

Hanford FFA Ornamental Horticulture Unit Master Plan

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### Introduction

School farms have been an integral part of high school agriculture programs for many years. Having a space that can act as an outdoor classroom is crucial to student learning. Francis Griscom Parsons (Fannie) was a New York born leader of the school gardening movement and fought to include school gardens nationwide. Her work resulted in the educational movement of “nature-study” which advocated for the study of the natural world and the growth of children’s gardening programs. Her work set the foundation for the further development of school farms so that they would not only include gardening facilities but also animal and educational facilities (The Cultural Landscape Foundation, 2001).

This project is intended to develop a more functional plan for the Ornamental Horticulture (OH) Unit at the Hanford Agriculture Program. The ag program combines all three high schools in Hanford resulting in over 1,000 students; however, a majority of these students are not in the OH Career Pathway due to a lack of a constant, fully functional unit. As a comprehensive agriculture program, it is crucial that it incorporates all aspects of agriculture, not just animal science and agricultural mechanics.

This project will provide the Hanford agriculture program with a plan to be implemented so that they may have a functional school garden and OH Unit at the Hanford High Campus. The plan will focus on 4 broad areas: 1) Vegetable boxes, 2) Greenhouses, 3) Shade House, and 4) Beautification. Through these focus areas Hanford will be able to fulfill the National FFA Vision Statement of Growing Leaders, Building Communities and Strengthening Agriculture. This project will Grow Leaders by providing an area for CDE teams to practice their skills, Build Community by providing a vegetable garden that can have its produce donated by the students, and Strengthen Agriculture by providing students skills in horticulture, crop, and soil sciences. This will also teach the students additional information on the workings of greenhouse production, irrigation technology, and human relation skills. These skills will allow the students to learn and get useful hands on experience to help them in their future careers in the industry of agriculture.

### Conceptual Framework

Today many schools across the United States have created and implemented school gardens into their curriculum. Common Core Standards are even being incorporated into the school garden. “Teachers are making the school garden an active part of their academic lessons,” (Hirschi, 2012). Math, science, writing, and reading lessons can be incorporated in the school garden as being a part of outdoor classroom education. “School gardens are a natural place for children to learn about local food systems and eating healthy food. Digging down into loam to discover sweet potatoes, nibbling on sweet lettuce, and filling carts with luscious collard greens to give to the local food pantry” (Hirschi, 2012). These students are learning their curriculum while also getting the opportunity to learn hands-on, receive valuable life skills, and participate in community service.

Agricultural Education is delivered through the 3 Component Model. The first component of agricultural education is classroom and laboratory instruction. This component

involves challenging curriculum that is “contextual, inquiry based instruction and learning through an interactive classroom and laboratory.” An OH Unit serves to enhance the classroom curriculum by providing hands on practical knowledge and a change of environment. With a OH Unit, a program can strengthen their curriculum which will provide knowledgeable young leaders with a desire to be involved in horticulture. The second component of agricultural education is experiential learning. This area is “experiential, service, or work-based learning through the implementation of a Supervised Agricultural Experience (SAE) program.” In order for an agricultural education program to produce superior projects they must provide a space for such projects to exist. An OH Unit provides a space for students to start their own projects, work at the farm shop, or research new ideas and methodologies for production. The third component of agricultural education is leadership development. This section is often completed through the National FFA Organization whose mission is to “make a positive difference in the lives of students by developing their potential for premier leadership, personal growth and career success through agricultural education” (The National FFA Organization). This mission is accomplished through Career Development Events (CDE), Leadership Development Events (LDE), and community service. A program can provide a space for CDE and LDE teams to practice and even host their own contests. A program can also provide a community service opportunity through a vegetable garden on the school farm.

#### Methodology

The development of a master plan was created by taking measurements and noting what was currently there, contacting the OH advisor, developing components to increase the functionality of the unit and curriculum incorporation, and putting all collected data into a plan on a computer-assisted design program, specifically AutoCAD, and labeling it as current layout (Addendum 1).

#### Findings/Site Plans (Master Plan)

The Master Plan was developed and established in May 2017 (Addendum 2). The components of the master plan were determined by the needs of the agriculture program, the students, the curriculum, and the horticulture career pathway . The list was condensed to the essential elements that follow.

1. Landscape Design Spaces: These spaces will be utilized by OH classes during the landscape design unit.
2. Plant Sale Area: This space will be used to present plants grown by students and be sold to the public at annual plant sales. These plant sales will be a fundraiser to provide the unit with funds to perform general maintenance.
3. Covered Classroom Workspace: This area will consist of an A-framed structure to provide a shaded workspace for the students. It will house repurposed Ag Mechanics tables for the students to complete tasks such as propagation, grafting, etc.
4. Shade House: This structure will be used to grow shade loving plants. It [the shade house] will be able to give the OH instructor visuals when teaching about sun/shade requirements and be useful to the Nursery Landscape CDE Team when practicing plant identification.
5. Greenhouse: The large greenhouse will be refurbished to improve the irrigation, evaporative cooling and fan systems. It will allow for students to grow plants for classroom activities, SAE projects, and plant identification in CDE teams.

