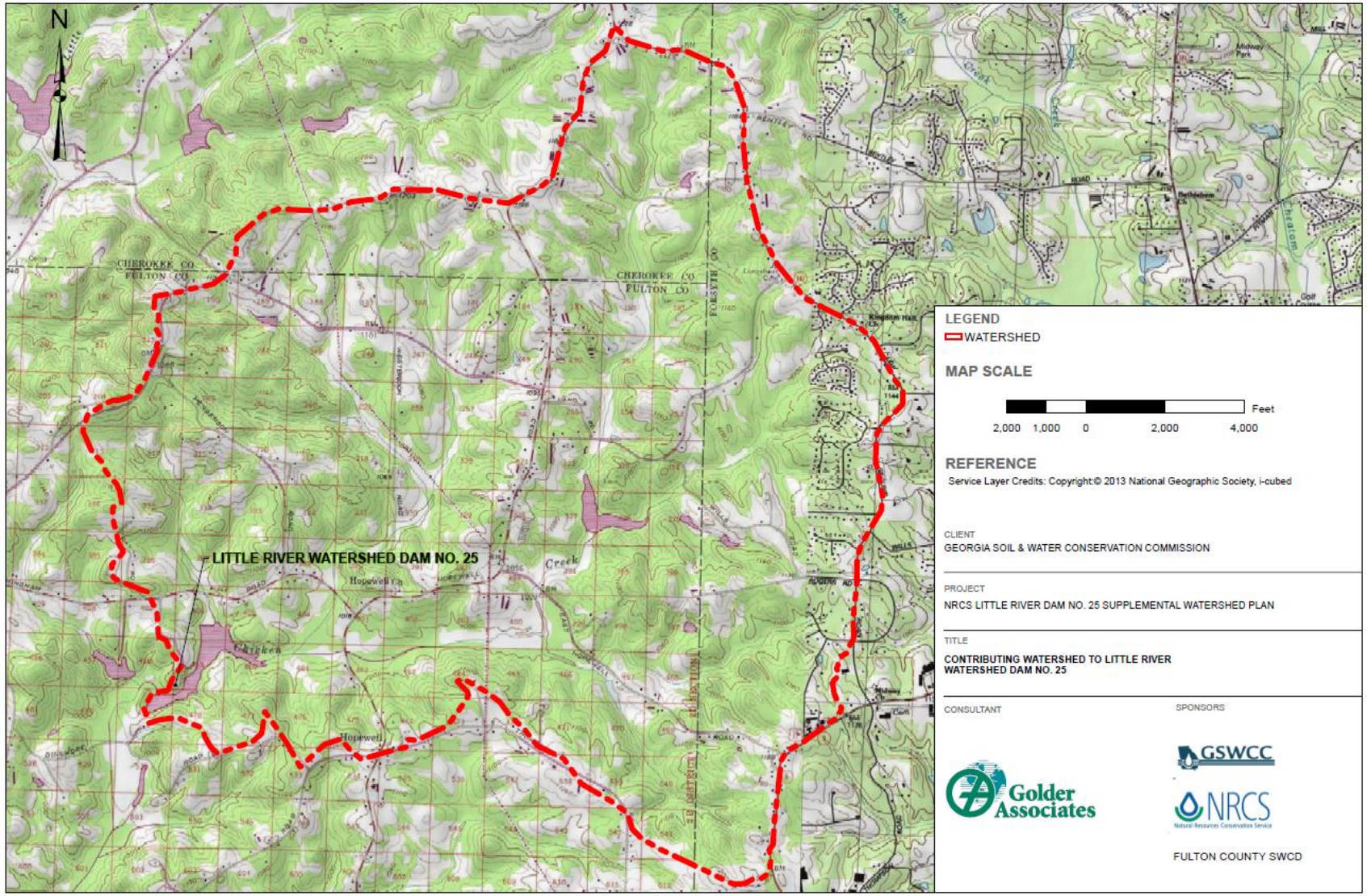
BACKGROUND INFORMATION

- 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 (mi^2) 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

