

12 December 2014

### 2014-2015 Schob Scholar LAUP Mini-Grant Program

## PROPOSAL TITLE: Schob Nature Preserve Prairie Planting and Interpretation

One of the dominant vegetation types historically present in the Brazos Valley prior to its settlement was the tallgrass prairie locally known as the Blackland Prairie. Today native tallgrass prairie in Texas consists of less than 0.5% to less than 0.1% remaining, thus making the tallgrass prairie one of the most-endangered large ecosystems in North America. The nearest examples of biologically diverse prairies are located well outside of the Bryan-College Station area.

Texas A&M University is “dedicated to the discovery, development, communication, and application of knowledge in a wide range of academic and professional fields” (TAMU Mission Statement). This includes learning in many types of environments including outdoors. The original plans for the Schob Nature Preserve specified native wildflowers and Buffalo grass turf for the back portion (west loop trail) of the preserve. Those plans were implemented; however, there is potential yet to expand the native planting into the current turf area to maximize the native plantings within the preserve, and thus transform a large turf area to an outdoor classroom. Students in landscape architecture, parks and recreation, and the natural science programs have a need to experience and learn from a native prairie; however, there is currently no prairie on or near campus where this type of learning can take place.

This proposal outlines a plan to convert turf to prairie, as a place for high-impact student learning for students at Texas A&M University, College Hills elementary (and others) and local residents. There would be good prospects for future research on the prairie with this proposal funded and implemented including but not limited to biodiversity counts, stormwater runoff quantifications, aesthetic preferences and the social dynamics of park users.

### SCOPE OF WORK AND PRODUCTS

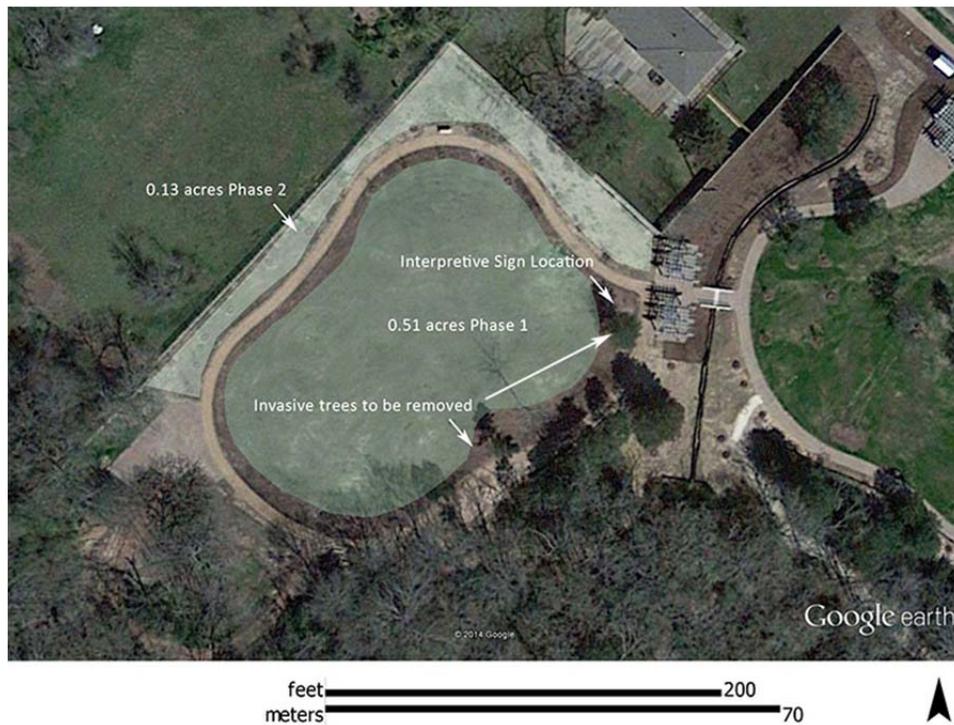
The following products will result from this process:

