



COLLEGE OF AGRICULTURE & LIFE SCIENCES
Campus Arboretum

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USS Arizona Memorial Coral Reef Garden Proposal

Concept proposal from

The University of Arizona Campus Arboretum Advisory Board

Tanya M. Quist, Director

Current Site of The USS Arizona Memorial

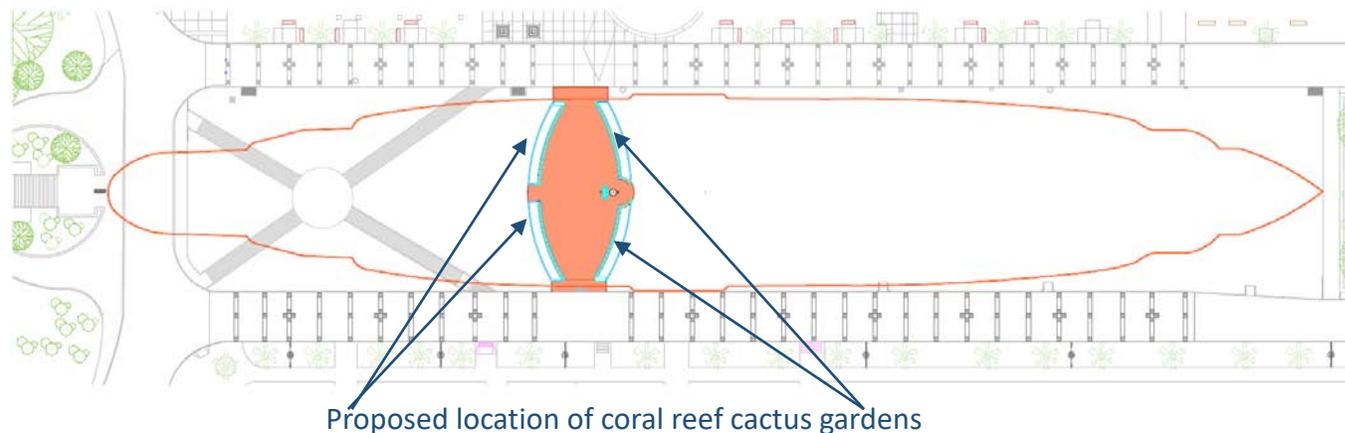
The USS Arizona Memorial installation is sited on the Mall due east of Old Main. The views of the memorial shown below indicate narrow planting beds with flowering annuals installed on the perimeter of the memorial's central plaza. The planters have a curb installed to separate the beds from the turf on the mall, are approximately 4.5' wide with four linear segments of 50' encompassing the perimeter. Much of the planted area has irrigation and drainage issues that limit plant growth, health and appearance. These problems necessitate irrigation repairs and adjustments, application of soil amendments, installation of drainage or increased separation between the planters and the adjacent turf which is irrigated and over-sprays causing water-logging in the planter.



Innovative and Responsible Practices

The existing planting beds surrounding the USS Arizona Memorial central plaza contain flowering annuals that are an appropriate, albeit a conventional way to signify a memorial. In keeping with the Campus Arboretum's purpose, we aim to provide leadership to university operations so that, where possible, the grounds better serves as a model to the community of our institution's research expertise. **As a land-grant institution, it is our duty to convey science-based practices through research, education and outreach. It is the purpose of the arboretum to engage campus operations in implementing innovative approaches through planning, designing, constructing and maintaining the campus grounds so that, together, it is transformed to better support the UA Mission to discover, educate, serve and inspire.**

Given our campus role as a living laboratory and our institutional commitment to sustainability, we encourage the facilities management to consider options for ornamenting this important memorial site in a way that responsibly uses resources and which generates greater return on the landscape investment. Specifically, we propose to remove the flowering annuals from the USS Arizona Memorial and replace them with drought tolerant, colorful and diverse cacti, succulents and grasses, interspersed with lava rock boulders. This design concept is intended to evoke images of a coral reef, thereby paying homage to the location of the USS Arizona which remains below water in Pearl Harbor. Further, unlike flowering annuals, these plants require few inputs (water, fertilizer, replacements and installation labor costs) while still providing color, texture, striking beauty and an inspiring example of creativity that will benefit the campus and community.



Supporters of the Coral Reef Garden Concept

This proposal was initiated by members of the Campus Arboretum Advisory Board, comprised on campus and community members representing diverse and relevant expertise environmental restoration, desert horticulture, landscape architecture and business. The board as a whole ratified the proposal and now seeks support from others on and off campus to move the project into action.