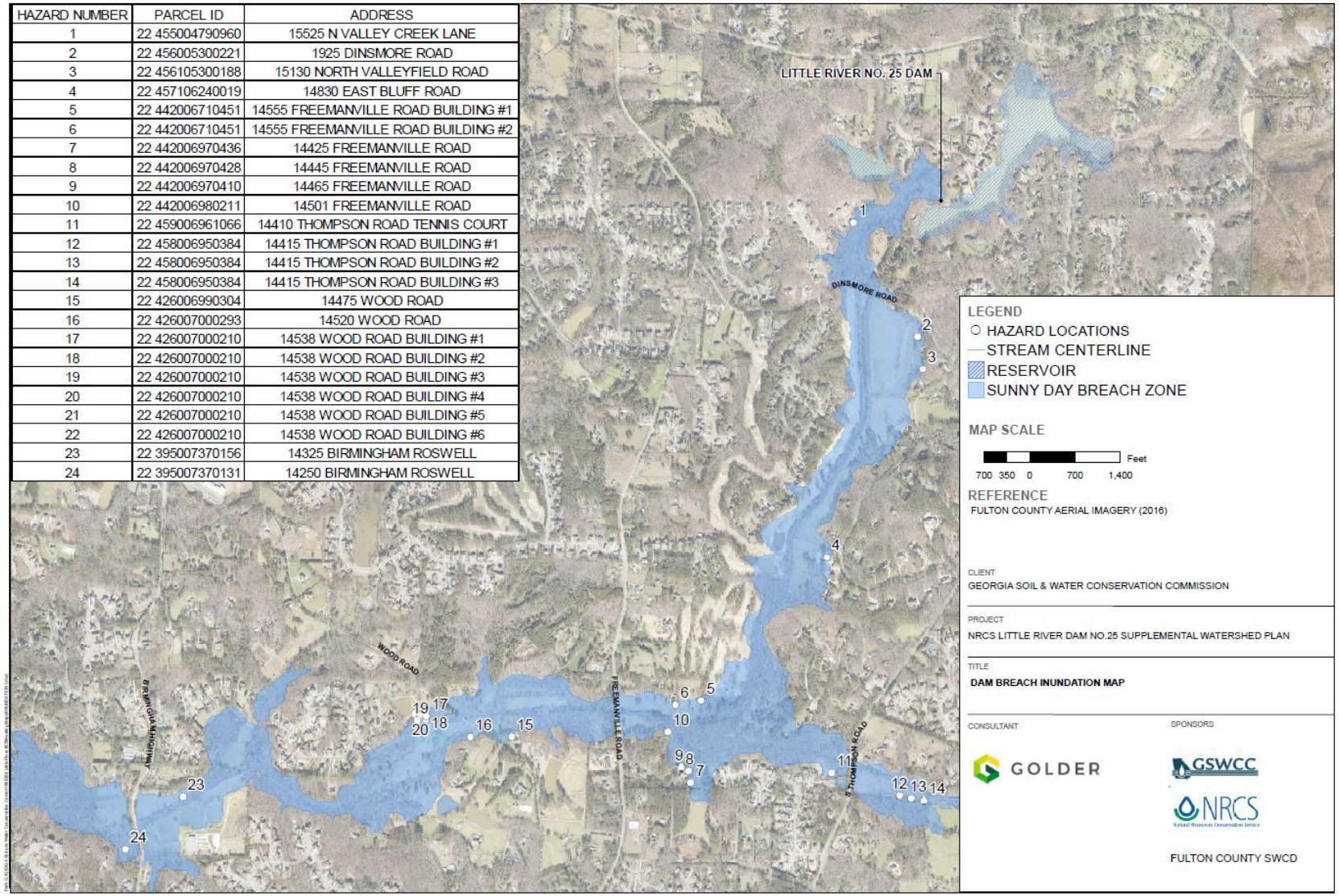

DAM CREST
ELEVATION: 992.0 FEET-MSL
AUXILIARY SPILLWAY 1 CREST
ELEVATION: 988.5 FEET-MSL
100'
OUTLET CONDUIT
ELEVATION: 963.4 FEET-MSL
PRINCIPAL SPILLWAY
ELEVATION: 975.5 FEET-MSL
NORMAL POOL ELEVATION:975.5 FEET-MSL
200'
AUXILIARY SPILLWAY 2 CREST
ELEVATION: 988.5 FEET-MSL
MAP SCALE
Feet
100 50 0 100 200
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
CLIENT
GEORGIA SOIL & WATER CONSERVATION COMMISSION
PROJECT
NRCS LITTLE RIVER DAM NO.25 SUPPLEMENTAL WATERSHED PLAN
TITLE
PLAN VIEW OF DAM AND AUXILIARY SPILLWAYS
CONSULTANT
Golder Associates
SPONSORS
GSWCC
NRCS
FULTON COUNTY SWCD