6. Transplant House: This building will include soil mix bins, various size pots & containers, and soil components (i.e. perlite, peat moss, etc.). This area will be very useful in teaching soil science, the basics of OH, and assist with various CDE Teams.
7. Lawn: This large area will serve as an educational lesson on turf management and safe lawn maintenance practices. It will also be useful as an area to hold meetings and contests.
8. BBQ area: This section of the unit will include a concreted area for an oak pit BBQ to be used for various meetings, competitions, and sporting events. This area will also have a few picnic tables for workspace.
9. Vegetable Garden: This area will expand upon the 5 long raised beds and 5 short raised beds currently at the unit to raise them up further to make them more accessible. This will give students the opportunity to learn hands on about vegetable production in their classroom. It will also help with the vegetable crop CDE team and create community service opportunities for the chapter.
10. General Plantings and Other Areas: This section includes the short hedges that line the fences, annual beds, and permanent plantings (i.e. shrubs, trees, etc.). These spaces will allow for the instructor to teach proper pruning, planting, fertilizing, pest management and irrigation practices.
11. Demonstration Vineyard: This area will be a planted with a table grape vineyard on the sloped garden bed. This area will be used in classroom instruction as well as with the vine pruning CDE team, teaching the students basic maintenance and harvest techniques.

#### Recommendations

We recommend that Hanford FFA break the implementation of the master plan up into the 4 Phases that follow:

##### Phase 1

- Tree Removal
- Concrete additions
  - Raised Vegetable Beds
- BBQ area and table installation