1. **On-site implementation of low stature prairie.** The current conditions at the preserve on the back (west loop) of the park maintain short grass and some wildflowers outside the west loop trail, and irrigated turf inside the loop (Figure 1). This proposal will convert a majority of the mowed turf grass area into a native Texas prairie habitat including plant species with a short to mid-height stature. This means that people will be able to see across the prairie habitat. The existing turf will remain along a five to ten feet wide strip flanking the loop path. This would maintain a manicured edge with ascending heights of vegetation from the edge to the middle (see Figure 2).
2. **Preparation.** The Phase 1 area would be prepared for planting beginning spring 2014. This includes removal of several cedar trees. These trees (inside the loop) are considered early successional species and invaders of the prairie, and were historically eliminated by natural fires. In lieu of burning, the trees would be cut down and hulled off site. The turf area that will be converted to prairie would be mowed extremely short (scalped), scarified and over-seeded with new seed. The seeds would be lightly tamped into the ground to make a soil connection.
3. **Signage.** An interpretive sign would be made and installed near the location shown in Figure 1.
4. **Phase 2.** A second phase during a later proposal would be to improve upon species already maintained in the planted area outside of the loop trail. See Figure 1 for Phase 1 (this proposal)

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and phase 2 activities.



**Figure 1.** Shows the location of the Phase 1 prairie implementation, the invasive trees to be removed, interpretive sign location and Phase 2 area that could be accomplished under a future proposal.

## PROCESS AND SCHEDULE

The installation is to be organized as follows:

1. The process will begin spring semester 2015. Students from Texas A&M University in the Department of Landscape Architecture and Urban Planning, Department of Recreation, Park and Tourism Sciences, and students studying natural sciences will be solicited for two or three volunteer days at the park to implement the plan. The volunteer days will be similar to the Big Event outings. The Texas A&M ASLA student chapter is a possible collaborator as would be local students in grades K-12, including the nearby College Hills Elementary.

The lead PI would be Associate Professor, Bruce Dvorak in the Department of Landscape and Urban Planning. Professor Dvorak will lead the activities, collaborating with students and other interested instructors. Professor Dvorak has visited numerous prairies across Illinois, the Konza prairie in Kansas, and Texas prairies. He has participated in prairie restoration projects as a landscape architect and as a volunteer in the Chicago metro area and central Illinois and the Willamette Valley in Oregon.

2. The design of the interpretive sign design could take place with a student volunteer group such as the ASLA student chapter, or a special topics course fall 2015. Installation would take place spring or fall 2015.
3. Changes to the turf maintenance regime would include continue mowing and irrigating the outside strip of turf at the current mowing and irrigation schedule. The prairie habitat would receive periodic mowing (once established) to reduce invasive woody material. Watering (supplemental irrigation) would be included during the establishment phase as needed. Watering would likely be phased out for the prairie after year two or three. The prairie vegetation could

take several years to establish and produce its intended biological and aesthetic impact. A more detailed schedule would be worked out at a later time, after final plant selection is complete. The project PI would meet with the contracted maintenance crew leaders currently maintaining the preserve to discuss the new management scheme before and after the installation.



**Figure 2.** Example of prairie planting at Cross Creek Ranch in Flushear, Texas with a mow strip maintained along the edge. At Cross Creek Ranch, local residents began to accept the prairie plantings after the inclusion of mow strips (Li et al., 2013, *Landscape Architecture Frontiers*).

**PROJECT BUDGET**

The budget includes direct and indirect costs. The direct costs include items to be purchased or rented to prepare and install the prairie vegetation. Indirect costs include a small stipend for faculty time on the project, staff time to manage the contract and incidental expenses such as refreshments on work days.

<b>Project Name</b>	<b>Schob Nature Preserve Prairie Phase 1</b>				
<b>Date</b>	<b>December 12, 2014</b>				
<i>Note: the following is an estimation of cost.</i>					
<b>Budget Estimate</b>					
Direct		Size/Units	Qty.	Cost	Total
Preparation of planting area (1) (include soil prep.)		square foot	21780	\$0.02	\$435.60
Equipment rentals		Lump sum	1	\$200.00	\$200.00
Native American Seed Native Seed Mix (half acre)		lbs.	5	\$51.00	\$255.00
Native plants (supplemental for immediate visual impact)		Gallon container	47	\$15.00	\$705.00
Interpretive sign		Lump sum	1	\$500.00	\$500.00
				<b>Subtotal</b>	<b>\$2,095.60</b>
<i>Indirect</i>					
Faculty time (project set up, field time, observation)		Lump sum	1	\$500.00	\$500.00
Incidentals (field day supplements)		Lump sum	1	\$104.40	\$104.40
Staff (10% contract management)		Lump sum	1	\$300.00	\$300.00
				<b>Subtotal</b>	<b>\$904.40</b>
				<b>TOTAL</b>	<b>\$3,000.00</b>