LR-25 Watershed



LR-25 Breach Zone

HAZARD NUMBER	PARCEL ID	ADDRESS
1	22 455004790960	15525 N VALLEY CREEK LANE
2	22 456005300221	1925 DINSMORE ROAD
3	22 456105300188	15130 NORTH VALLEYFIELD ROAD
4	22 457106240019	14830 EAST BLUFF ROAD
5	22 442006710451	14555 FREEMANVILLE ROAD BUILDING #1
6	22 442006710451	14555 FREEMANVILLE ROAD BUILDING #2
7	22 442006970436	14425 FREEMANVILLE ROAD
8	22 442006970428	14445 FREEMANVILLE ROAD
9	22 442006970410	14465 FREEMANVILLE ROAD
10	22 442006980211	14501 FREEMANVILLE ROAD
11	22 459006961066	14410 THOMPSON ROAD TENNIS COURT
12	22 458006950384	14415 THOMPSON ROAD BUILDING #1
13	22 458006950384	14415 THOMPSON ROAD BUILDING #2
14	22 458006950384	14415 THOMPSON ROAD BUILDING #3
15	22 426006990304	14475 WOOD ROAD
16	22 426007000293	14520 WOOD ROAD
17	22 426007000210	14538 WOOD ROAD BUILDING #1
18	22 426007000210	14538 WOOD ROAD BUILDING #2
19	22 426007000210	14538 WOOD ROAD BUILDING #3
20	22 426007000210	14538 WOOD ROAD BUILDING #4
21	22 426007000210	14538 WOOD ROAD BUILDING #5
22	22 426007000210	14538 WOOD ROAD BUILDING #6
23	22 395007370156	14325 BIRMINGHAM ROSWELL
24	22 395007370131	14250 BIRMINGHAM ROSWELL



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COMPLIANCE STUDY

- **Existing Dam is SAFE and operating as designed**
- 24 structures inside the breach inundation zone
- Minor repairs are needed to the embankment and principal spillway
- Compliance with GA SDP Design criteria - existing Dam Overtops by 6 ft.
- Compliance with NRCS Design criteria – existing Dam Overtops by 11 ft.

Little River Dam No. 25

PAST & PRESENT STUDIES

- 2006 – 2008: Hazard Classification
- 2016 – 2017: Environmental Evaluation
- 2018 – Present: Environmental Assessment

