

## NTMN Training Class Project 2024 Proposal:

### **Oakland Cemetery 3-Acre Prairie Restoration Project**

#### *A Constellation of Living Memorials Pilot Project*

#### ***Project Description:***

The Friends of the Warren Ferris Cemetery is pleased to offer an opportunity for the Master Naturalists North Texas Chapter to participate in Constellation of Living Memorials pilot program.

- Using the resounding success of the Warren Ferris Cemetery as a model, this program aims to demonstrate how saving historic cemeteries fortifies Dallas's environmental and cultural authenticity, transforming abandoned cemeteries from invasive, overgrown lands into self-sustaining native habitats, bringing these sacred grounds back to life while honoring rich Dallas culture and natural history.
- The goal of the *Constellation of Living Memorials Pilot Program (CLM)* is to provide further proof of concept, showing that this model can expand greenspaces, repair pollinator populations, enhance climate resiliency, lower the heat island index, teach about the natural environment, address food insecurity, build awareness, and grow communities through accessibility to their authentic local culture, past and present.

#### ***The project involves:***

1. Plan and create a two-year planting/seeding schedule for a native prairie restoration on three acres designated at the historic Oakland Cemetery, 3900 Oakland Cir., Dallas, TX 75215.  
An Oakland Cemetery map of the three acres designated is highlighted in green, below. A topographic and tree survey map will be provided for students to determine what flora are present and calculate plant density.  
Students will notate what invasives are to be removed, and what native plants should be planted based on soil, light, moisture and maintenance conditions, and the history of each site. (A list of available native plants and costs will be provided) The CLM Scientific Board of Advisors will review and advise on final plan. The two-year planting/seeding schedule will be determined based on biology and climate.
2. The NTMN students would design a plan with a \$500 budget from the NTMN chapter.
3. Under the guidance of Texas A&M Agrilife Agent Matthew Orwat, students would follow the protocols that have been created by the CLM Scientific Board of

Advisors (see Board List below) which includes collecting data on flora and fauna. Matthew will instruct students on how to collect this data and upload onto the Texas A&M research portal for analysis. **See protocol instructions included below.**

4. At the Oakland cemetery location, NTMN students, in turn, would meet with college and high school students who are volunteering as citizen scientists from seven other CLM participating cemeteries, and will teach them how to collect and upload data.
5. NTMN students would meet at the site as often as they deem appropriate to design and create a two-year schedule for the restoration plan, teach other volunteers how to collect and upload data, and work hands-on to begin the 2-year restoration.

Depending on each individual's interest, the breakdown would look something like this:

1. Approx 3 students; Design a planting/seeding plan. 10-15 hr of volunteer time/student
2. Approx 3 students; how to collect and input data on flora and fauna. 10-15 hr of volunteer time/student
3. Approx 3 students; Teach high schoolers how to collect/ input data. 10-15 hr of volunteer time/student

The plan and plant select will change over time so the students will provide a rough draft for items 2 & 3.

### ***Guidelines/Suggestions:***

- Capture photos and journal of their project. (see required imagery detailed in the protocols)
- Adhere to the SMART goals/objectives (Specific, Measurable, Attainable, Relevant, Time-based)
- Use basic project planning to accomplish their project.

### ***Minimum Requirements:***

- Project members will learn what native flora grow best based upon light and soil conditions for each area for the planning and design component.
- Project members will learn which native plants and pollinators emerge throughout the seasons for the planning and design component.
- Project members will learn which plants bloom in different months to attract an ever-evolving stream of local and migratory pollinators for the planning and design component.

- Project members will learn to identify invasive plants that may be present in their area of study and how best to remove them for the planning and design component.
- Project members will learn and teach how to collect flora and fauna data to input onto the Texas A&M research portal and Oakland Cemetery iNaturalist page.

All Class Project Teams are required to:

- Be reasonably complete by the end of June 2024
- Display/present their Project at July Chapter meeting (Summer Social).
- Final Completion – due to the heat of Summer, this project may have tasks that get pushed into the Fall of 2024.
- Tasks may include hosting an Open House or a Grand Opening
- Comply with Guidelines for Print and Web documents below.
- Submit an initial Budget by March 12, 2024.