##### Phase 2

- Greenhouse Repairs
- Transplant House Repairs
- Shade House Expansion

##### Phase 3

- Covered Classroom Workspace
- Plant Sale Area

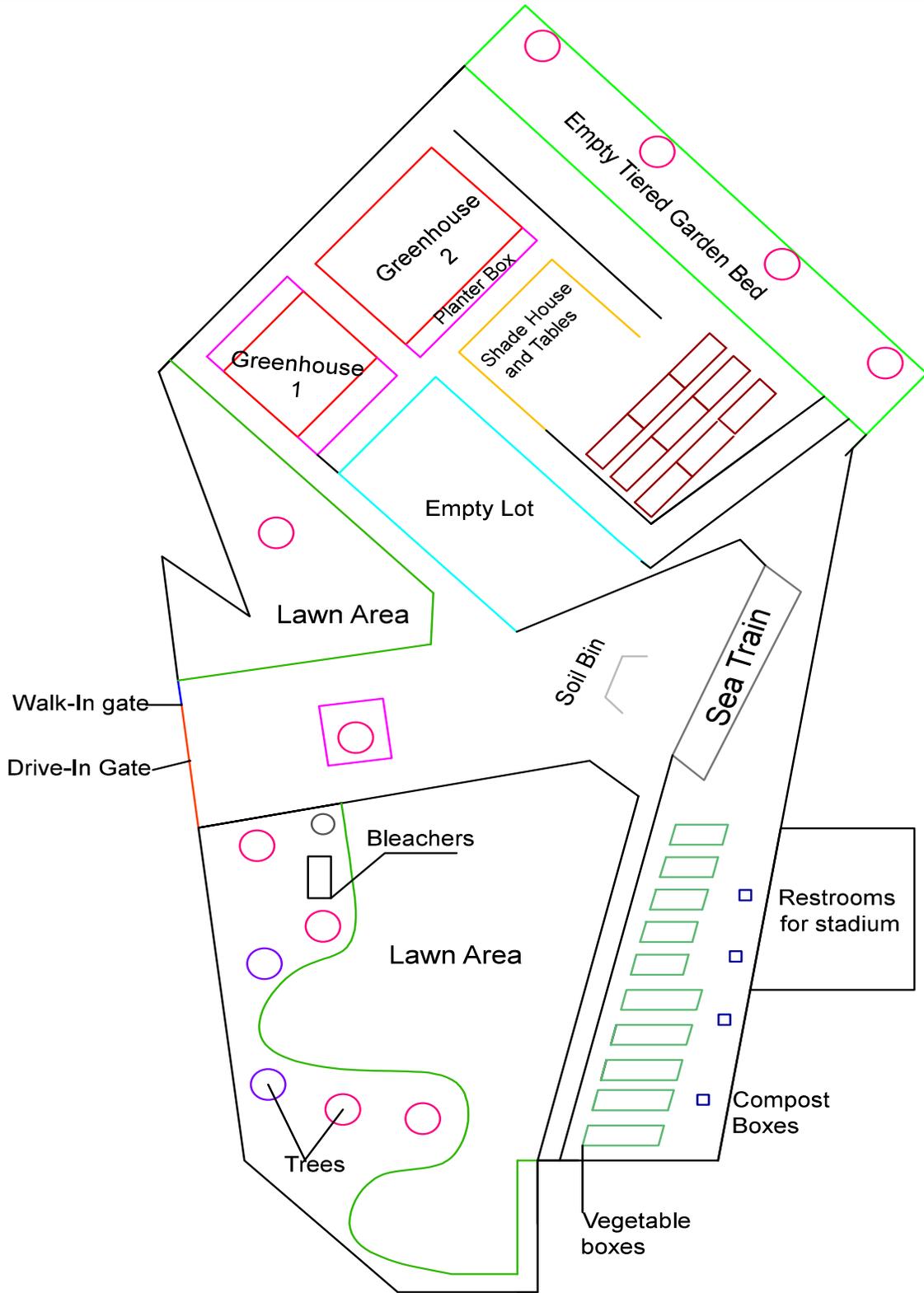
##### Phase 4

- Vineyard installation
- General Plantings and Other Areas
- Landscape Design Spaces

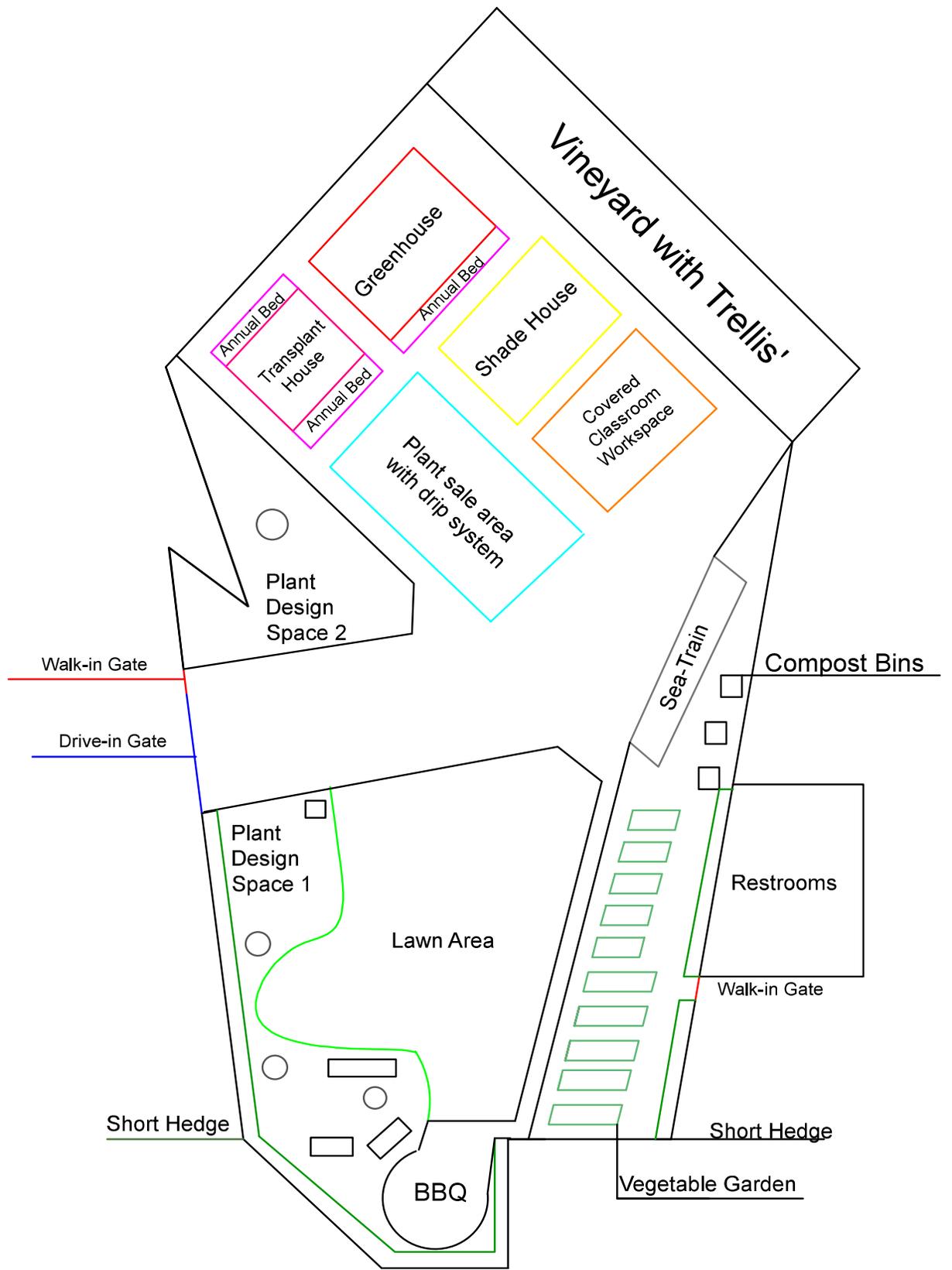
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Addendum



Addendum 1: Hanford Agriculture Program OH Unit Current Layout as of May 2017.



Addendum 2: Hanford Agriculture Program OH Unit Master Plan established June 2017.