

Reviving Urban Wetlands: Unraveling the History of the National Irrigation Congress and its Impacts on Metro Atlanta Watersheds

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Image from DuPont Farmers Handbook
Albany, Oregon

SIXTEENTH NATIONAL IRRIGATION CONGRESS



OFFICIAL SOUTHWESTERN SOUVENIR
ALBUQUERQUE, NEW MEXICO, U.S.A.

The most important
regulatory program
you've probably
never heard of.....

It started with a project.....

Bend Creek Streambank Stabilization

2009 Pipe Failure during
historic flood

2011 City repairs pipe and
executes permanent easement

2018 Homeowners request
that the City address
embankment erosion

2020-21 City stabilizes 125
feet of streambank

2022 – Homeowners request
that the City address farm
pond sediment accumulation
as well. City conducts soil
migration analysis using
DENDROGEOMORPHOLOGY



One of the most
influential people
in watershed
management....



How DYNAMITE

streamlines streams



Straightening of Pequest River in New Jersey by CCC workers stopped its yearly floods. Location of new channel is seen at right. Note temporary dam at left to provide volume of water for scouring blasted channel.

Explosion of dynamite charge by propagation excavates new channel.

Immediately after explosion, water is entering new channel, whose banks will be smoothed and "stream-lined" by the speedier flow of water.



CROOKED STREAMS are a menace to life and crops in the areas bordering on their banks. The twisting and turning of the channel retards the flow and reduces the capacity of the stream to handle large volumes of water. Floods result. Crops are ruined. Lives are lost. Banks are undermined, causing cave-ins that steal valuable acreage.

In many instances straightening out a stream has doubled its capacity for disposing of run-off water.

DYNAMITE may be used most efficiently and economically in taking the kinks out of a crooked stream. The dynamite is loaded along the length of "cut-off" channel. When fired, the dirt and other debris is heaved high in the air and is scattered over the adjoining territory—leaving practically no spoil-banks. In addition to the material actually thrown out, much dirt is loosened and is later scoured out by the water which rushes swiftly through the straightened channel.

Du Pont Dynamite has straightened many thousands of miles of crooked streams. Du Pont engineers have worked for years to develop the best blasting methods for the cleaning out and straightening of streams. All their data is in a 48-page book, "Ditching with Dynamite." It is for your use. Write for it.

Dynamite can help you do other jobs, too. It can help you build highways, dams; fight soil erosion; work quarries. Du Pont has an explosive for every purpose.



E. I. du Pont de Nemours & Co. Inc.
Explosives Department
6107 du Pont Building
Wilmington, Del.

When Writing Advertisers—Mention AMERICAN FORESTS

FNI Lunch & Learn

Ad from American Forests magazine 1935

Du Pont Dynamite has straightened many thousands of miles of crooked streams. Du Pont engineers have worked for years to develop the best blasting methods for the cleaning out and straightening of streams. All their data is in a 48-page book, "Ditching with Dynamite." It is for your use. Write for it.

