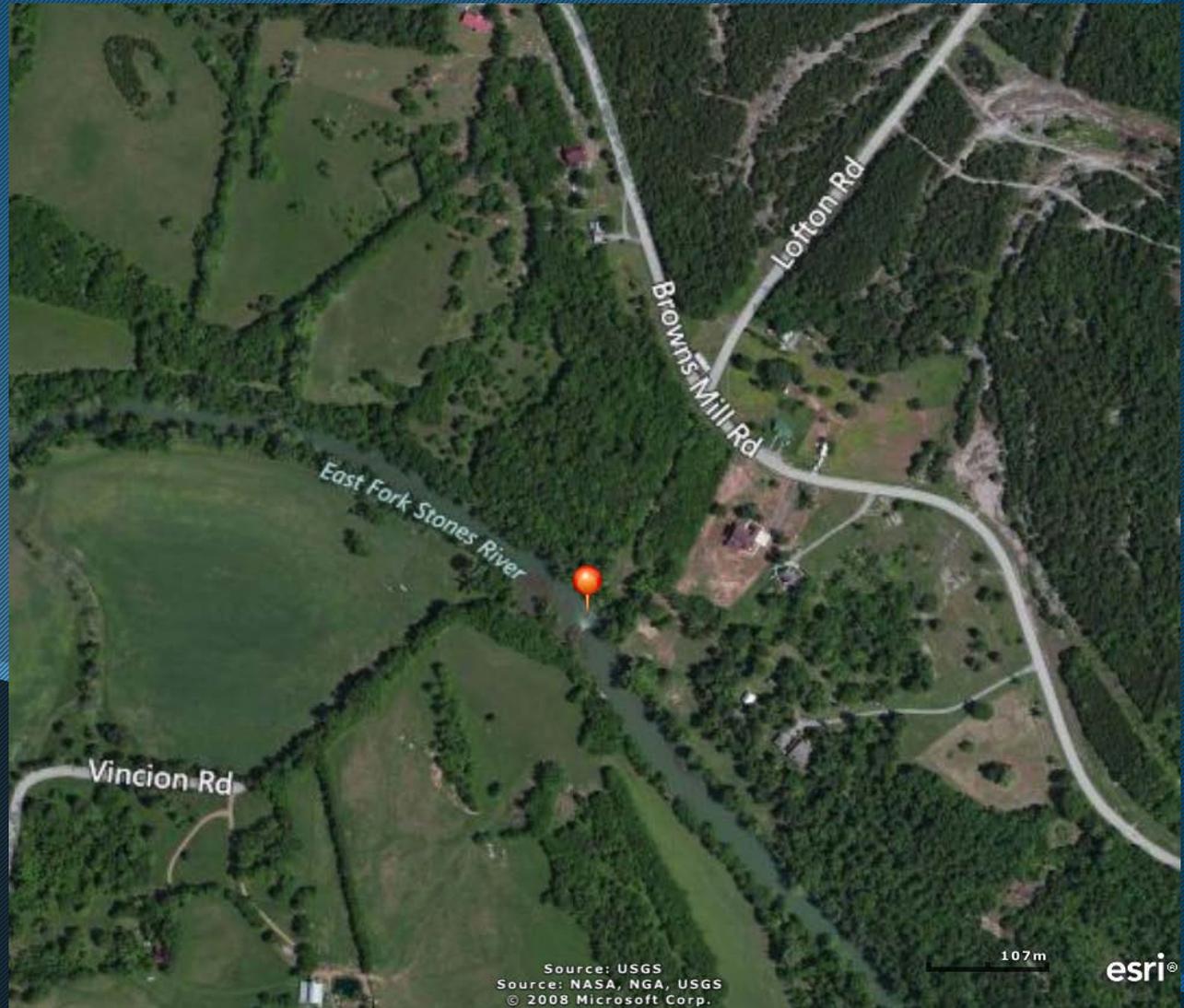


Brown's Mill Dam Removal and River Access

A joint project
of the TWRA,
TNC, and the
Tennessee
Healthy
Watershed
Initiative with
the support of
the Stone's
River Watershed
Association



Brown's Mill Dam of the Past



A Quick History of Brown's Mill Dam

1829 – A log dam was installed on site to power Brown's Mill.

