

TECHNICAL MEMORANDUM



To: Distribution **Date:** 21 November 2003
From: Christine Whittaker, RLA **Reference:** 1690641.010101
Subject: F-4 Cactus and Yucca Plant Count

Introduction

The vegetation investigation and inventory for the F-4 Debris Basin (F-4 Basin) was conducted by MWH for the U.S. Army Corps of Engineers, Los Angeles District (Corps) on 18 November 2003. The purpose of the vegetation inventory and the development of this Technical Memorandum are to document the existing vegetation, and the presence of cacti and yucca that will be salvaged and used for project landscaping on the F-4 Basin embankment and other areas disturbed by the Project.

Persons participating in the F-4 site investigation and plant inventory are listed in Table 1.

Name	Representing
Tom Luzano	USACE
Alex Watt	USACE
Christine Whittaker	MWH
Jarah Parke	MWH

Background

The State of Nevada Division of Forestry (NDF) regulates salvage of desert vegetation in Nevada under the statutes NRS 527.050 – 527.110. The BLM coordinates plant salvages on public lands with the State. The BLM is authorized to salvage desert vegetation on public lands under CFR 5400 and BLM Manual 5000-1 (10/28/91). The BLM requires salvaging of the following plants:

- All barrel cactus (*Ferocactus cylindraceus*)
- All hedgehog cactus (*Echinocereus trigochidiatus*)
- All cottontop cactus (*Echinocactus polycephalus*)
- All other cactus over 1-foot tall, or over 1-foot wide [including prickly pear (*Opuntia erinacea*), must be salvaged.
- All yucca over 1-foot tall including Mohave yucca (*Yucca schidigeri*), Joshua tree (*Yucca brevifolia*), banana yucca (*Yucca baccata*) and soaptree yucca.

Study Area Description

The F-4 Debris Basin project area is located west of the existing Las Vegas Beltway off of Fort Apache, north of Russell Street. The F-4 Basin is situated on land administered by the BLM.

There are several noticeable washes that run through the site sloping from the west to the east. Soils are generally shallow and range from sandy gravels and cobbles to fine sands. Precipitation ranges from 13 to 20 centimeters (5 to 8 inches) annually. There is an existing abandoned railroad berm that runs east west across the site. The railroad track has been removed so the earthen embankment is all that remains. Several jeep trails run through the site generally in an east west direction.

The dominant plant community covering the site is creosote bush (*Larrea tridentata*) white bursage (*Embrosia dumosa*). Other prevalent species include Mormon tea (*Ephedra sp.*), Mohave yucca (*Yucca schidigera*), hedgehog cactus (*Echinocereus triglochidatus*), silver cholla (*Opuntia echinocarpa*), pencil cholla (*Opuntia ramossisma*), beavertail cactus (*Opuntia basilaris*), rabbitbrush (*Chrysothamnus paniculatus*), big galleta (*Hilaria rigida*), and sand dropseed (*Sporobolus cryptandrus*). A vegetation species list is included in Table 2 of this memorandum. The preliminary species list includes plants that were found and identified, but it is not all-inclusive of minor vegetation that may occur on the site and wildflowers that are no longer prevalent this time of year.

Table 2
F-4 Debris Basin – Preliminary Plant Inventory
Field Reconnaissance – November 2003
Preliminary Vegetation Species List