Reclamation by Drainage

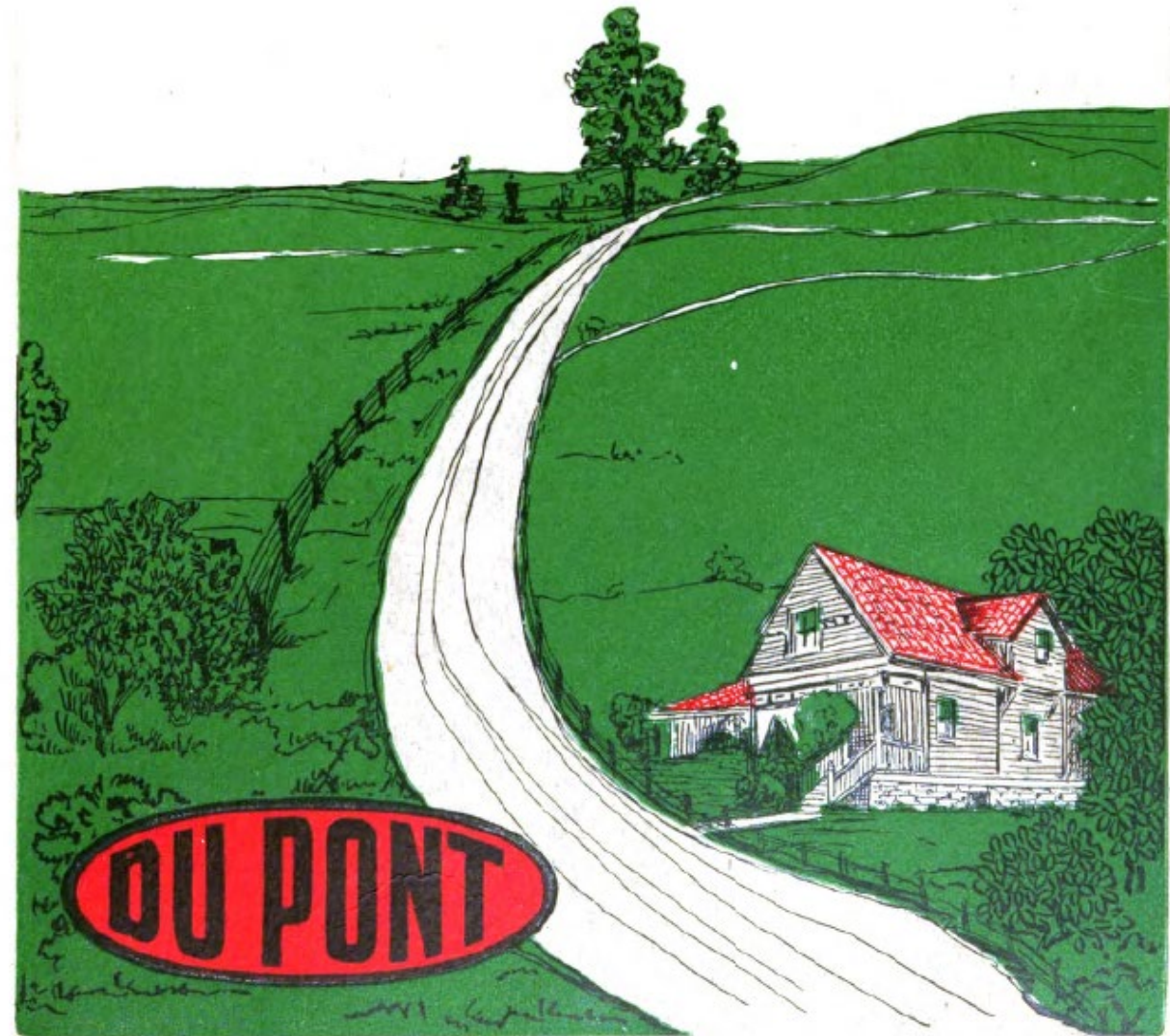
The **First National Drainage Congress** met in Chicago December 9, 1911. Among the facts presented were the following:

That there are in the United States more than 75,000,000 acres of swamp land that are non-productive.

That the drainage of this land will reclaim it for agricultural pursuits and add several billions of dollars to the wealth of the nation.

The location of these reclaimable swamp lands and their approximate areas are shown in the table below:

	ACRES.		ACRES.
Alabama	1,120,000	New Jersey	601,900
Arkansas	5,760,000	New York	576,000
California	1,850,000	North Carolina	2,400,000
Connecticut	37,700	North Dakota ..	226,000
Delaware	200,000	Ohio	200,000
Florida	18,500,000	Oklahoma	35,000
Georgia	2,400,000	Oregon	500,000
Illinois	2,688,000	Pennsylvania ..	96,000
Indiana	1,000,000	Rhode Island	17,900
Iowa	800,000	South Carolina	1,760,000
Kansas	160,000	South Dakota	226,000
Kentucky	224,000	Tennessee	800,000
Louisiana	9,600,000	Texas	1,620,000
Maine	240,000	Vermont	70,000
Maryland	356,000	Virginia	384,000
Massachusetts	138,700	Washington	75,000
Michigan	4,400,000	West Virginia	2,500
Minnesota	4,500,000	Wisconsin	2,500,000
Mississippi	6,173,000	Wyoming	25,000
Missouri	1,920,000		
Nebraska	256,000		
New Hampshire	43,000		
		Total.....	74,541,700



DuPont Farmer's Handbook (1912)

- Targeted 75 million acres of “non-productive” floodplain
- 2.4 million in GA
- References First National Drainage Congress

National Drainage Congress
National Irrigation Congress
(1891-1917)

- National organization focused on changing land use policy to improve farming
- The meeting in Chicago wasn't the first, **it was the nineteenth**
- In a copy of the meeting agenda, topics included riparian rights, dam construction, water pollution, and **swamp and wetland reclamation**
- In the address by 1917 NIC President Ben Fowler, he discussed the "problem" with the over **80 million acres** of "swamp and overflow not now available for settlement"