1941 – The Army Corps of Engineers fortified the dam by covering it with concrete. Many of the current rebar and exposed metal are a result of this effort.

1954 – Dam was reinforced by covering rock fill behind the dam with concrete.

1978 – Utilizing turbine and steel rollers the mill operated until this date. Keele McElroy was the last owner to operate the mill.

1981 – The City of Murfreesboro purchased the Brown's Mill site as an emergency water supply.

1991 – During restoration efforts the mill building collapsed into the river.

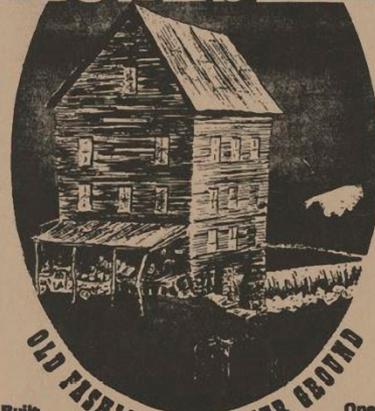
2002 – Brown's Mill site was removed from National Register of Historic Places.

Inside Brown's Mill



Brown's Mill Flour

Brown's Mill



Built
in 1873

Open
Daily

WHOLE WHEAT FLOUR

Magnolia Milling Company

LASCASSAS, TENNESSEE
37085

NET WT. 5 LBS.