**Project Liaisons:**

Julie Fineman [julie@juliefineman.com](mailto:julie@juliefineman.com), 213 700 7481

Janet Smith [janets13jds@gmail.com](mailto:janets13jds@gmail.com) (214) 929-3844

Matt White [vernonia628@gmail.com](mailto:vernonia628@gmail.com) (903) 453-1209 Prairie Restoration Expert

The Project Liaison will help each Class Project Team understand the project requirements and offer advice on Chapter practices, procedures, resources, etc. (Liaisons will help with the team’s initial organizational meetings and will be available at other meetings as needed.)

**Report Volunteer Hours:**

“Oakland Cemetery Prairie Restoration Project (needs to be added to the roster)

**Guidelines for Print and Web Documents:**

- For publications, web documents are preferred over print documents.
- Published materials must include proper logos and TMN branding.
- For details and guidelines on published materials, refer to [https://txmn.org/files/2010/02/TMN\\_IDMKTguide6-14.pdf](https://txmn.org/files/2010/02/TMN_IDMKTguide6-14.pdf) and [https://txmn.org/files/naturalist-trademark\\_04.pdf](https://txmn.org/files/naturalist-trademark_04.pdf).
- The Chapter Communications Director must be consulted about all documents.
  - Communications Director: [communications@ntmn.org](mailto:communications@ntmn.org)

**Expenses:**

\$500. The team will turn in a budget to project liaisons, Class Project Coordinator and Training Class Director before spending money. NTMN is a tax-exempt organization. The class will use the tax-exempt form. The tax-exempt form and expense

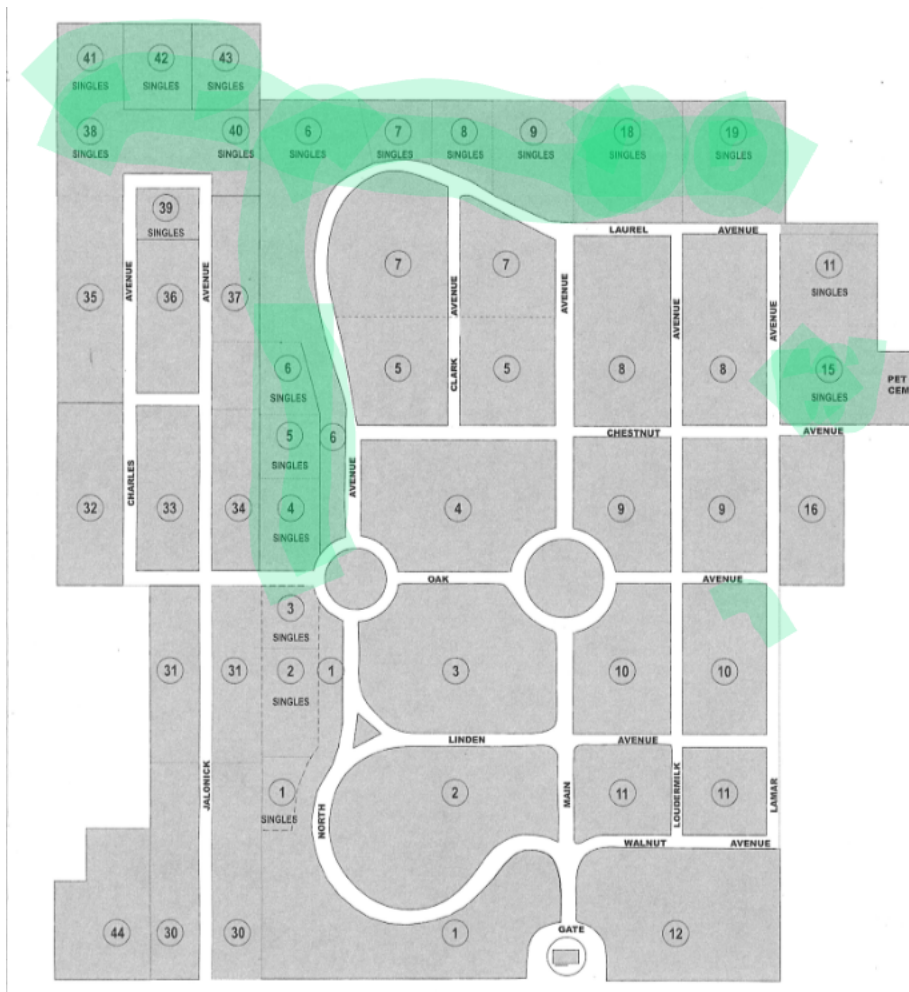
reimbursement forms will be accessed from the Chapter Documents on the NTMN web site, <https://members.ntmn.org/resources/chapter-documents> (Appendix H).

