



HERITAGE CENTER, LLC/CROET

Native Meadow Restoration Project

PROJECT GOAL

To create a business park campus that is visually appealing and environmentally sound by restoring natural meadow environments as primary landscape features through the judicious replacement of open lawn areas with native East Tennessee meadow grasses and wildflowers.

PROJECT SCOPE

The project will begin in Fall 2006 by replacing the non-native grasses and weeds with desired native grasses and wildflowers. The ongoing project will extend for a number of years as the newly planted meadows are tended and other appropriate areas are added to the landscape plan. Fully established, self-sustaining mature meadows will be in place within 3 to 5 years.



BEGINNING FALL 2006

Project Developer

Heritage Center, LLC

Bob Greenwell, Facilities Improvement Coordinator
Project Manager

Restoration Consultant

Carol R Johnson Associates, Inc.

Landscape Architects and Environmental Planners

Sara J Hedstrom, ASLA

Project Development Coordinator

Supporting Organizations

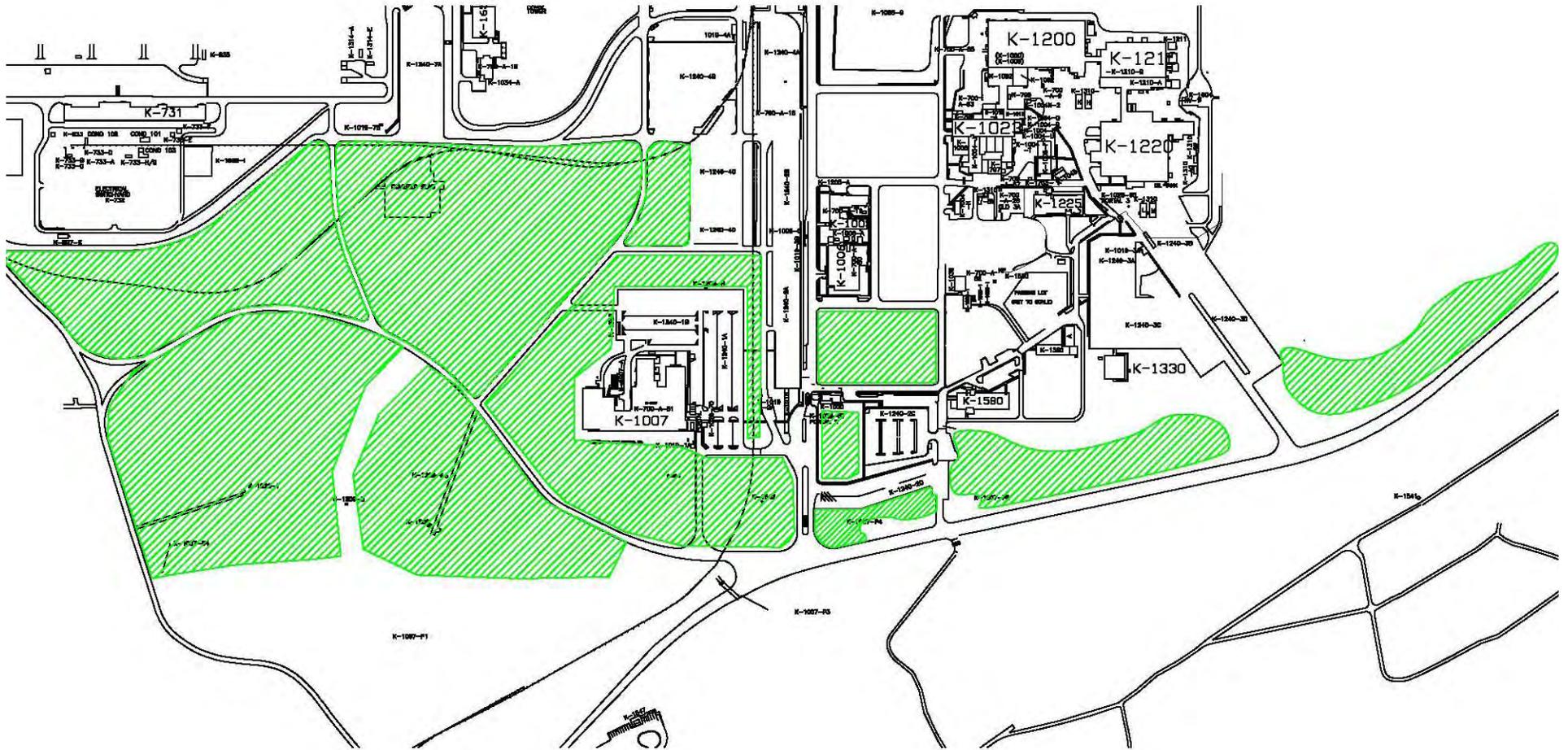
Department of Energy

Bechtel Jacobs Corporation

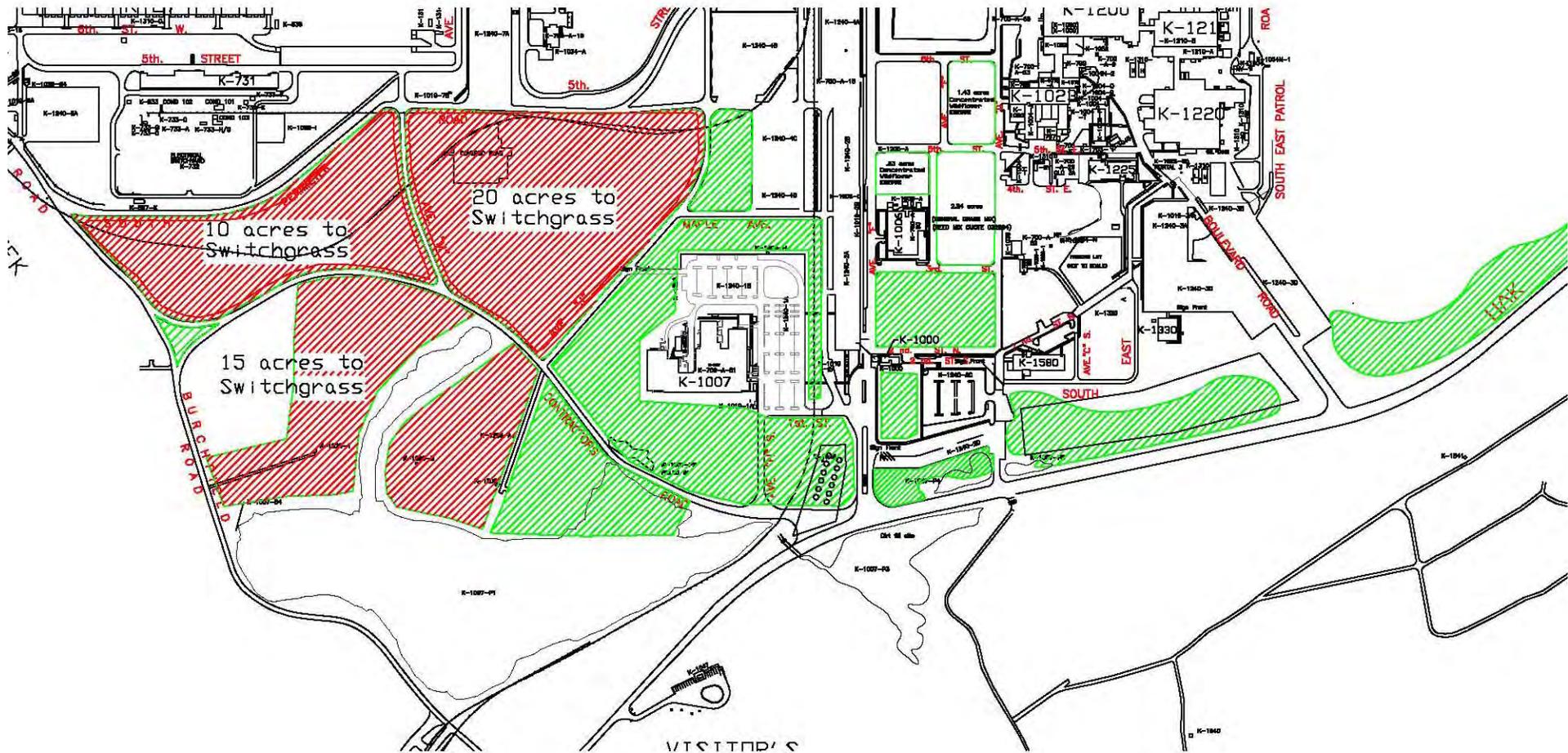
UT Battelle

Tennessee Wildlife Resource Agency

Ernst Conservation Seeds, LLC



HERITAGE CENTER – Areas designated for meadow conversion



Re-designation of 45 acres to mono-culture switchgrass

BAMERT SEED COMPANY

SPECIALIZING IN NATIVE GRASS SINCE 1951

1897 CR 1018

MULESHOE, TX 79347

PHONE 806-272-5506 OR 800-262-9892

FAX 806-272-3114

Bob Greenwell
PO Box 2110
107 Leaway
Oakridge, TN 37831
Phone: 865-482-9890
Fax: 865-482-9891