Brown's Mill Relicts



Brown's Mill Dam Now



Entrance to Brown's Mill Site



Brown's Mill Dam Warnings



Brown's Mill Algae Bloom and Log Jam



Brown's Mill After Rain in August



Eroding Forces



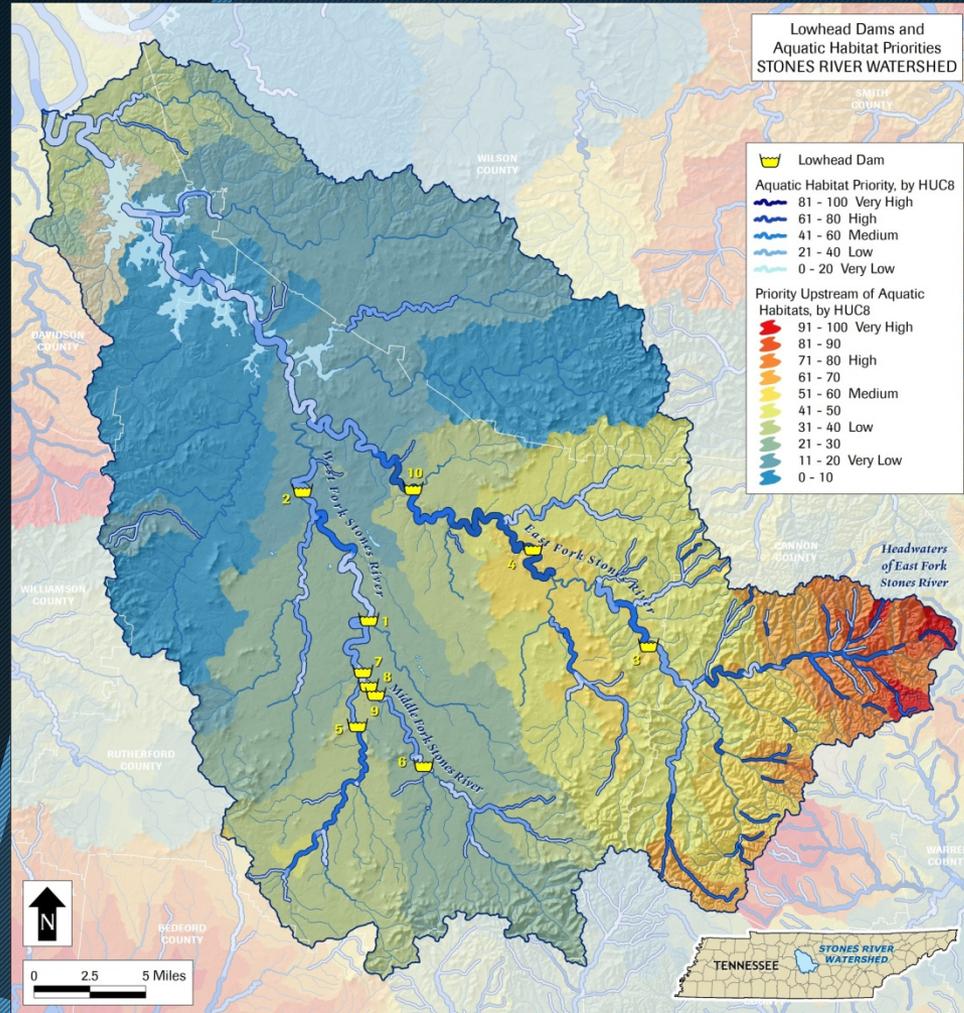
Pool Behind Brown's Mill After Rain



Which Lowhead Dam?

Criteria for Lowhead Dam Removal

1. Priority Habitat
2. Ownership
3. Safety Issues
4. Funding
5. Support



The Nature Conservancy's Stone's River Watershed Assessment With Lowhead Dams

Fish Species Found Downstream of Brown's Mill in Oct. 2010
by MTSU - Evan Cartabiano and Dr. Dennis Mullen

Central Stoneroller
Blotched Chub*
Bigeye Chub
Striped Shiner
Rosefin Shiner
Redtail Chub
Bigeye Shiner
Bedrock Shiner*
Telescope Shiner
Bluntnose Minnow
Golden Redhorse
Northern Hogsucker
Slender Madtom
Stonecat
Northern Studfish
Brook Silverside
Rockbass
Longear Sunfish
Smallmouth Bass
Greenside Darter
Rainbow Darter
Fringed Darter
Fantail Darter
Finescale Darter
Redline Darter
Snubnose Darter
Spectacled Darter
Banded Darter



Northern Studfish - NatureServe

*Species of Greatest Conservation Need

TWRA Conducting Fish Survey



**Fish Survey Conducted
May 30, 2013**

35 Species Total

Species of
Concern Found:
Finescale Darter
Blotched Chub
Bedrock Shiner



Fantail Darter

TWRA Conducting Mussel Survey



Mussel Survey June 4, 2013



During the pre-removal survey 2 mussel species totaling 20 individuals were collected live from 80 quadrats. Painted Creekshell (*Villosa taeniata*) [19] Cumberland Moccasinshell (*Medionidus conradicus*) [1]

How Do You Remove A Dam?



Powder Mill Dam on Sycamore Creek

Dam Removal Checklist

Dam Removal Selection

- “ Property Ownership
- “ Biodiversity – High Priority Stream Habitat
- “ Paddling Safety Improved
- “ River Ecology Improved
- “ Funding Available
- “ Support from Local Watershed Association and Public

Dam Removal Process

- “ Funding
- “ Dam Removal Design
- “ Rare Species Surveyed – No Threatened or Endangered Species Found
- “ Historical Significance Determined – Section 106
- “ Permitting – ARAP Individual, COE 404 NW27
- “ MOU with Landowner
- “ State Contract Bidding Process
- “ Public Information Session
- “ REMOVE DAM

Application for the Tennessee Healthy Watershed Initiative (THWI)

Summary of Project Goal(s) and Objective(s):

The goal of this project is to improve the connectivity and water quality of the East Fork of the Stones River by removing

Listing of Specific Goal(s) and Objective(s):

Please list your project goal(s) and associated objective(s) which should include your general actions to achieve your project goals.

