



United States Department of Agriculture



# PUBLIC PARTICIPATION MEETING

## Farm Brook Dam Sites 1, 2A and 2B Rehabilitation Plan

Presenter: Kristin Walker, Project Engineer

July 18, 2019

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Conservation  
Service

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# Public Law 83-566

On August 4, 1954 congress approved the “Watershed Protection and Flood Prevention Act”, A.K.A. PL-83-566.

“...it is the sense of congress that the Federal Government should cooperate with States and their political subdivisions, soil or water conservation districts, flood prevention or control districts, and other local public agencies for the purpose of preventing such damages and of furthering the conservation, development, utilization, and disposal of water and thereby preserving and protecting the Nation’s land and water resources.” August 4, 1954, [H.R. 6788]



666 PUBLIC LAW 86-489-AUG. 4, 1954 [86 STAT.]  
Public Law 566 CHAPTER 656  
AN ACT  
To authorize the Secretary of Agriculture to cooperate with States and local agencies in the planning and carrying out of works of improvement for soil conservation, and for other purposes.  
*As amended by the Senate and House of Representatives of the United States of America in Congress assembled.* That erosion, flood-water, and sediment damages in the watersheds of the rivers and streams of the United States, causing loss of life and damage to property, constitute a menace to the national welfare; and that it is the sense of Congress that the Federal Government should cooperate with States and their political subdivisions, soil or water conservation districts, flood prevention or control districts, and other local public agencies for the purpose of preventing such damages and of furthering the conservation, development, utilization, and disposal of water and thereby preserving and protecting the Nation's land and water resources.  
SEC. 2. For the purposes of this Act, the following terms shall mean:  
The "Secretary"—the Secretary of Agriculture of the United States.  
"Works of improvement"—any undertaking for—  
(1) flood prevention (including structural and land-treatment measures) or  
(2) agricultural phases of the conservation, development, utilization, and disposal of water  
in watershed or subwatershed areas not exceeding two hundred and fifty thousand acres and not including any single structure which provides more than five thousand acre-feet of total capacity. No appropriations shall be made for any plan for works of improvement which includes any structure which provides more than twenty-five hundred acre-feet of total capacity unless such plan has been approved by resolutions adopted by the Committee on Agriculture and Forestry of the Senate and the Committee on Agriculture of the House of Representatives, respectively. A number of such subwatersheds when they are component parts of a larger watershed may be planned together when the local sponsoring organization so desires.  
"Local organization"—any State, political subdivision thereof, soil or water conservation district, flood prevention or control district, or combination thereof, or any other agency having authority under State law to carry out, maintain and operate the works of



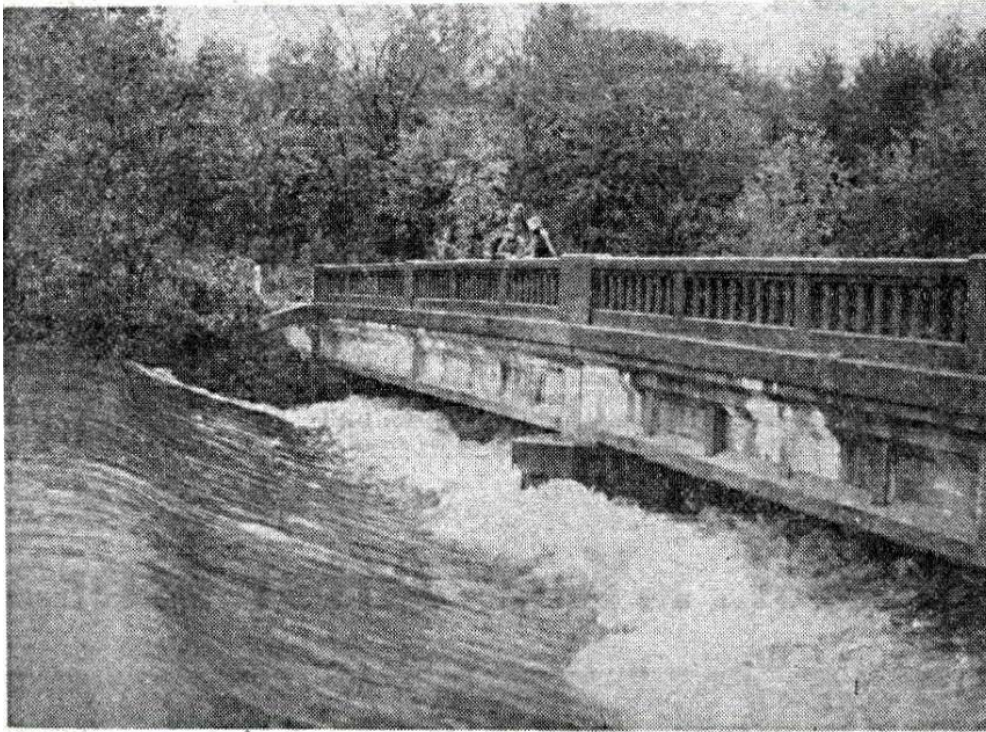
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# Not soon enough. . .