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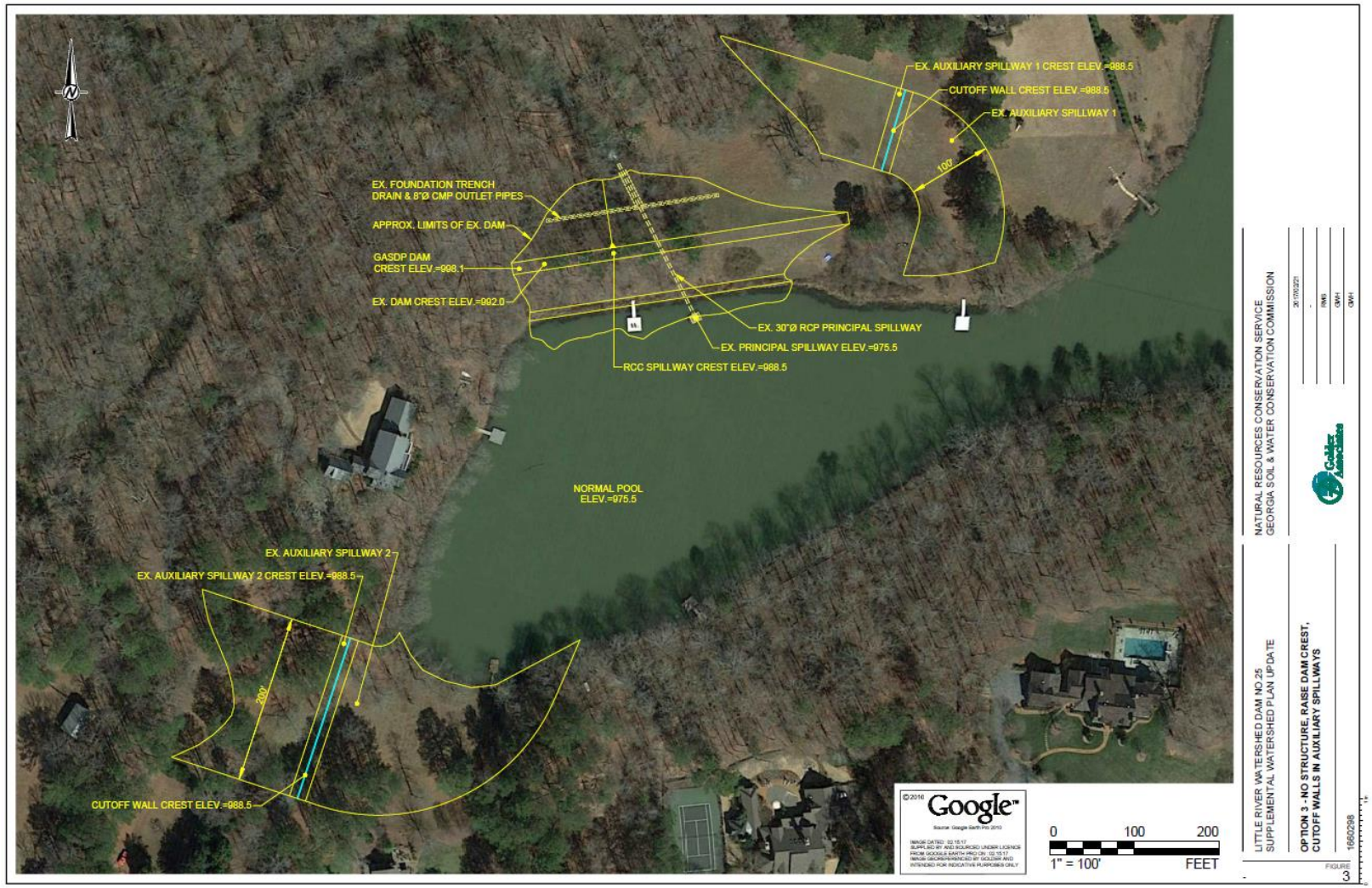
REHABILITATION ALTERNATIVES STUDIED

- Alternatives studied:
  - Remove the dam
  - Non structural = Breach Zone Buyout
  - Do nothing = GA SDP Compliance (Structural)
  - Structural = NRCS Compliance

Little River Dam #25

CUTOFF WALLS IN AUXILIARY SPILLWAYS

- Excavate cutoff walls into auxiliary spillway
- Raise top of dam to elevation 998.1



