

HNTB



LOGAN SIMPSON
DESIGN INC.

Tres Rios Environmental Restoration Phase 3A

Design Analysis Report

Landscape Final Submittal
November, 2011



US Army Corps
of Engineers®
Los Angeles District



Kiewit



City of Phoenix

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**DESIGN ANALYSIS REPORT (DAR)
TRES RIOS ENVIRONMENTAL RESTORATION PHASE 3B
LANDSCAPE FINAL SUBMITTAL**

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1 Project Description

This project is to design and construct the Tres Rios Phase 3B Environmental Restoration and related work. Phase 3B which is approximately 200 acres, is located within the Gila River flood plain from the downstream edge of Old 115th Avenue to El Mirage Road. It is a continuation of Phase 3A; therefore, the Design Analysis Report (DAR) for Tres Rios 3B is intended to tier from the "Revised Design Complete" Landscape DAR for Tres Rios 3A completed in March 2011 and as referenced herein.

In general, the landscape work for 3B includes protection of native riparian vegetation, removal and control of exotic, invasive and/or noxious plants (primarily Salt Cedar) and restoration of riparian habitats with native plant materials. It is the intent of the project, to reduce the amount of native riparian plants in Phase 3A by 25%; therefore providing the plant quantities required to restore and re-vegetate the newly created riparian areas in 3B.

Logan Simpson Design, Inc (LSD) is of the opinion that the restoration methods described in the DAR will produce a sustainable and naturally appearing landscape, makes good use of in-situ materials, offers enhanced protection to existing and planned riparian/wetland marshes and finally will result in higher wildlife functions and values.

2 Native Plant Inventory

The Native Plant Inventory (NPI) conducted in August 2011 by LSD identified a number of vegetative species that exist on site which will present a benefit to the success of the project if these species are preserved in place.

Single specimens and groupings of plants that were inventoried are shown on the attached Native Plant Inventory / Landscape Plan.

We recommend that these specimens and groupings of plants be protected during the clearing, grubbing and grading operation. The ground surface within the drip line of the protected plants shall not be disturbed therefore the leaf litter, twigs, branches, etc. that are beneath the existing vegetation would remain in place. The existing plants represent mature plant stock that will benefit and enhance wildlife habitat and serve as a source of cuttings for restoration of newly created riparian habitat areas.

3 Clearing and Grubbing

The introduction and proliferation of non-native species such a *Tamarisk sp.* (Saltcedar) have altered and crowded out many of the natural plant communities that once occupied the river corridor. The project site within the Phase 3B area, like 3A, is dominated by Saltcedar. Although the primary focus of the clearing and grubbing process would be to

prepare the site for the earthwork operation, it would also involve preservation of existing native vegetation and wildlife habitats within the project area while eradicating existing stands of non-native Saltcedar.

The methods for removal of Saltcedar during the clearing and grubbing operation are described in the Phase 3A DAR. During the clearing and grubbing operation it would be importance to retain existing in-situ materials such as driftwood, tree snags, stumps, and dead wood debris from non-invasive tress. Tumbleweeds and other non-invasive plant species could also be gathered and stacked on site to provide wildlife cover. This material should be collected and stockpiled at various locations within the 3B area to create wildlife habitat enhancements.

4 Site Grading

The design team has investigated alternative sustainable grading approaches that would enhance the survivability of the existing and proposed riparian/wetland marshes and wildlife habitats. The proposed site grading alternatives are described in the DAR for 3A as referenced herein.

5 Riparian Planting

The landscape plan for Phase 3B has delineated approximately 9.5 acres of new riparian planting area. This area represents approximately 25% of the riparian area of Phase 3A. In addition, 25% of the riparian plants from 3A that are harvested from the site (pole cuttings and brush wattles) will be planted within this newly created riparian planting area.

Pole cuttings and brush wattle cuttings would be taken from existing inventoried Seep Willow, Gooddings Willow and Cottonwood located in the Phase 3B area. If adequate plants are not available on site for cuttings, the cuttings could be supplemented from the future Phase 3C area downstream, as applicable.

The season for taking cuttings and planting poles and wattles would be during plant dormancy which is January and February in Maricopa County, Arizona. It is the intent of this contract to have the site ready for planting by January, 2012. The pole cutting planting operation for 3A and 3B riparian areas would be coordinated to occur concurrently so that work is accomplished within the acceptable planting window.

6 References

USACE – Los Angeles District. Tres Rios Environmental Restoration Phase 3A, Revised Design Complete Landscape Design Analysis Report (DAR) – Prepared by HNTB, Inc. and Logan Simpson Design, Inc., March, 2011