T E N T A T I V E
Official Program

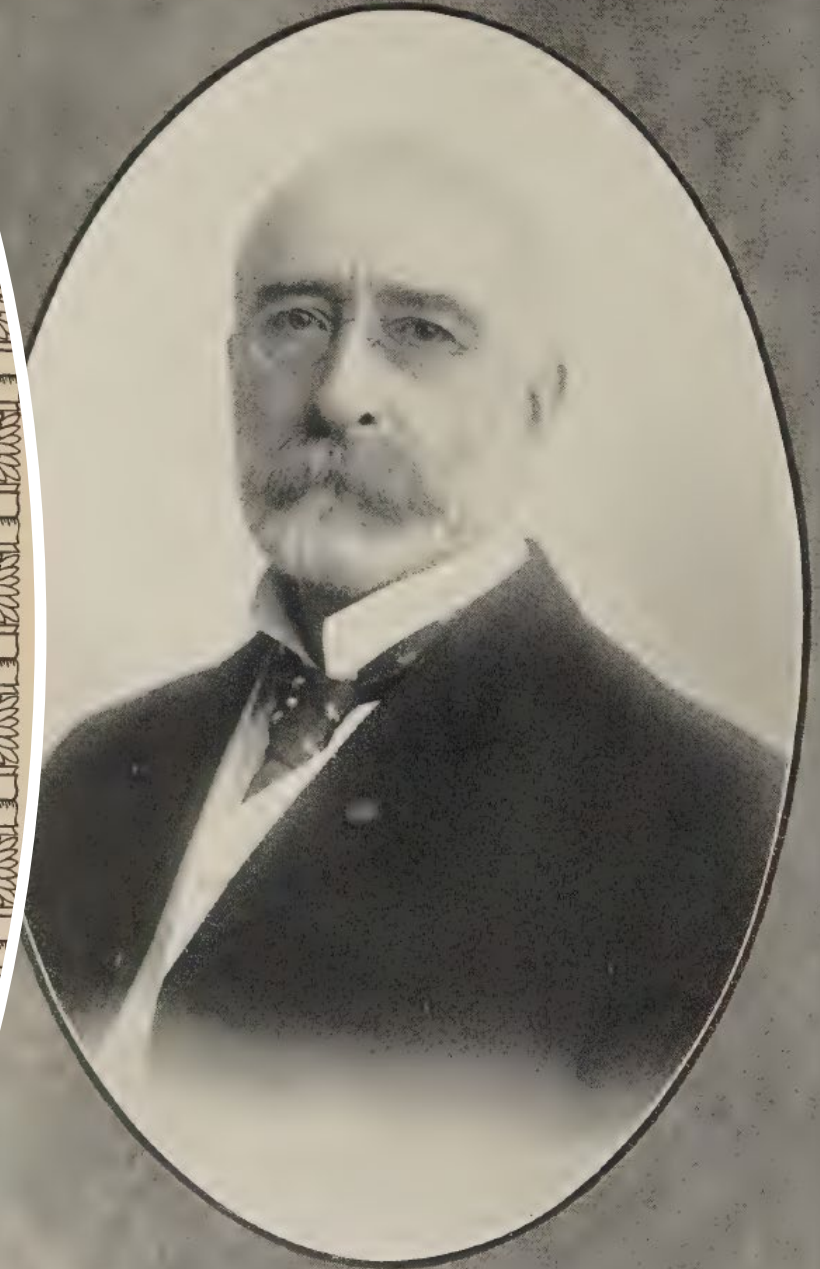
Nineteenth National
Irrigation Congress



December 5-9, 1911
Chicago " " " Illinois

Meetings

Morning Sessions: Auditorium Theatre, 56 East Congress Street
Afternoon Sessions: (Except Friday) Orchestra Hall, 220 South Michigan Avenue
Evening Sessions: Tuesday, Orchestra Hall; Wednesday, Art Institute; Friday, Auditorium Theatre



They Succeeded....