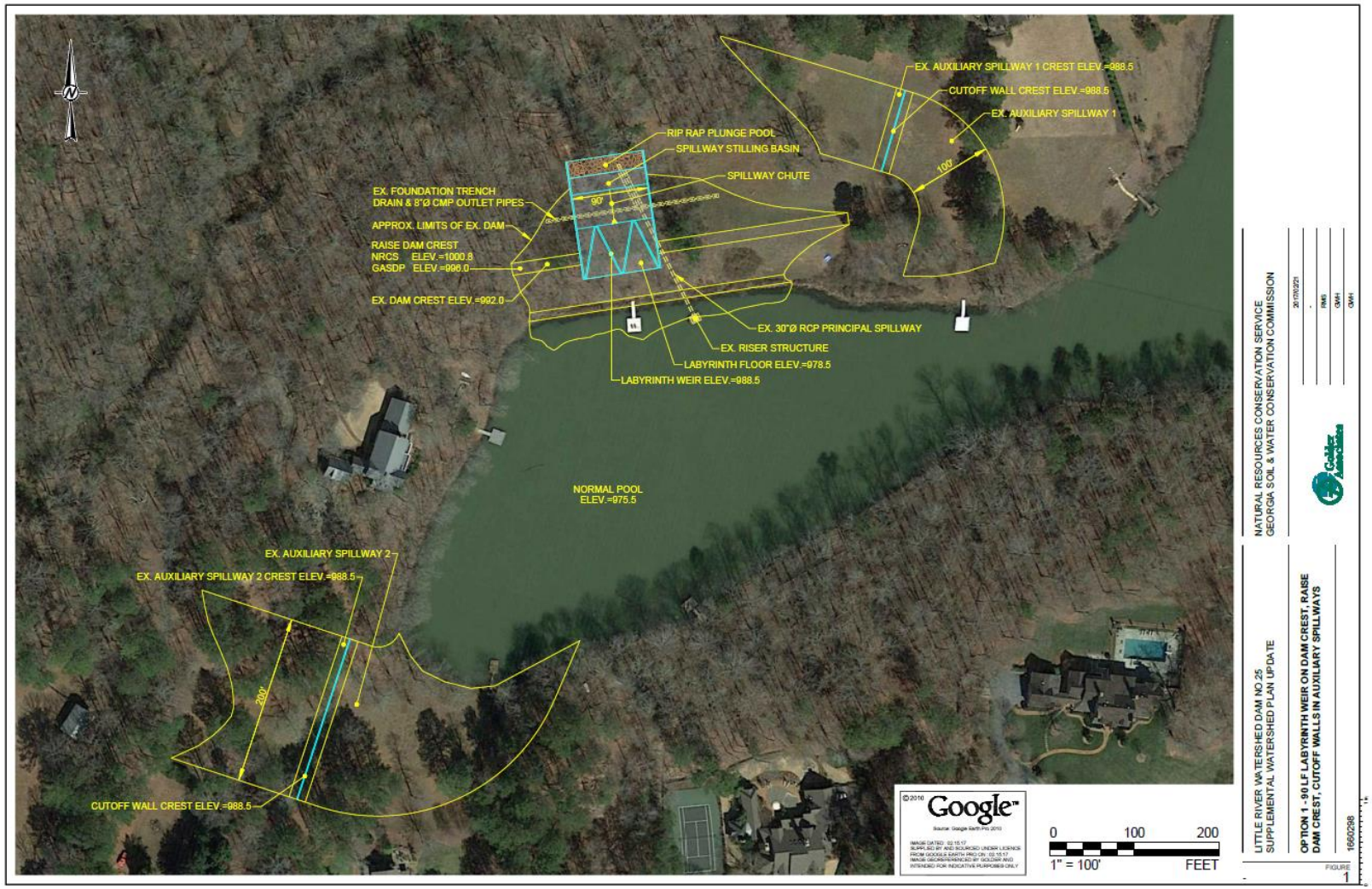
Little River Dam #25

CUTOFF WALL CONCEPT

Little River Dam #25

90 FT WIDE LABYRINTH WEIR SPILLWAY

- Excavate cutoff walls into auxiliary spillway
- Add 90 ft. wide labyrinth weir
- Raise top of dam to elevation 1000.8