On August 18-19 of 1955 Storm Diane Hit  
October 14-16 1955 Connecticut was hit again

## Rivers Cause Flooding



The storm was tougher elsewhere, but even Hamden and North Haven were feeling some of its effects, as the pictures above testify. The scene at Clark's Pond in Mount Carmel, top left, showed Mill River waters at a height far above normal.

**Left:** Photo credit:  
<http://www.hamdenfireretirees.org/>  
accessed May  
2019



# More Historic Flooding



**Connecticuthistory.org (accessed 7/15/2019)**

**<https://connecticuthistory.org/video-when-disaster-struck-connecticut-the-flood-of-1955/>**

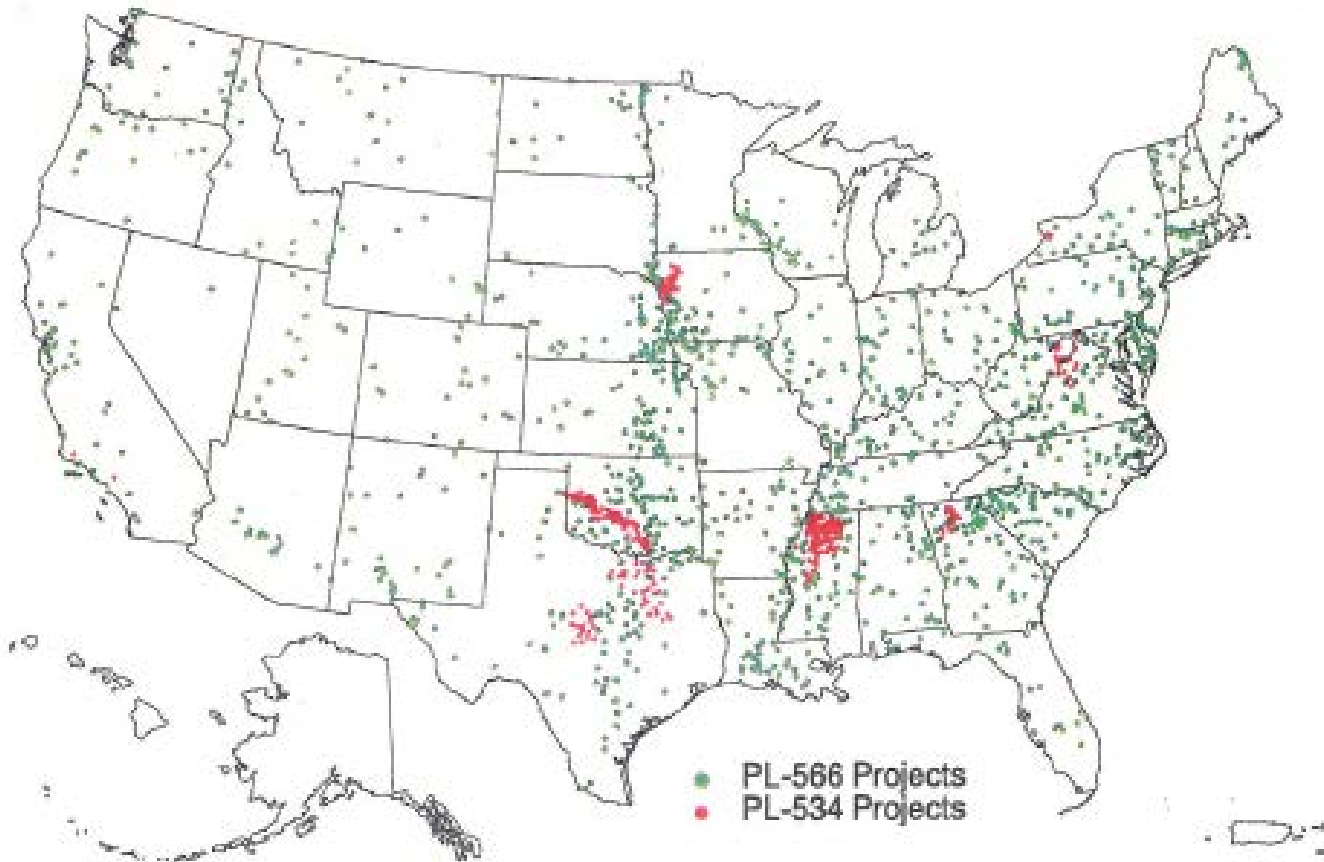
**Yankee Magazine (accessed 7/15/2019)**