- Goal 1 Improve the connectivity and water quality of the East Fork of the Stones River at Brown's Mill Dam.
- Objective 1 To have environmental engineers design low impact dam removal.
- Objective 2 To conduct IBI fish surveys and mussel surveys prior to dam removal.
- Objective 3 To remove Brown's Mill lowhead dam.
- Goal 2 Restore and monitor the biodiversity of the East Fork of the Stones River.
- Objective 1 To conduct IBI fish surveys and mussel surveys post dam removal to measure change in biodiversity.
- Goal 3 Establish standard practices for lowhead dam removal projects across Tennessee.
- Objective 1 To use the Brown's Mill Dam removal as a pilot project to learn the best practices for lowhead dam removal.
- Goal 4 To make paddling safer in the East Fork of the Stones River.
- Objective 1 To remove this lowhead dam and its associated rebars and concrete making paddling much safer in this stream reach.
- Objective 2 To provide a safe put in and take out site for paddlers in this reach of the Stones River.

Add Another Objective

Add Another Goal

Project Duration:

This project will be completed by June 2014.

Grant
Funding

Received
\$58,500 to
remove
Brown's Mill
Dam and
Create River
Access

*Measuring Brown's Mill Dam
Remnants and Noting Dangerous
Rebar and Concrete Stabilizers*



U of ALABAMA ARCHAEOLOGICAL SURVEY



Funding provided by West TN River Basin Authority, TNC, TDEC, TVA and State Wildlife Grants

National Environmental Policy Act
Categorical Exclusion
Required including Historical and Cultural Significance Survey



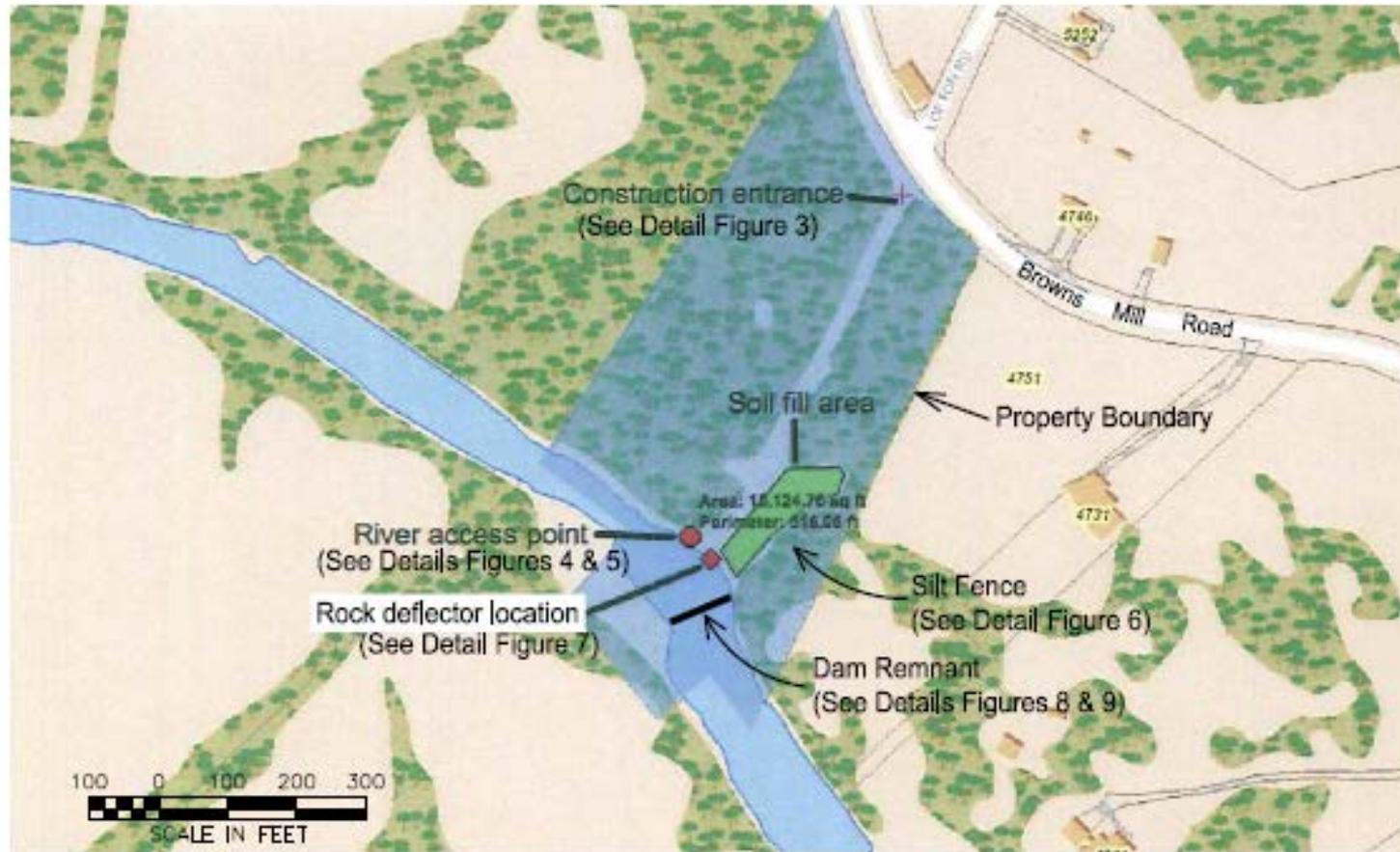
Historical and Cultural Significance Survey Completed