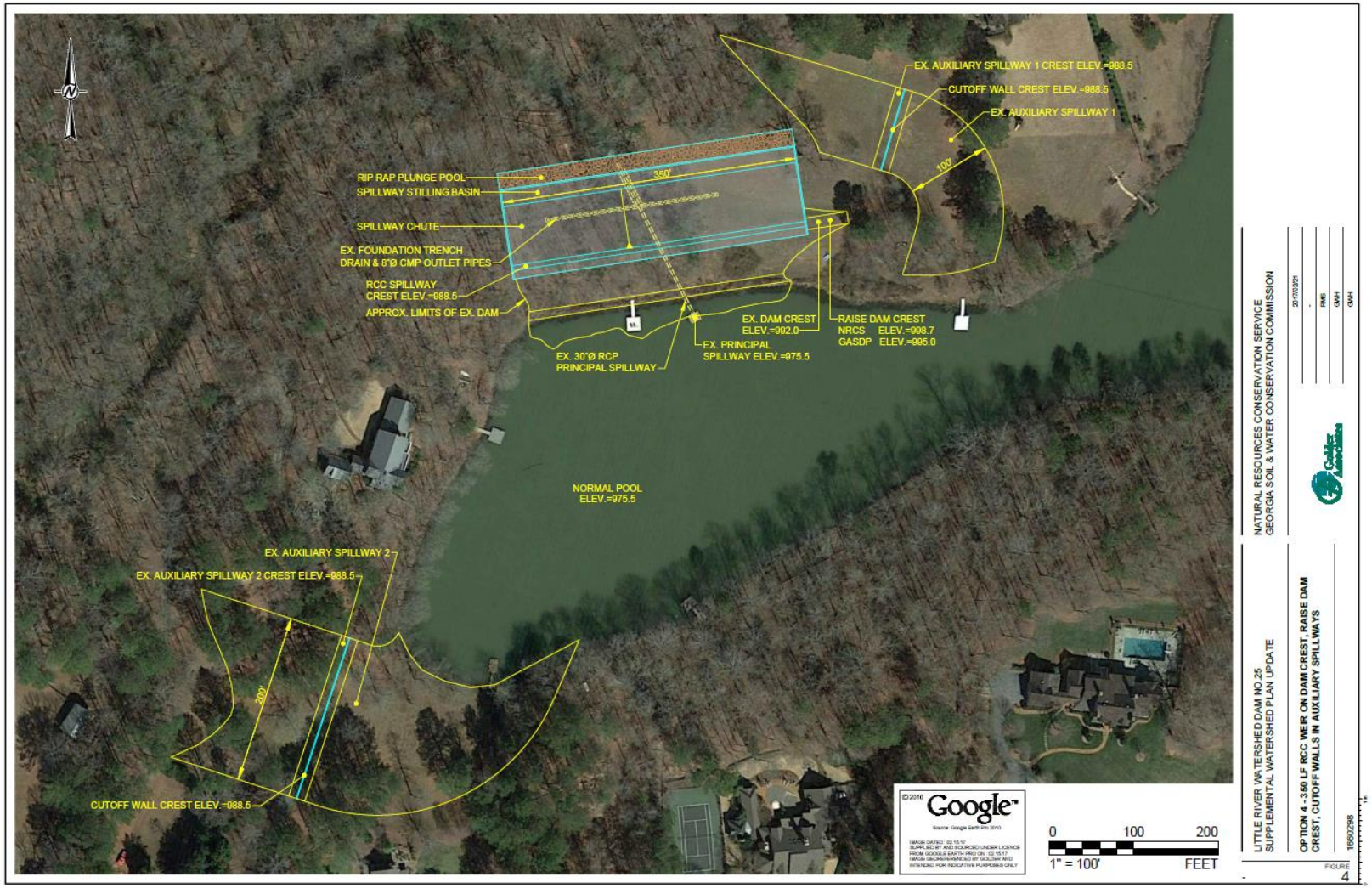
Little River Dam No. #25

LABYRINTH WEIR

Little River Dam 25

350 FT WIDE RCC SPILLWAY

- Excavate cutoff walls into auxiliary spillway
- Add 350 ft. wide RCC chute
- Raise top of dam to elevation 998.7