**<https://newengland.com/yankee-magazine/living/new-england-history/connecticut-farmington-river-flood-of-1955/>**



# Small Watershed Program

## Watershed Project Locations



**NRCS has assisted communities with building more than 11,000 Dams since 1948.**

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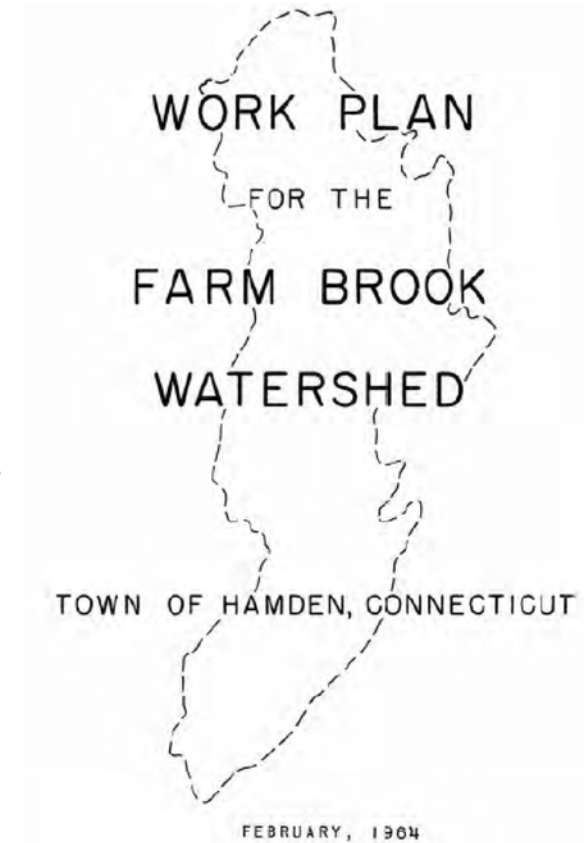
# Public Law 83-566 Projects: Funding Sources and Responsibilities