November 21, 2007
Confirmation 8802

We confirm sale

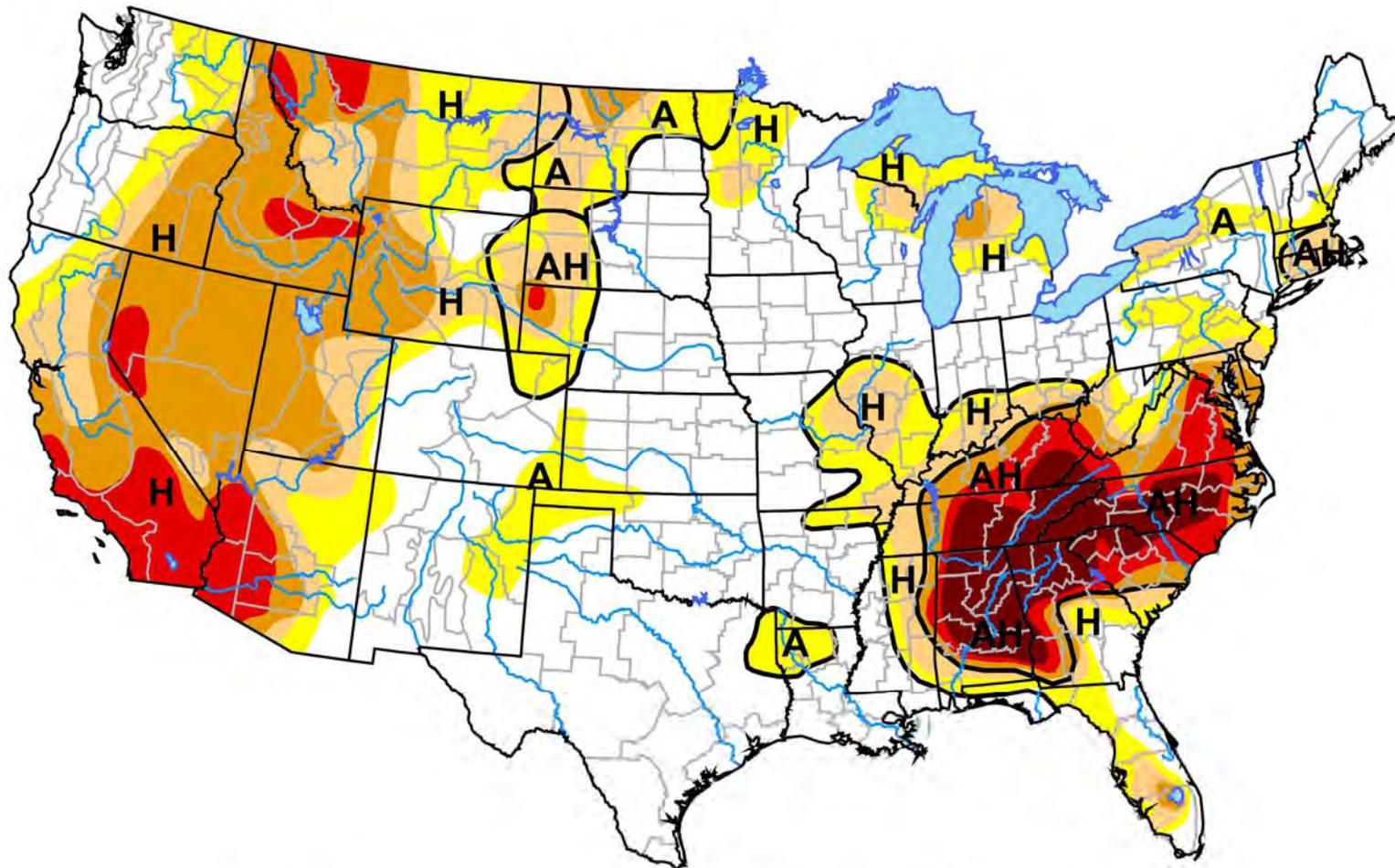
Nick & Bob

COMMODITY	QUANTITY	UNIT	SPECIFICATION	UNIT PR
<u>Blend for 50 acres</u>				
Kaw Big Bluestem	50	pls lbs	current test	
Cimarron Little Bluestem	75	pls lbs	current test	
Cheyenne Indiangrass	50	pls lbs	current test	
Blackwell Switchgrass	50	pls lbs	current test	
El Reno Sideoats	100	pls lbs	current test	
Sand Lovegrass VNS	25	pls lbs	current test	
Illinois Bundleflower	25	pls lbs	current test	
Purple Prairie Clover	25	pls lbs	current test	
Partridge Peas	12.5	pls lbs	current test	
Canada Wildrye	25	pls lbs	current test	
Blackeyed Susan	5	pls lbs	current test	

*James
Greenwell*



Roundup application to remove existing non-native grasses and weeds



Intensity:

- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional

Drought Impact Types:

- ~ Delineates dominant impacts
- A = Agricultural (crops, pastures, grasslands)
- H = Hydrological (water)