- Receipts will be provided; attach to/scan with the expense reimbursement request form.
- Send to Class Director for approval, copy project liaisons and Class Project Coordinator.
- Training Class Director will send to Treasurers who will write the check.

E-mail addresses:

Training Class Director: Anne Edwards - [anneedwards3207@gmail.com](mailto:anneedwards3207@gmail.com)

Class Project Coordinator: David Parrish - [dparrish1953@yahoo.com](mailto:dparrish1953@yahoo.com)



# Constellation of Living Memorials Citizen Science Survey Protocol

## Preparation - Prior to the first Survey event in April of 2024

1. Assure that the mapping and markers of each area of the Cemetery to be restored, established Oct/Nov of 2023, are still visible and appropriate. (this will be completed prior to start of Class 2024)
2. Develop pollinator ID educational tools so that volunteers can broadly identify which insects are pollinators (Orders: Lepidoptera, Hymenoptera, Diptera, some Coleoptera)
3. Cemetery to create its own i-Naturalist page to engage its community in gathering data on flora and fauna.
4. Hold training events for survey volunteers. Cover materials on use of iNaturalist, broad pollinator ID, and data collecting protocols for both floral and pollinator surveys.
5. Data sheets will be provided to input data (possible on a Texas A&M Agrilife portal) (observer, date, cemetery site, weather, temperature, relevant data entries for pollinator/plant survey).
6. If work parties will be removing early emerging invasives prior to the April survey event, photos and notes must be taken to document the scope of the plant populations prior to removal. Take at least 3 images within each marked restoration area and make detailed notes of plant species, populations, and any other observations.

## Photography Documentation Requirements

Photographs will be taken at three time points per year at each restoration area in each Cemetery. An attempt will be made to approximate the aspect, perspective, and time of day as closely as possible for all capture points. (The goal for this will be to create imagery showing the transformation in a smooth flow of pictures. Imagine the 2 years of images being linked together almost in a time-lapse manner.)

Take at least 3 images of each marked restoration area at the following dates:

- Oct-Nov 2023 per restoration area (this will be completed before the start of the Class 2024)
- Last week of April 2024 – (at same timing as the pollinator and flora survey)
- Second week of July 2024- (at same timing as the pollinator and flora survey)
- First or Second week of October 2024, timed to correspond with the peak of the Monarch butterfly migration - (at same timing as the pollinator and flora survey)
- **This is the End for Master Naturalist Class 2024.**

- **Below, to be continued by Master Naturalist volunteers:**
- Last week of April 2025 - (at same timing as the pollinator and flora survey)
- Second week of July 2025 - (at same timing as the pollinator and flora survey)
- First or Second week of October 2025, timed to correspond with the peak of the Monarch butterfly migration - (at same timing as the pollinator and flora survey)
- Oct-Nov 2025, per area

### **Pollinator (Fauna) Survey**

Takes place three times per year: Spring, Summer, Fall at Cemetery for the pre and post-restoration years. Specifically:

- Last week of April
- Second week of July
- First or second week of October

Time of day is important for the pollinator surveys. Try to time the sampling activity for peak insect activity. This may vary with the weather, but is usually mid- morning when it is warm enough for insect activity, but not too hot as insects will seek shelter during hot afternoons. Do not survey on high wind days.

1. Divide the cemetery into manageable patches. Each volunteer oversees one patch per survey to prevent re-sampling.
2. Timed sampling. Volunteers sample within each designated patch to identify pollinators for 1hr.
3. Volunteers record all pollinators they see on a provided data sheet or portal and photographing (if possible) and uploading to the Cemetery's iNaturalist Oakland Cemetery Project page.
4. Volunteers record data onto sheet/portal for each observation, including:
  1. Pollinator group
  2. Life stage (larvae/pupa/adult)
  3. iNaturalist entry and data sheet/portal
  4. iNaturalist ID suggestion
  5. Interaction with plants (y/n)
    1. If (Y) interaction with plants, take picture of stem, flower, and leaves and create iNaturalist entry
    2. Plant iNaturalist entry number
    3. Plant iNaturalist ID suggestion
  6. Observation notes

### **Flora Survey**

Takes place three times per year: Spring, Summer, Fall at Cemetery for the pre and post-restoration years. Specifically:

- Last week of April
- Second week of July
- First or second week of October

1. Divide the cemetery into manageable patches. Each volunteer oversees one patch per survey to prevent re-sampling.

2. Timed sampling. Volunteers sample within designated patch to identify all flowering plants for 1hr or until all plants are identified.