- **Congressionally appropriated funds to construct watershed projects**
- **NRCS (formerly SCS, Soil Conservation Service)**
  - Planning & Design
  - Cost Share & QA/QC during construction
- **Sponsors:**
  - Acquire necessary Permits and Land rights (if needed) to construct
  - Performing Operation and Maintenance of Dam structures such as this one
  - Responsible for 35% of total project cost, not to exceed 100% of Construction Cost

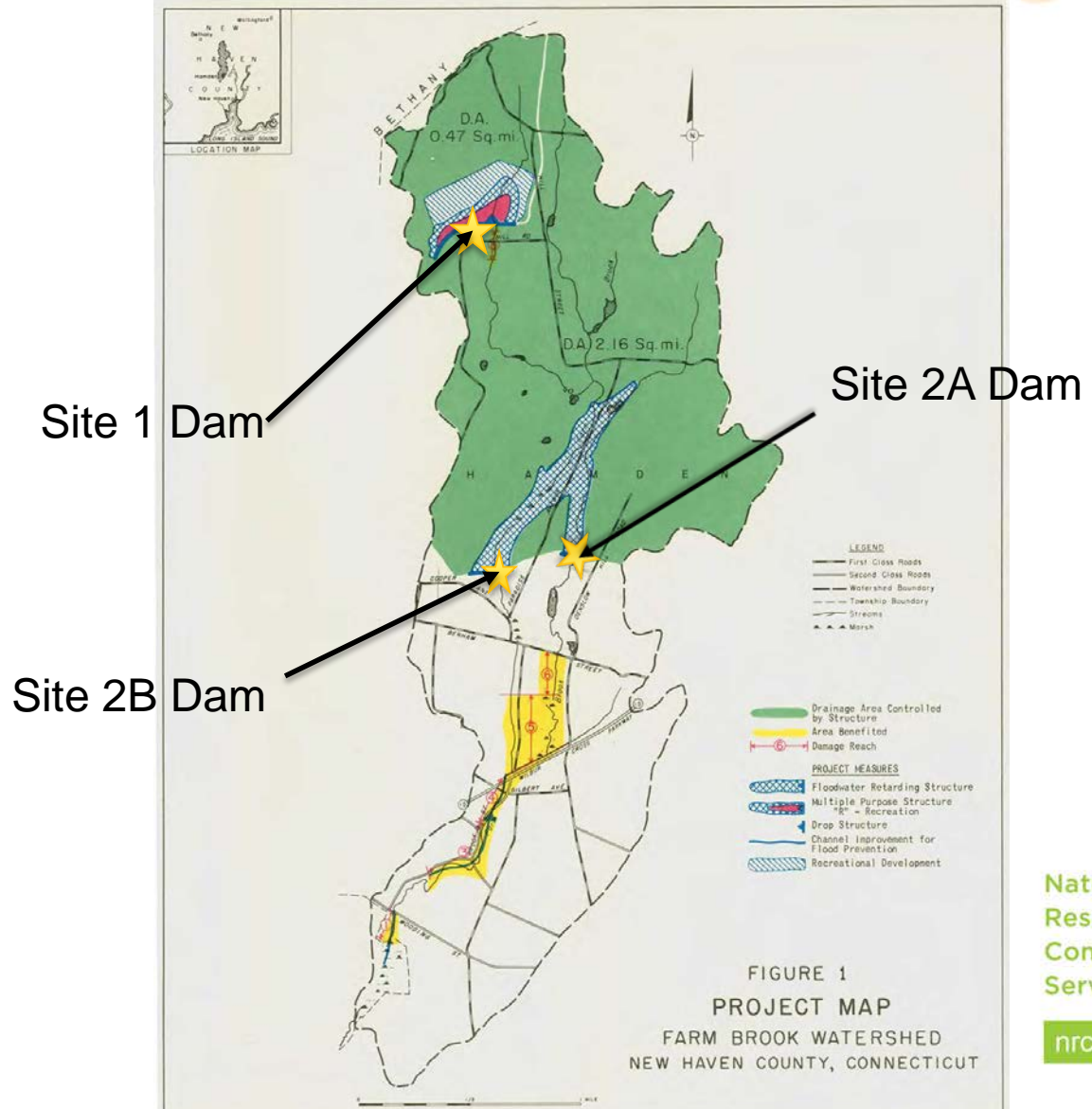


# Farm Brook Dams' History

- **The 1964 Work Plan for the Farm Brook Watershed included 3 structures**
  - 2 Floodwater Retarding Structures (Sites 2a & 2b)
  - 1 Floodwater Retarding and Recreation Structure (site 1)
- **Main purpose was to protect 150 homes within the floodplain from the 100-yr storm**
- **Secondarily, sites would preserve open space and floodplain for projected future development**
  - 1960 Population = approx. 41,000
  - Was expected to increase to 100K in 50 years
- **Since construction, land use changes have occurred in the watershed both upstream and downstream**



# Original Watershed Work Plan





# State of CT Hazard Classifications\*\*

Class “B” Significant Hazard Dam Failure Results in:	Class “C” High Hazard Dam Failure Results in:
<i>Possible</i> loss of life	<b>Probable</b> loss of life
<i>Minor</i> damage to habitable structure, residences, hospitals, convalescent homes, schools, etc.	<b>Major</b> damage to habitable structure, residences, hospitals, convalescent homes, schools, etc.
Damage to or interruption of the use of service utilities	
Damage to primary roadways (less than 1500 ADT*) and railroads	Damage to main highways (greater than 1500 ADT*)
Significant economic loss	Great economic loss

\*ADT=Average Daily Traffic



# Assessment Trigger



- **The lifespan of the dams are reaching their 50 year “economic service life”**
- **The Hazard Class of Site 1 increased to “High Hazard” during a classification review**
- **As such, the DEEP requested that NRCS complete a dam assessment on the Farm Brook Sites**
- **An assessment aims to analyze each site for:**
  - Potential deficiencies (physical, and modeled)
  - New watershed conditions