Little River Dam 25

350 FT WIDE RCC SPILLWAY

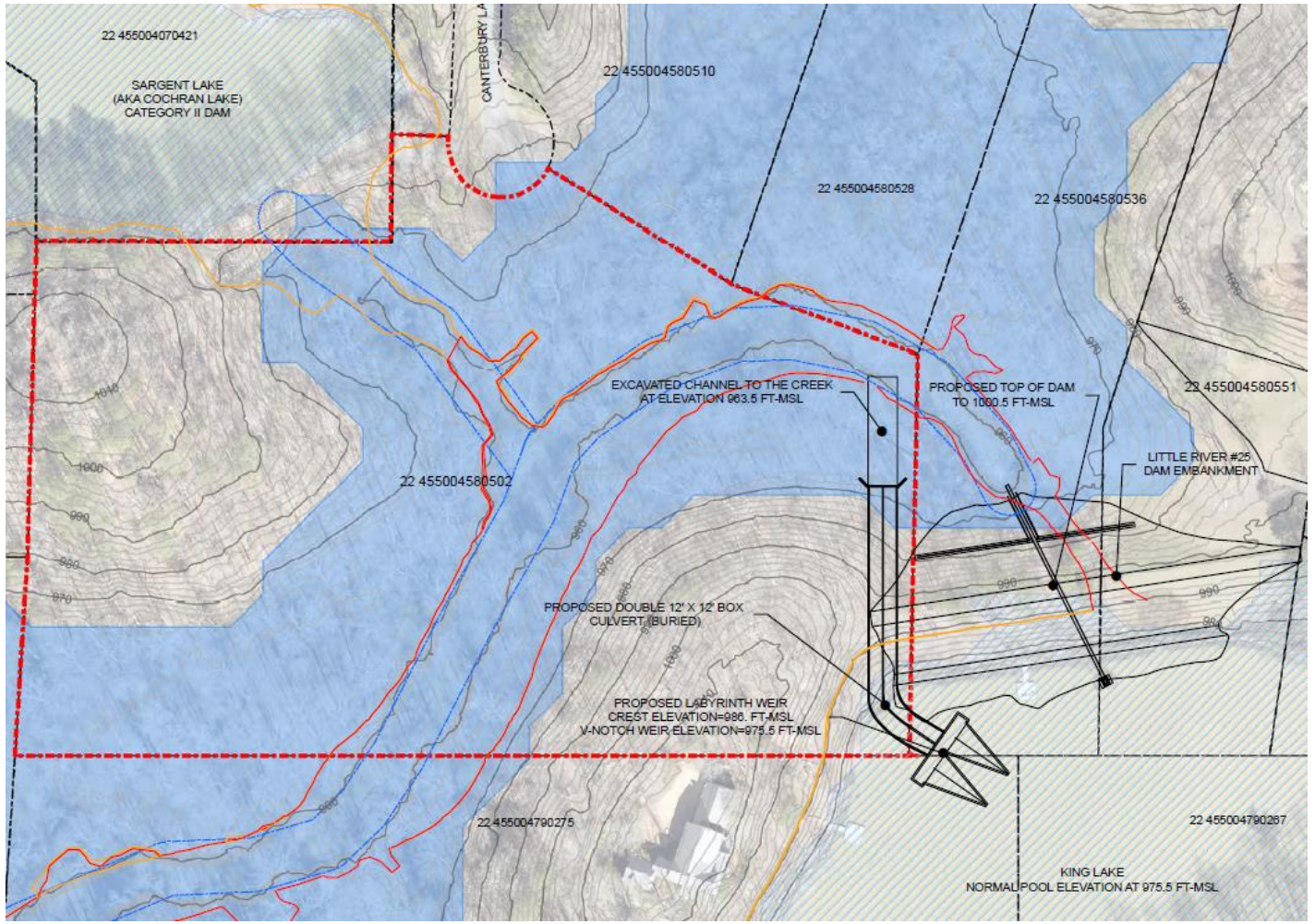
Little River Dam 25

350 FT WIDE RCC SPILLWAY

Little River Dam 25

BOX CULVERT WITH LABYRINTH WEIR

- Excavate cutoff walls into auxiliary spillway
- Add Labyrinth Weir in lake with 2 – 12 ft. by 12 ft. box culverts
- Raise top of dam to elevation 998.3



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BOX CULVERT WITH LABYRINTH WEIR