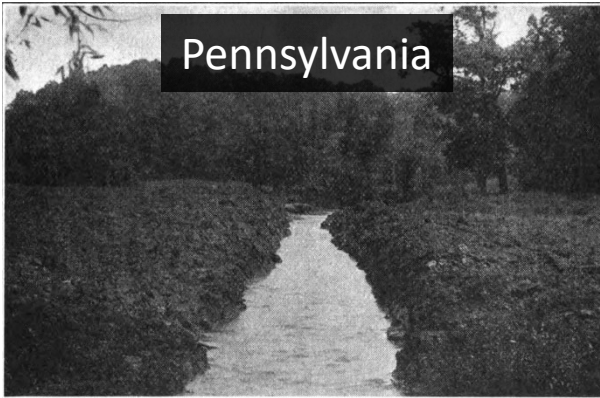
Missouri



New Jersey



South Carolina



Pennsylvania



New York



Washington



Louisiana



Georgia Aerial Photography Database

2024 Flood Map

Nancy Creek
City of Atlanta
Powers Ferry Road

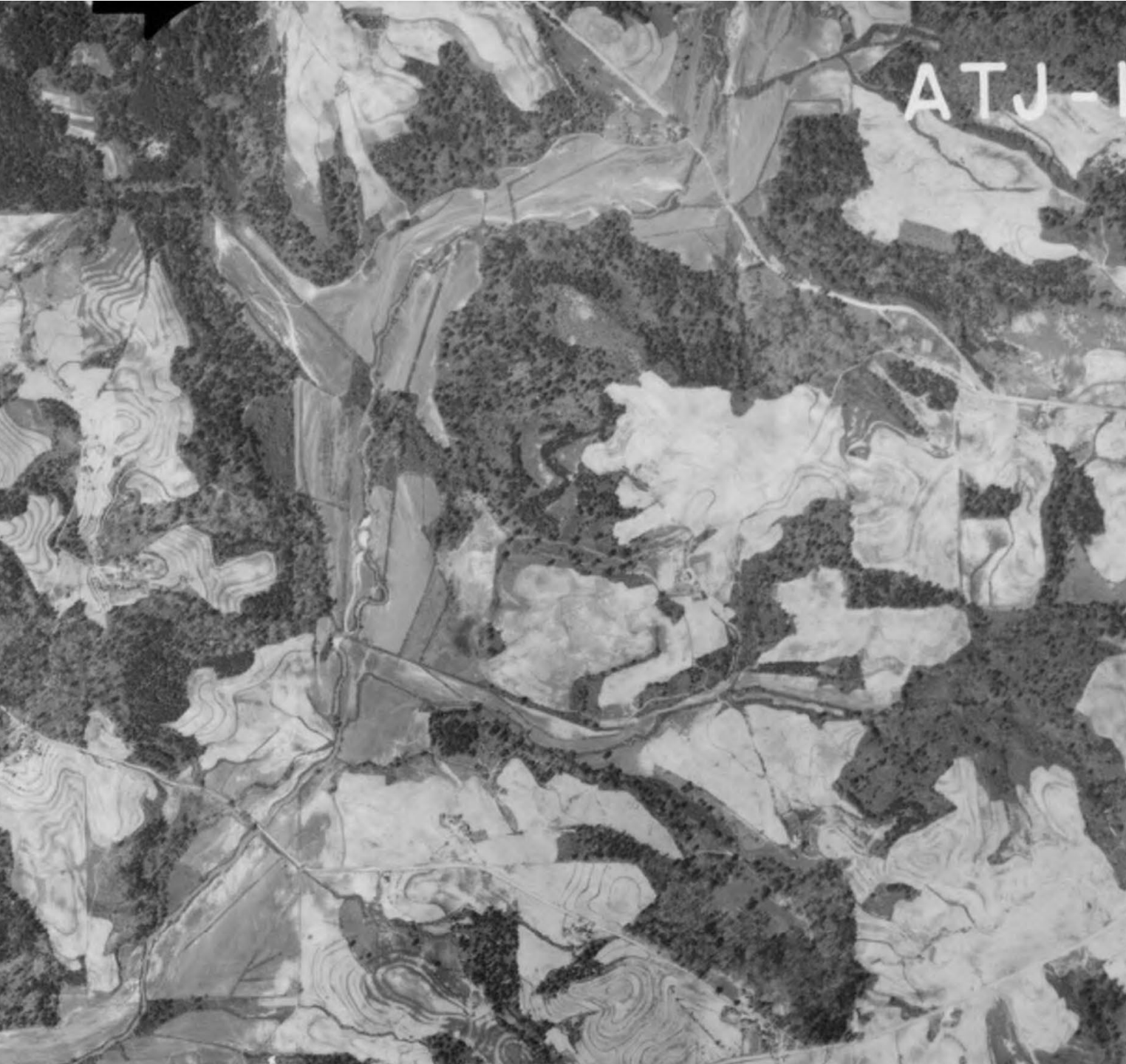
1938 Aerial Data

1.0 Mile of Streams Blasted
50 Acres of Floodplain
Cleared



2024 Flood Map
Long Indian Creek
City of Sandy Springs
Long Island Drive

1938 Aerial Data
3/4 Miles of Streams Blasted
50 Acres of Floodplain
Cleared



2024 Flood Map
Johns Creek