Due to drought, meadow seeding efforts failed in 2007



Prep and seeding repeated in spring 2008 resulting in good seed germination



Second year meadow growth September 2009



Second year meadow growth September 2009



Meadow second year growth September 2009



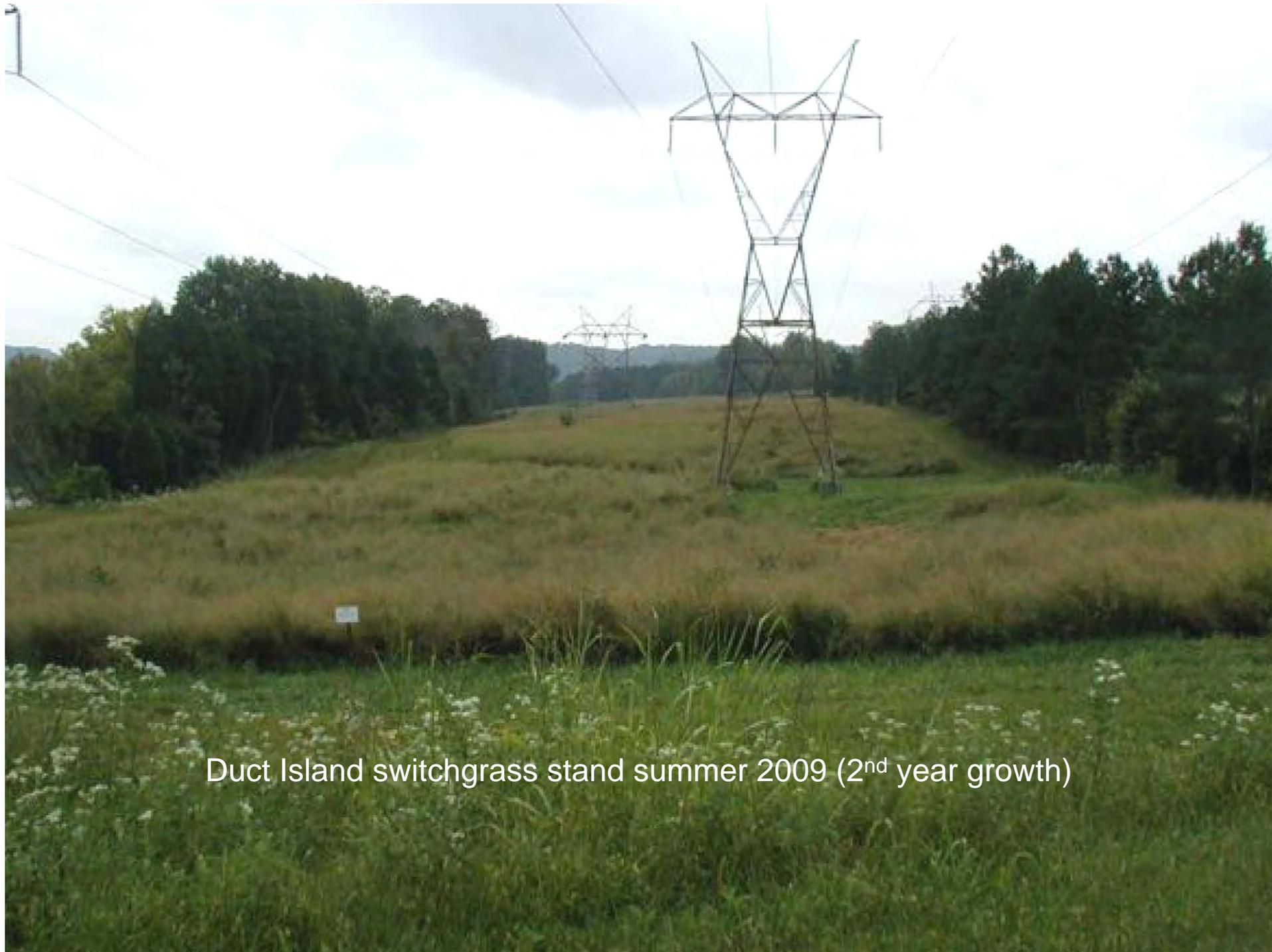
Ground preparation on Duct Island early spring 2008



Duct Island preparation early spring 2008



Duct Island seeding early spring 2008 – monitored by UT ag extension service for BIP
Great Plains NWSG seeder loaned by TWRA



Duct Island switchgrass stand summer 2009 (2nd year growth)

NOTICE

DO NOT MOW OR SPRAY

**UT BIOFUELS INITIATIVE PROGRAM
(SWITCHGRASS CULTIVATION)**

CONTACT CROET (865) 482-9890



Seeding on Duct Island duct bank area early spring 2008



Switchgrass seedlings on Duct Island duct bank area, spring 2008



Switchgrass stand Duct Island duct bank area late summer 2009 (2nd year growth)



Switchgrass 2nd harvest year (2009 crop) Duct Island January 2010



2009 crop harvest Duct Island January 2010 – typical farm round baler



2009 crop harvest Duct Island January 2010



Switchgrass bales Duct Island 2009 crop harvest January 2010



Switchgrass bales 2009 crop harvest Met Tower area Heritage Center



Switchgrass stand seeded 1st week July 2009 – Picture late September 2009



Heritage Center controlled burn of meadow fields Feb/Mar 2009



Heritage Center controlled burn Feb/Mar 2009



Heritage Center controlled burn Feb/Mar 2009



Heritage Center controlled burn Feb/Mar 2009



Heritage Center controlled burn Feb/Mar 2009



Meadow regeneration after controlled burn in late winter 2009 – picture Sept. 2009