In addition to members of The Campus Arboretum Board, we have obtained letters of support from the following:

- Dr. Matthew Jenks, Director School of Plant Sciences, University of Arizona
- Trevor Ledbetter, Director University of Arizona Office of Sustainability
- Dan Bach, University of Arizona Alumnus and Owner Bach's Cactus Nursery Inc.
- Gene Joseph and Jane Evans, University of Arizona Alumni and Owners Plants for The Southwest

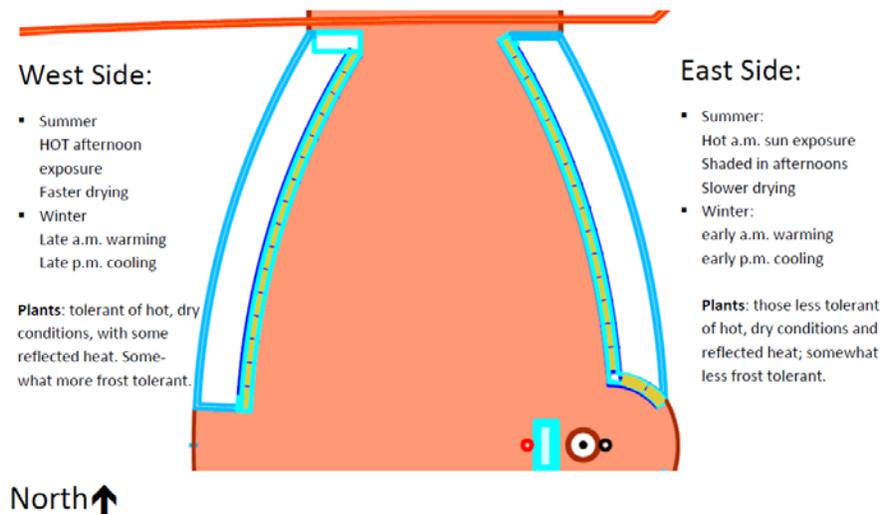
Site Assessment - USS Arizona Planting Beds

The site was assessed by experts to determine conditions and challenges that direct future improvement and inform more appropriate plant selection. Considerations and findings are noted here:

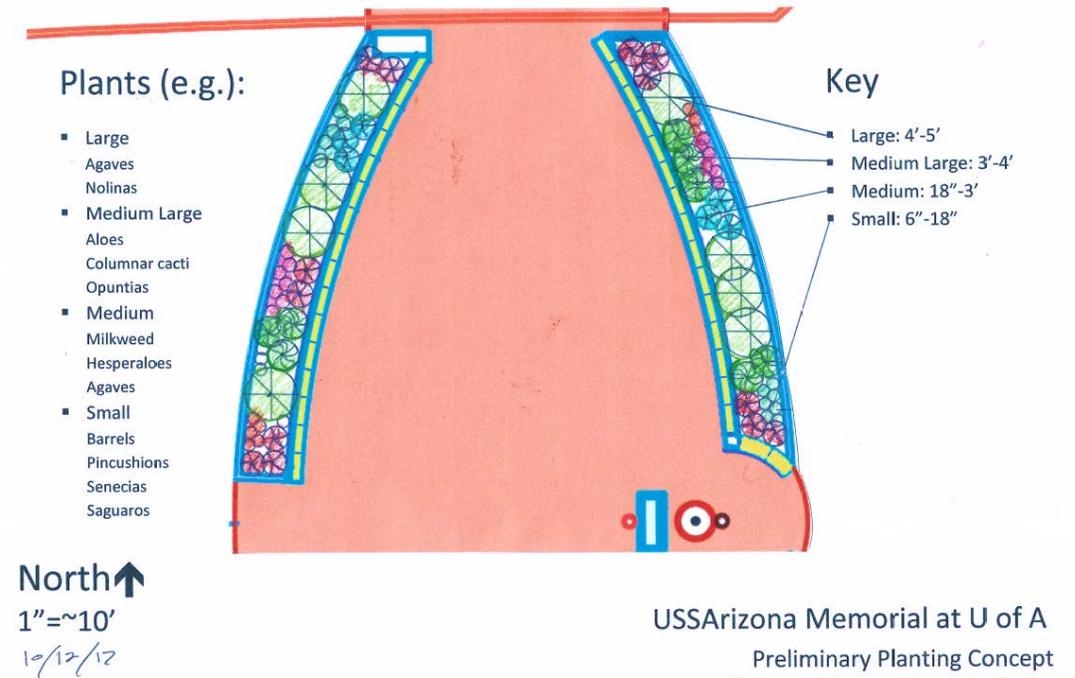
- **Safety and visibility of the memorial** - plants selected should not extend above the height of the memorial walls or plaza, nor beyond the existing curb at the lawn area.
- **Plant materials** - plants selected should be evaluated for structure, resemblance to coral reef, final mature size, environmental tolerance (light exposure, water-logging, temperature) as well as theft potential. Specifically, sun/shade variations must be carefully considered. The plants on the east side receive morning and midday sun, with some afternoon shade cast by the 3'-4' high wall. Conversely, plants on the west side receive some morning shade from the wall, and full midday and afternoon sun. To accommodate the diverse challenges at the site, a varied planting scheme utilizing plants that resemble underwater plants, such as foxtail ferns (asparagus); and/or that provide additional color and texture and attract birds and butterflies (chuparosa, fairy duster, salvia, verbena) could be incorporated.
- **Soil** must be amended to improve drainage. This improvement is already necessitated. Cacti and succulents require well-drained soils, so amendments or soil replacement would be required.
- **Irrigation:** Cacti and succulents require less water, so the irrigation system would need to be adjusted accordingly or replaced. The adjacent lawn receives regular watering and retains soil moisture, so that needs to be factored in.
- **Hardscape:** volcanic / basalt rock boulders could be incorporated to support plants and are consistent with the appearance of a reef and which are also used elsewhere in historic portions of campus. Curb boundaries separating the planters and turf area may be extended out further from the memorial to increase the garden width and expand the separation with the turf. It may also be beneficial to install the curbs deeper to reduce water logging in the planter beds due to adjacent turf irrigation.