City of Johns Creek
Powers Ferry Road

1938 Aerial Data
1.4 Mile of Streams Blasted
80 Acres of Floodplain
Cleared



2024 Flood Map

Big Creek

City of Alpharetta

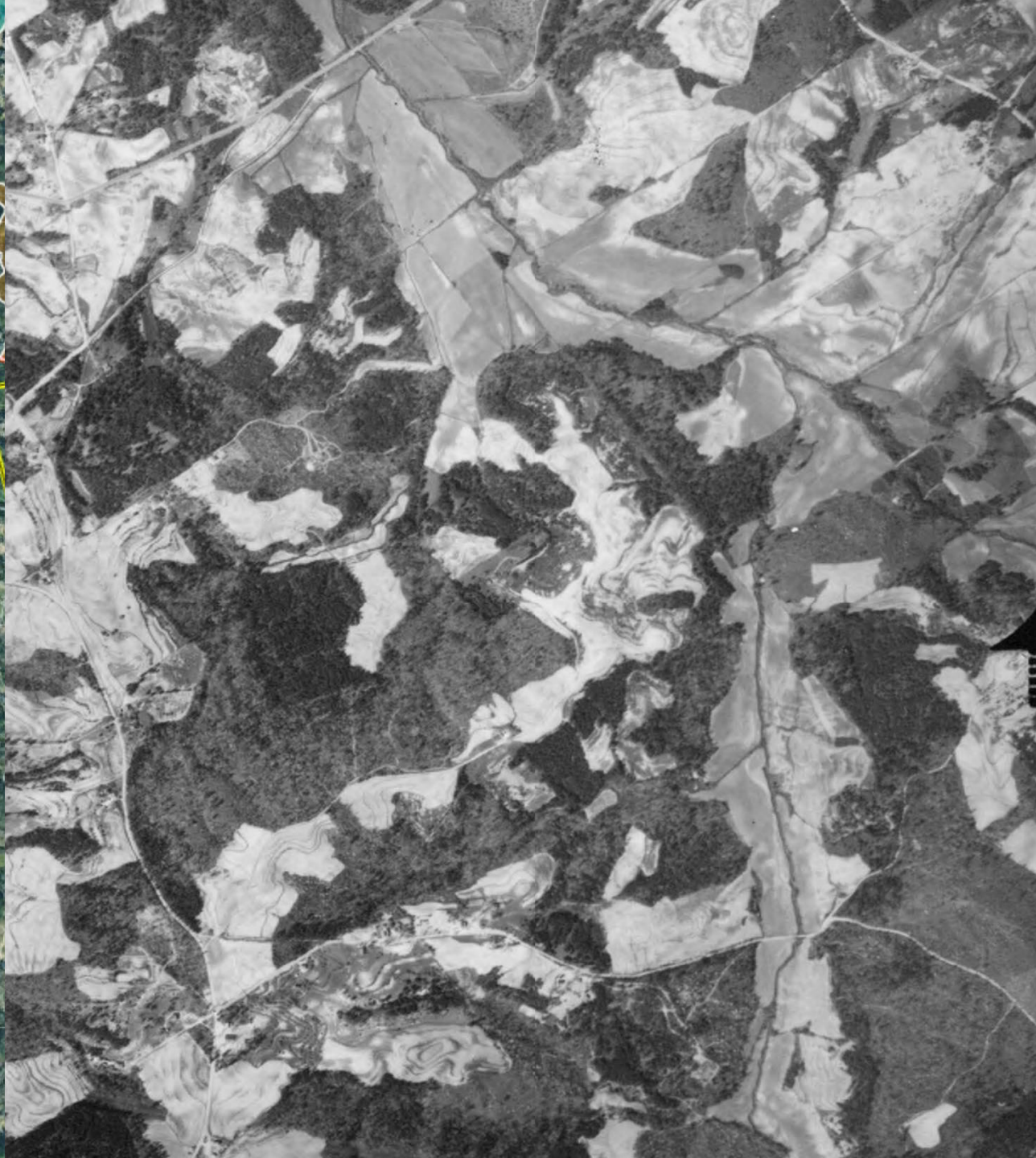
North Point Pkwy

1938 Aerial Data

1.5 Mile of Streams Blasted

93 Acres of Floodplain

Cleared



2024 Flood Map

Crooked Creek

City of Peachtree Corners
(Gwinnett County)

Spalding Drive

1938 Aerial Data

2.5 Mile of Streams Blasted

238 Acres of Floodplain

Cleared

The inventor of
dynamite and
aerial
photography....