    - Changes in land use (development)
    - Uses Most up-to-date precipitation data available
  - Adherence to most current policies and guidelines



# Phase I: Time to Assess!



## Initial models show the Site 1 dam overtops in the Probable Maximum Precipitation (PMP, a.k.a. the perfect storm)

- 6-hour and 24-hour PMP is used to set the design Top of Dam
- Overtopping can cause total dam failure (i.e. a Breach)
- Breach at Site 1 has the potential to overtop dams at Site 2a and 2b
- Potential to flood homes, businesses, roads, etc. downstream



# Phase II: Rehabilitation Plan (Current Phase)



- DEEP requested to have a Rehabilitation Plan developed to further investigate the deficiencies and analyze possible fixes
- NRCS issued a contract with a private firm, DDK, to get the plan written
- The plan takes ~2.5 years to complete
- Phase III: a design of the preferred analysis will be completed if needed (depends on funding)
- Phase IV: Construction of the preferred alternative (largely depends on funding)



# Rehab Planning Team

- Major team effort that includes:
  - DEEP (coordination and support, land rights determinations, outreach, etc.)
  - NRCS CT staff (field surveys, reviews, outreach, etc.)
  - NRCS National Watershed Management Center (guidance and technical review)
  - Town Officials, Engineers, Hydrologists, Geologists, Biologists, Economists, Archaeologists, Environmental Consultants, etc.
  - **YOU!!! (the public)**



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# Additional Public Meeting(s) To Be Announced. . .

- **Public participation is paramount in the rehab planning process**
- **The plan should be comprehensive and selected alternative(s) will aim to have minimal impact on the communities and resources surrounding it**
- **Community input and feedback is critical throughout this process. As we continue to develop the plan and suggest alternatives, we will solicit additional public participation.**



[This Photo](#) accessed via powerpoint image search for "Public Meeting Crowd", 7/15/2019

## Stay Tuned!

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# Questions/Concerns Always Welcome

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