Summary of Site Assessment and Planting Plan

The site is noted for environmental variation as well as for seasonal changes experienced throughout the year. Given the diversity of microclimates surrounding the site, a customized selection of plants suited for each planting bed is necessary to achieve a low-maintenance and impactful final presentation. Further, the plantings must remain low, to frame but not obscure, the memorial plaza and wall. For this reason, small medium and large plants less than 4' mature height will be selected. Examples of plants within each of these size ranges are noted in the Planting Concept below.



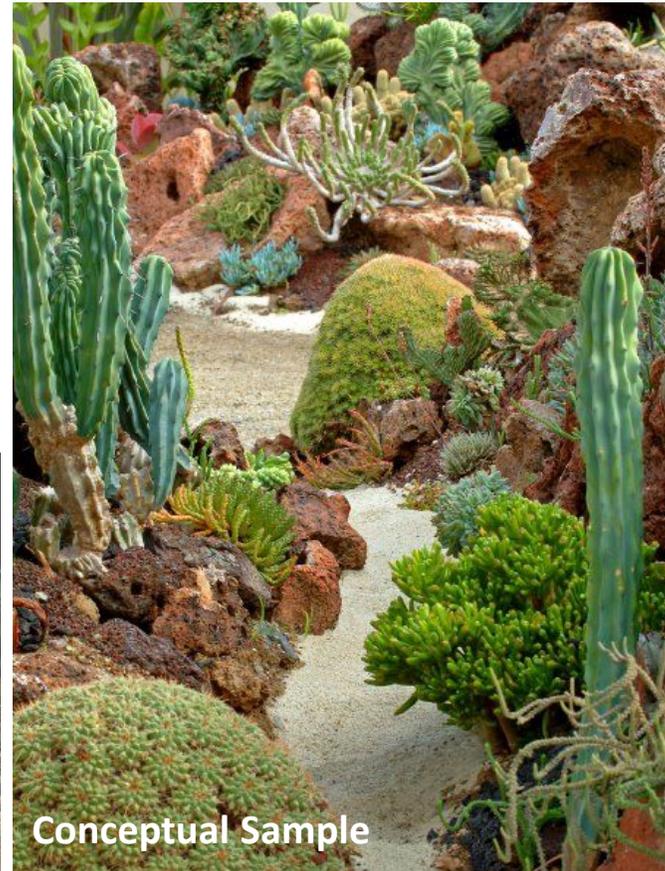
USSArizona Memorial at U of A
 Preliminary Planting Analysis
 Campus Arboretum Advisory Board



USSArizona Memorial at U of A
 Preliminary Planting Concept
 Campus Arboretum Advisory Board

Conceptual Samples

The images depicted below represent coral reef cactus and succulent gardens on display in botanical gardens in other climates. The plant material used in Tucson will be slightly different but will achieve the same effect.





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USS Arizona Memorial Coral Reef Garden Proposal

For more information contact Dr. Tanya M. Quist

Email: infoarboretum@email.arizona.edu

Phone: (520)306-1228

Website: <http://arboretum.arizona.edu>