TDEC and Corps of Engineers Permits Acquired



Brown's Mill River Access Plan



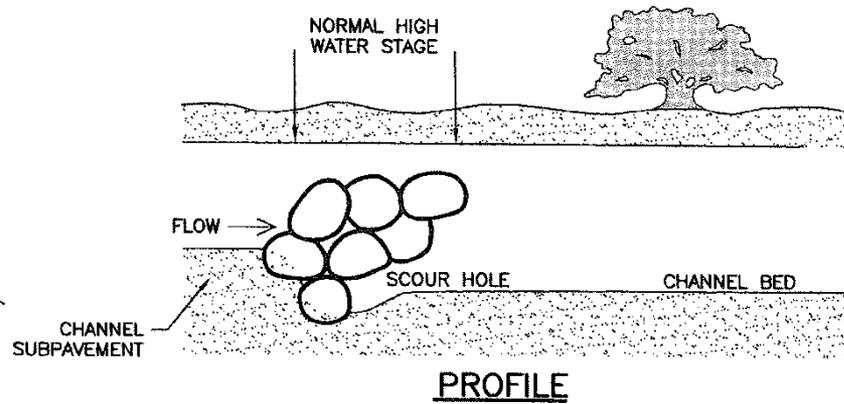
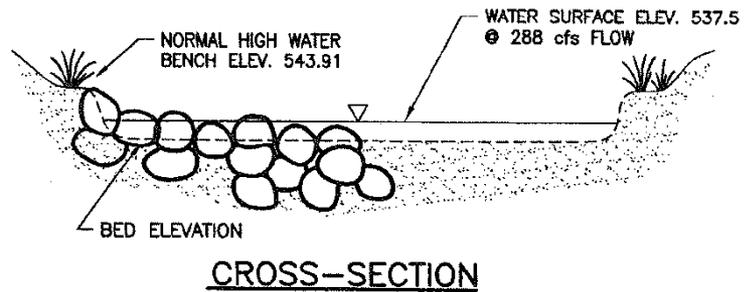
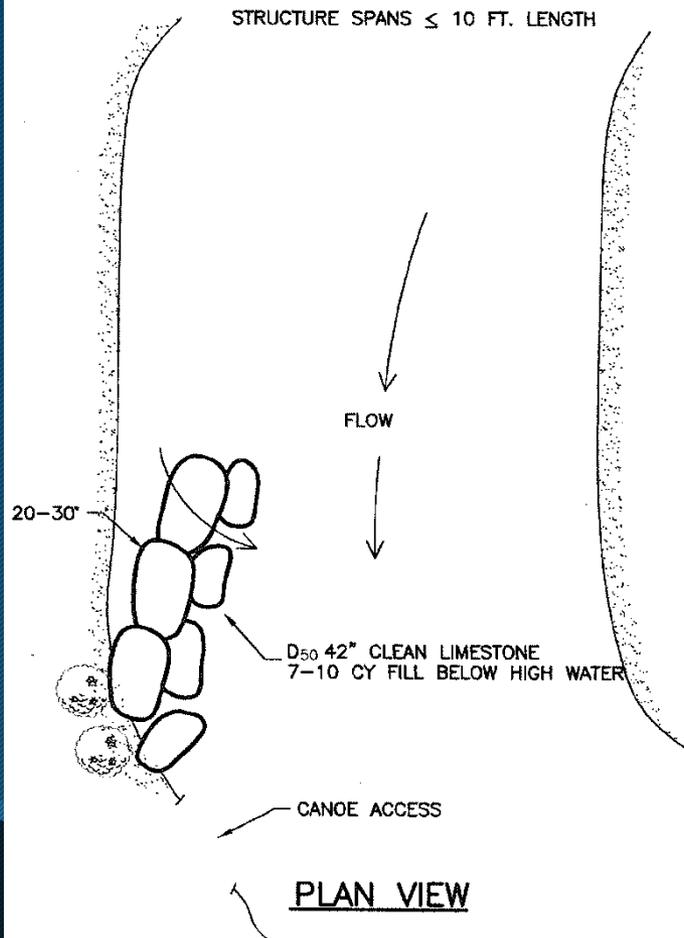
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Engineering • Planning • Construction