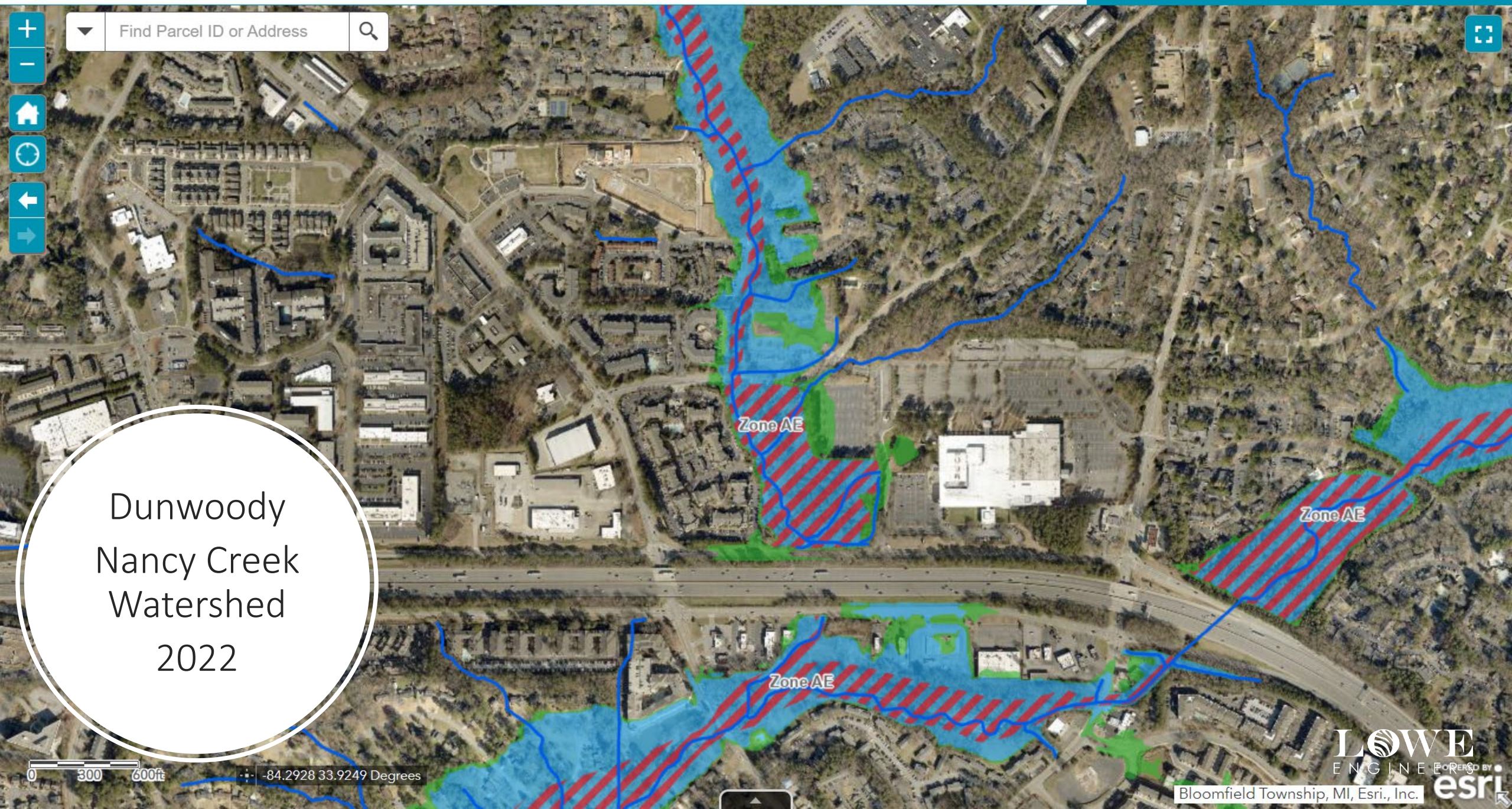
The Aftermath....

- By the 1930s, thousands of miles of streams and millions of acres floodplain were clear cut and straightened nationwide
- These actions led to environmental disasters such as the Dust Bowl in the 1930s 1.2 billion tons of soil were lost due to dust storms (check out the documentary by Ken Burns)
- In 1935, President Roosevelt signed the Soil Conservation Act, where the USDA provided assistance for farmers and to develop and implement conservation plans (replanting trees and building farm ponds)