Little River Dam 25

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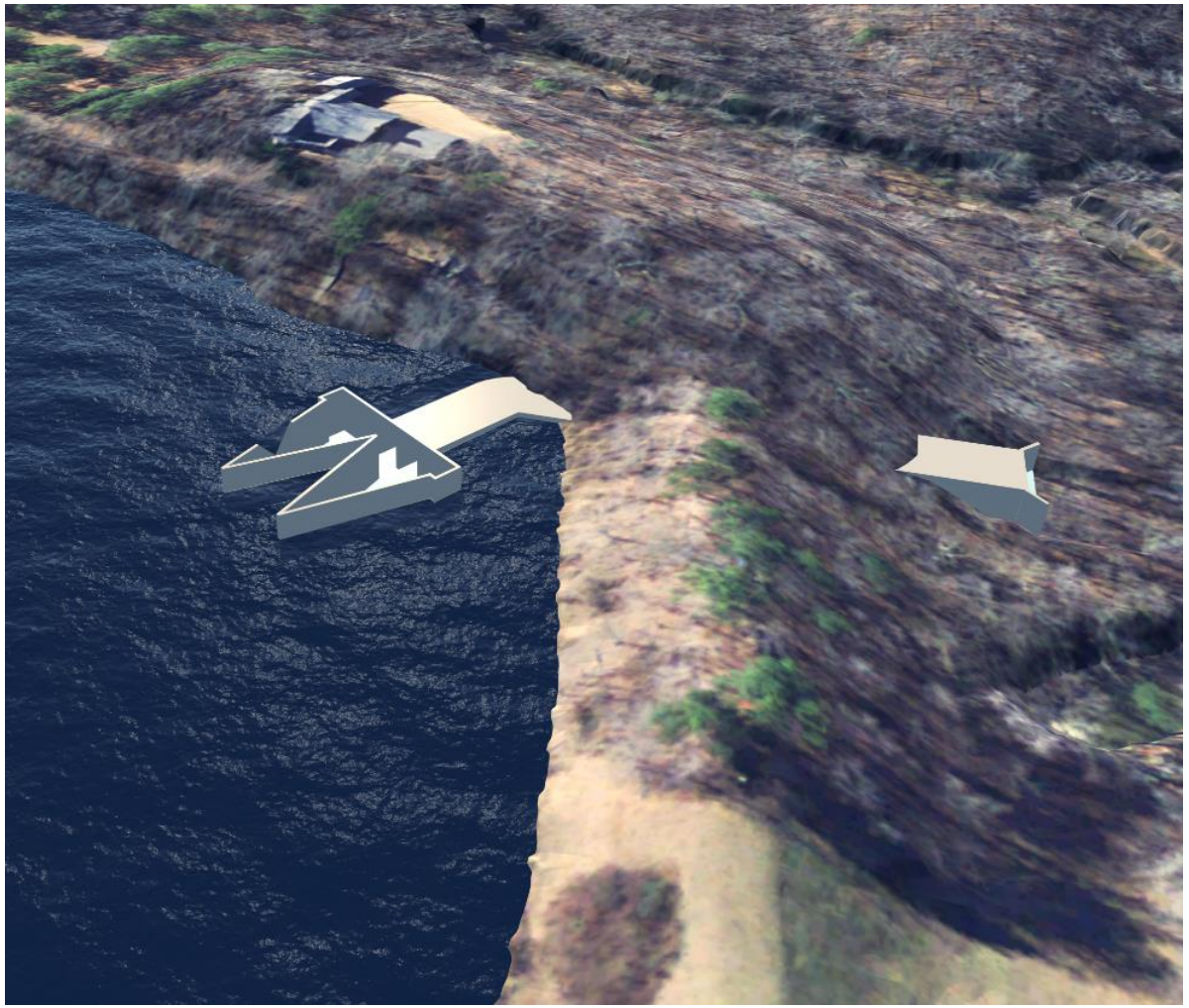

Little River Dam #25

SUMMARY OF OPTIONS

Option	Peak Elevation (feet)	Proposed Height added (feet)
Cutoff Wall in Auxiliary Spillways (GASDP Design Storm)	998.1	6.1
90 foot Labyrinth Weir w/ Cutoff Walls	1000.8	8.8
350 foot RCC spillway w/ Cutoff Walls	998.7	6.7
Box Culvert/Labyrinth w/ Cutoff Walls	998.3	6.3

Little River Dam No. 25

NEXT STEPS

Site Work
- State/Federal Agency Meeting
- Cultural/Natural Resources Evaluation

Prepare Environmental Assessment (EA) Report

Comments on EA Report

Design

Permitting

Construction

GOLDER

Questions?

Thanks for listening.