3. Volunteers record all unique plants they see in their patch by photographing and uploading to the Cemetery's iNaturalist project and data sheet/portal.

4. Volunteers record data onto data sheet/portal for each observation, including:

- a. iNaturalist entry number
- b. iNaturalist ID suggestion
- c. Number of this plant within patch
- d. Observation notes

5. Collect Samples for IDing to Texas A& M's Tracy Herbarium, Collection and sending instructions [here](#).

### **Reporting Requirements**

Within one month after each of the 3 annual survey events, provide a report back to Texas A&M Agrilife Agent Agent Matthew Orwat.

These reports shall include:

- Surveys using i-Naturalist and other similar tools to determine the presence and population density of identified plants and types of insects (primarily pollinators)
- Photographs taken at pre-determined fixed locations
- Successes, failures, and other observations that could improve the pilot's success.

Communicate regularly with the other Cemeteries in the program to share tips and tricks that your group may have learned!

### **CLM Environmental of Advisors**

#### **Olivia Shaffer, M.S. Entomology: CLM Environmental Advisory Group & Survey Design Consultant**

A graduate of the Washington State University Entomology program, Olivia strives to apply her history in field research and passion for environmental stewardship to public programs. Her work focuses on determining the effects of human-mediated landscape change to native bee communities in both urban and agricultural environments. Her research supports a large body of literature indicating that small-scale urban habitat can greatly benefit pollinators. As an experienced outreach event coordinator, Olivia continually seeks opportunities to share her passion for insects, ecology, and art to a diverse group of all experience levels.

#### **Ian Watkinson Ph.D. – CLM Environmental Advisory Group**

Ian has spent over 4 decades working in the sciences and is a Fellow of the Royal Entomological Society of London. As an expert naturalist, Ian led the restoration of a section of the Colorado River where it passes through Yuma, Arizona. The effort included removing invasive species and replanting with natives, adding walking trails, a solar demonstration garden, hummingbird garden, burrowing owl habitat, picnic ramada areas, a small lake, and other improvements for the community, thereby creating the 110-acre West Wetlands Park, a jewel that is beloved by the citizens of Yuma.

#### **Chris Helzer – CLM Environmental Advisory Group**

Chris Helzer is Director of Science for The Nature Conservancy in Nebraska, where he conducts research and evaluates prairie management and restoration work. He is also dedicated to raising awareness about the value of prairies through his photography, writing and presentations. Chris is author of The Prairie Ecologist blog, and two books: The Ecology and Management of Prairies in the Central United States and Hidden Prairie: Photographing Life in One Square Meter. He is also a frequent contributor to NEBRASKA land magazine and other publications. Chris and his family live in Aurora, Nebraska.

#### **Sandra Alcaraz, Ph.D. – CLM Environmental Advisory Group**

Sandra is a gifted entomologist with a passion for native plants and the insects that visit them. Her notable career has focused on strategic research and development of innovative agriculture inputs. Her exceptional analytical abilities are only exceeded by her skill with engaging others and building consensus in diverse environments. A native to Colombia, she excels in seeing the big picture and how small local changes can lead to paradigm shifts worldwide.

#### **Samuel Discua-Duarte Ph.D – CLM Environmental Advisory Group**

Samuel 's education and experience is particularly relevant to his advisory role for the CLM project, having studied the impact of land use on native pollinator communities in Texas, and completing his doctorate with a dissertation on Scale-dependent Bee Diversity Patterns (Hymenoptera: Anthophila) and Plant Attractiveness to Pollinators in



the Texas High Plains. Samuel's diverse experience in Honduras and the United States gives him perspective for this ambitious program.

**Madeline Mellinger - Consultant to the CLM Environmental Advisory Group:**

Madeline has served as an advisor to the U.S. Congress, National Academy of Sciences, the Environmental Protection Agency, the federal and state Extension Service and various universities. Beginning in 1992 she was appointed by three successive U. S. Secretaries of Agriculture to the National Sustainable Agriculture Advisory Council. Since 1997, Madeline has served as the appointed UF delegate to the Council for Agriculture Research, Extension, and Teaching (CARET) of the National Association of State Universities and Land-Grant Colleges and is presently the liaison to the Extension Committee on Policy. She was a founding member of the Foundation for Environmental and Agricultural Education (FEAE) and is serving her second year as President.