Find Parcel ID or Address



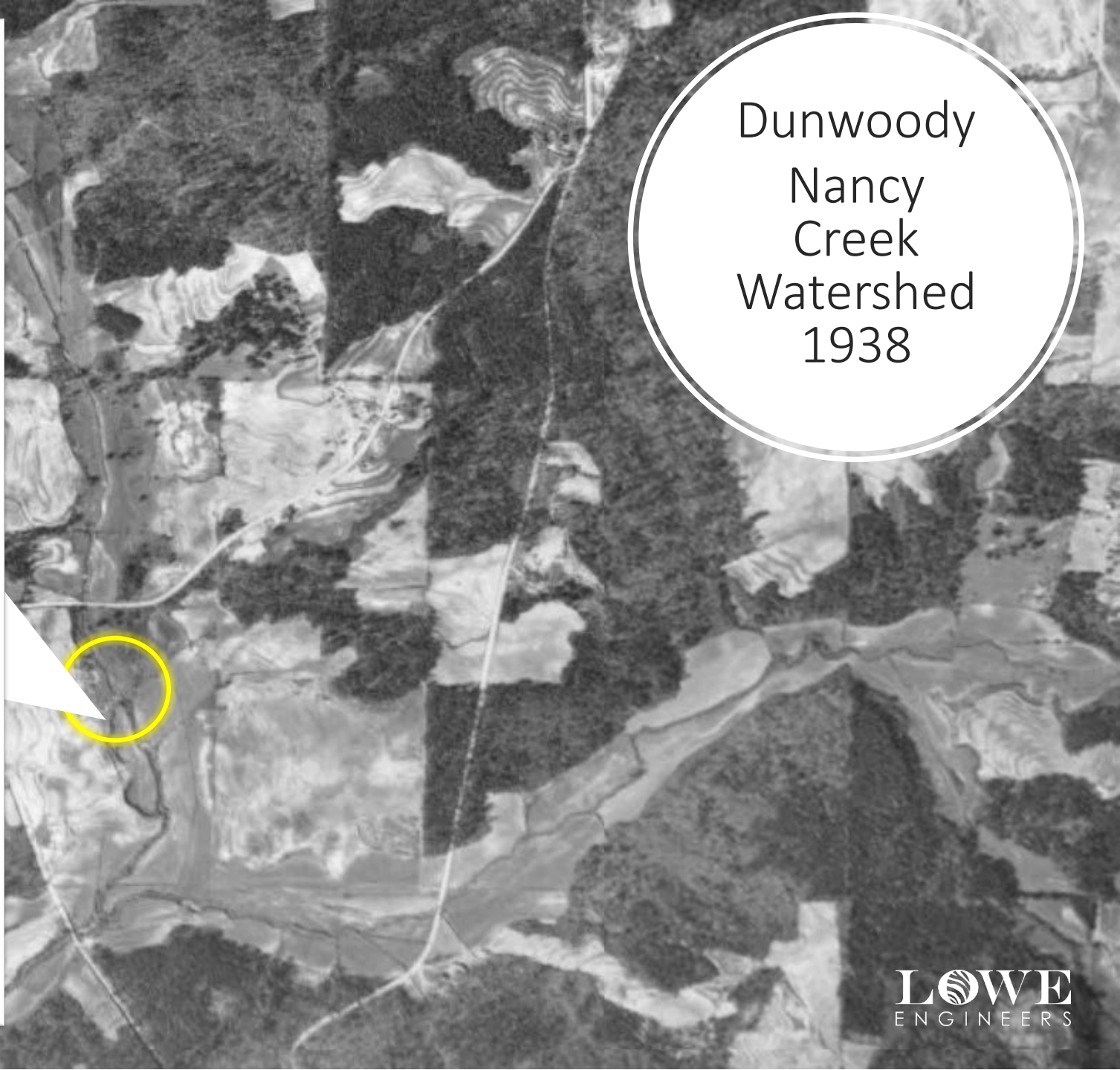
Dunwoody
Nancy Creek
Watershed
2022

Dunwoody
Nancy
Creek
Watershed
1938

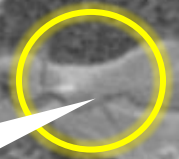




Dunwoody
Nancy
Creek
Watershed
1938

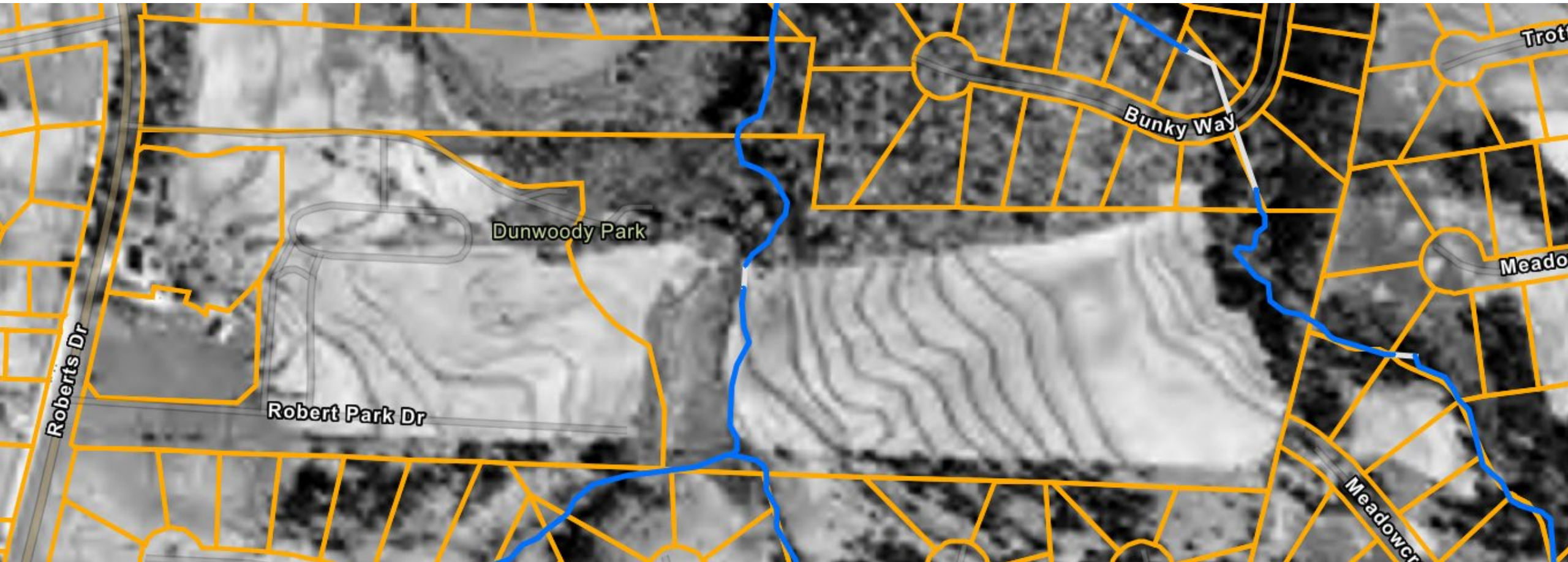


Dunwoody
Nancy
Creek
Watershed
1938



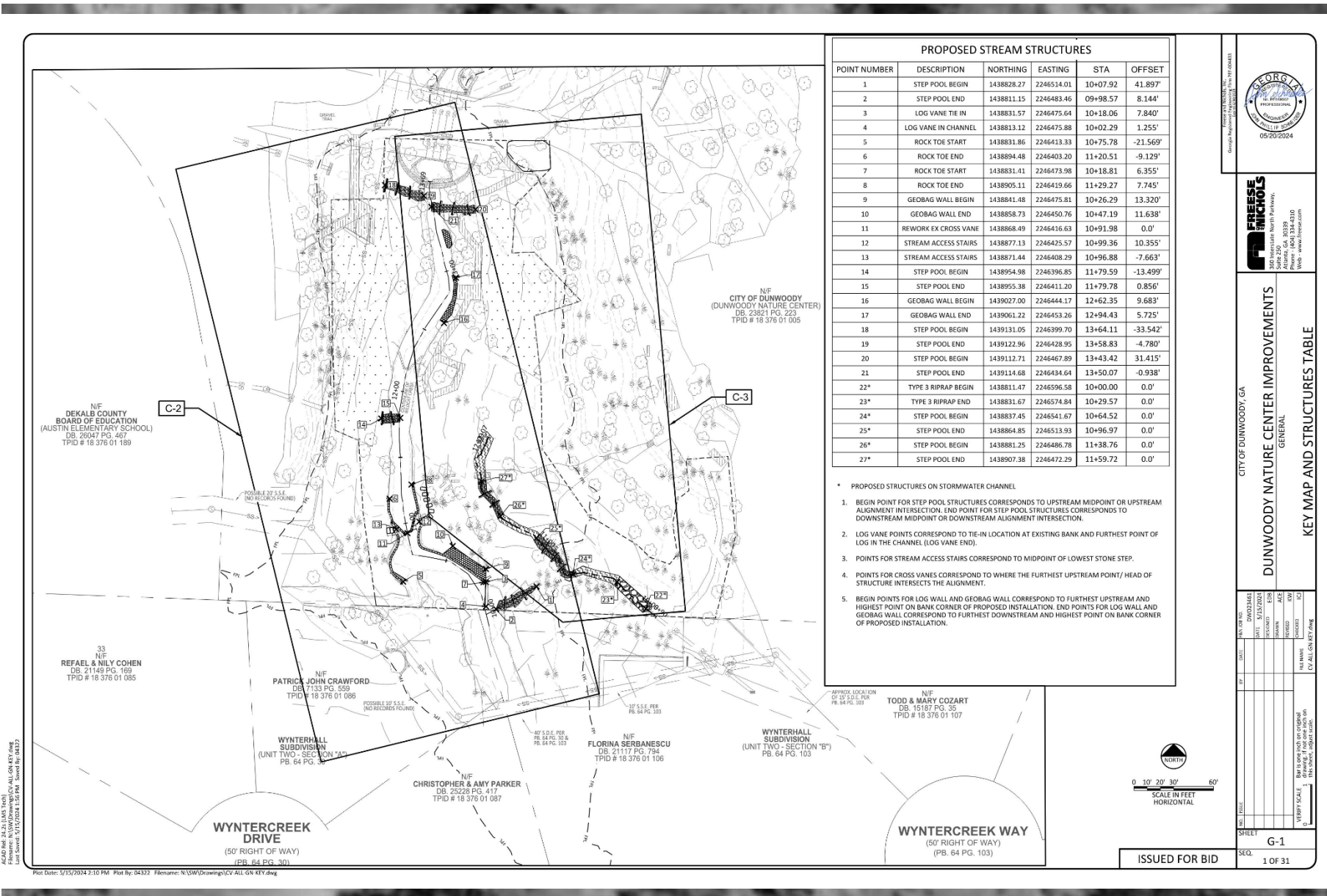
How is the City using this information?

- Our GIS team is georeferencing archived aerial photos to inventory maps (Bend Creek Project)
- We are prioritizing watershed improvement projects located on City property impacted by the NIC program



DNC Boardwalk and Streambank Restoration

- Located along the Wildcat Creek Tributary
- Stream straightened and floodplain cleared in the 1938 aerial
- Plan includes embankment stabilization and habitat restoration (12 species 1,000 plants)



DNC Streambank Restoration

- Issues:

1. Invasive Species
2. Erosion (surface, outfall, and channel)
3. Failing structures

- Solutions

- Invasive Species Removal
- Native Plantings
- Wetland Restoration
- Boardwalk
- Stream/channel/outfall
 - Step pools
 - Geobags w/ Rock toe
 - Log vanes
 - Rock vanes



Recommended Homework

- The Greening of Georgia (R. Harold Brown)
- GA Aerial Photograph Database
- The Worst Hard Time (Timothy Egan)
- ***The Dust Bowl (Ken Burns)***

THE DUST BOWL

A FILM BY KEN BURNS



Thank You!