P.O. BOX 2886, MEMPHIS, TN 37133-2886
(915) 895-8221 • FAX (915) 895-2832

FILE NAME: C:\Users\Archie\707-65\Brown's Mill Dam\Fig 2 Construction Locations.dwg



Figure 2
Brown's Mill Dam Removal
Construction Locations
Brown's Mill Dam Removal
East Fork Stones River
Lascassas, Rutherford County, Tennessee
Project No. 707-65 March, 2013



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 Engineering & Enviro

LRN-2013-01154
 4 of 6
 Browns Mill Lowhead Dam Removal Project

Figure 7
 Rock Deflector Detail
 Brown's Mill Dam Removal
 East Fork Stones River
 Lascassas, Rutherford County, Tennessee

P.O. BOX 2968, MURFREESBORO, TN 37132
 (615) 895-8221 * FAX (615) 895-0632
 FILE NAME: G:\Active\707-65\Drawings Browns Mill Dam\707-65 Fig 7 Rock Deflector Detail.dwg

Project No. 707-65 January, 2014

**Current Path to River
Will Be Made More
Accessible**



27% (15') Slope Will Be Decreased to 14.25% (8') Slope

**Public Information
Session Held
July 8, 2014**



Dam Removal Checklist

Dam Removal Selection

- “ Property Ownership ✓
- “ High Priority Stream Habitat ✓
- “ Paddling Safety Improved ✓
- “ River Ecology Improved ✓
- “ Funding Available ✓
- “ Support from Local Watershed Association and Public ✓
- “ Dam No Longer Serves Its Purpose ✓

Dam Removal Process

- “ Funding ✓
- “ Dam Removal Design ✓
- “ Rare Species Surveyed – No Threatened or Endangered Species Found ✓
- “ Historical Significance Determined – Section 106 ✓
- “ Permitting – ARAP Individual, COE 404 NW27 ✓
- “ MOU with Landowner ✓
- “ State Contract Bidding Process ✓
- “ Public Information Session ✓
- “ REMOVE DAM

Dam Removed September 19, 2014



East Fork of the Stone's River Without Brown's Mill Dam



Future Signs at Brown's Mill