Scientific Name	Common Name	Family
<i>Acacia sp.</i>	Acacia	Fabaceae
<i>Chilopsis linearis</i>	Desert willow	Bignoniaceae
<i>Chrysothamnus paniculatus</i>	Punctate rabbitbrush	Asteraceae
<i>Dyssodia papposa</i>	Marigold	Asteraceae
<i>Echinocactus polycephalus</i>	Cottontop cactus	Cactaceae
<i>Echinocereus triglochidatus</i>	Hedgehog cactus	Cactaceae
<i>Embrosia dumosa</i>	White bursage	Asteraceae
<i>Encelia virginensis</i>	Brittle bush	Asteraceae
<i>Ephedra sp.</i>	Mormon tea	Ephedraceae
<i>Eriogonum inflatum</i>	Desert trumpet	Polygonaceae
<i>Hilaria rigida</i>	Big galleta	Poaceae
<i>Larrea tridentata</i>	Creosote bush	Zygophyllaceae
<i>Opuntia basilaris</i>	Beavertail cactus	Cactaceae
<i>Opuntia echinocarpa</i>	Silver cholla	Cactaceae
<i>Opuntia ramossisma</i>	Pencil cholla	Cactaceae
<i>Salvia dorrii</i>	Great Basin sage	Lamiaceae
<i>Sphaeralcea ambigua</i>	Desert globemallow	Malvaceae
<i>Sporobolus cryptandrus</i>	Sand dropseed	Poaceae
<i>Yucca schidigera</i>	Mohave yucca	Liliaceae

Plant Inventory Methods and Results

Plant Inventory Methods

The following procedures were followed to inventory cacti and yucca plants on the project site. The procedures are explained to aid in verification of results. The project limits were not staked in the field, therefore using a preliminary design layout of the F-4 Basin; the location of the right-of-way limits was visually estimated in the field using identifiable landmarks for reference. USACE and MWH personnel swept the F-4 Basin right-of-way limits to count the cacti and yucca plants that would meet the salvage criteria of 1-foot in height or 1-foot in width. Once a plant was counted, a piece of pink survey flagging was attached to the plant to identify it was accounted for and that it would not be recounted or missed. Areas that could be used for the temporary nursery and contractor staging area were not counted specifically.

Each yucca plant was counted as an individual if it was at least 1-foot high or 1-foot wide. Clumps of yucca were counted as individuals making up the clump; (i.e. a 5-plant yucca clump was counted as 5 individuals).

Plant Inventory Results

Table 3 presents the results of the F-4 plant inventory results. The number of yucca and cactus plants listed represents the estimated quantity of plants to be salvaged off of BLM managed property at the F-4 site. If the footprint of the F-4 basin changes from the design layout used to identify the area in the field the number of plants to be salvaged would change.

Table 3 Estimated Number of Yucca and Cacti Plants to be Salvaged at F-4					
Yucca <i>(Yucca schidigera)</i>	Prickly Pear Cactus <i>(Opuntia erinacea)</i>	Beavertail Cactus <i>(Opuntia basilaris)</i>	Silver Cholla Cactus <i>(Opuntia echinocarpa)</i>	Hedgehog Cactus <i>(Echinocereus triglochidatus)</i>	Cottontop Cactus <i>(Echinocactus polycephalus)</i>
235	2	8	25	16	18

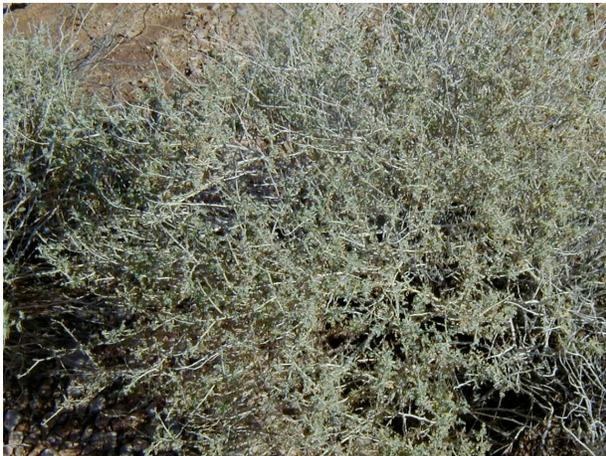
F-4 Photographs Representative of Site and Plant Conditions

The following photographs represent the F-4 site and plant conditions on November 18, 2003 when the field count was conducted.



Look north at the F-4 Basin Site

The railroad berm visible in the photograph on the right is a landmark in this area. White bursage, creosote bush and Mohave yucca are the dominant plant species on the F-4 site.



White Bursage



Creosote Bush



Cottontop Cactus



Silver Cholla

Distribution:

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