

EL RIO ANTIGUO FEASIBILITY STUDY

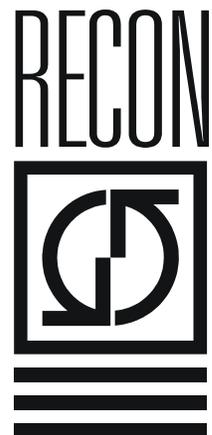
Environmental Impact Statement

Preliminary Draft

Prepared for

U.S. Army Corps of Engineers
Los Angeles District
P.O. Box 532711
Los Angeles, CA 90053-2325

May 2002



**EL RIO ANTIGUO FEASIBILITY STUDY
ENVIRONMENTAL IMPACT STATEMENT
PRELIMINARY DRAFT**

Prepared for

U.S. ARMY CORPS OF ENGINEERS
LOS ANGELES DISTRICT
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MAY 8, 2002

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1 INTRODUCTION

1.1 Study Location

This Feasibility Study encompasses an area approximately 1125 acres in size located on the upper-most portion of the Rillito River. The Rillito arises from the confluence of two smaller drainages in eastern Pima County (Fig. 1.1-1a): Pantano Wash which flows northwesterly, and Tanque Verde Wash which flows roughly due west. Craycroft Road was constructed where these two come together. The study area begins at Craycroft Road. It ends approximately 5 river miles downstream where Campbell Road was constructed across the Rillito River.

The study area lies north and east of the downtown Tucson area, south and near the western end of the Santa Catalina Mountains (Fig. 1.1-1, b). The formal study area hugs the existing bank of the Rillito River in some areas on the south side, but expands to encompass some undeveloped areas on both the north and the south side (Fig. 1.1-1, c). The Rillito flows through a predominantly residential region on the north side of Tucson. Some residential sections are densely inhabited, especially on the river's south bank, while other residential tracts are more spacious and rural in character, especially on the river's north bank.

The northern side of the study area follows roughly the line formed where alluvial deposits from the Santa Catalinas spread out below the lowest of the foothills. Thus, the north side of the study area is alluvial in overall character. On the south side, the study boundary follows the river's bank in some areas, the mouth of desert washes in other areas, and boundaries of properties owned by Pima County Flood Control and Transportation District (PCFCTD hereafter) in still other places.

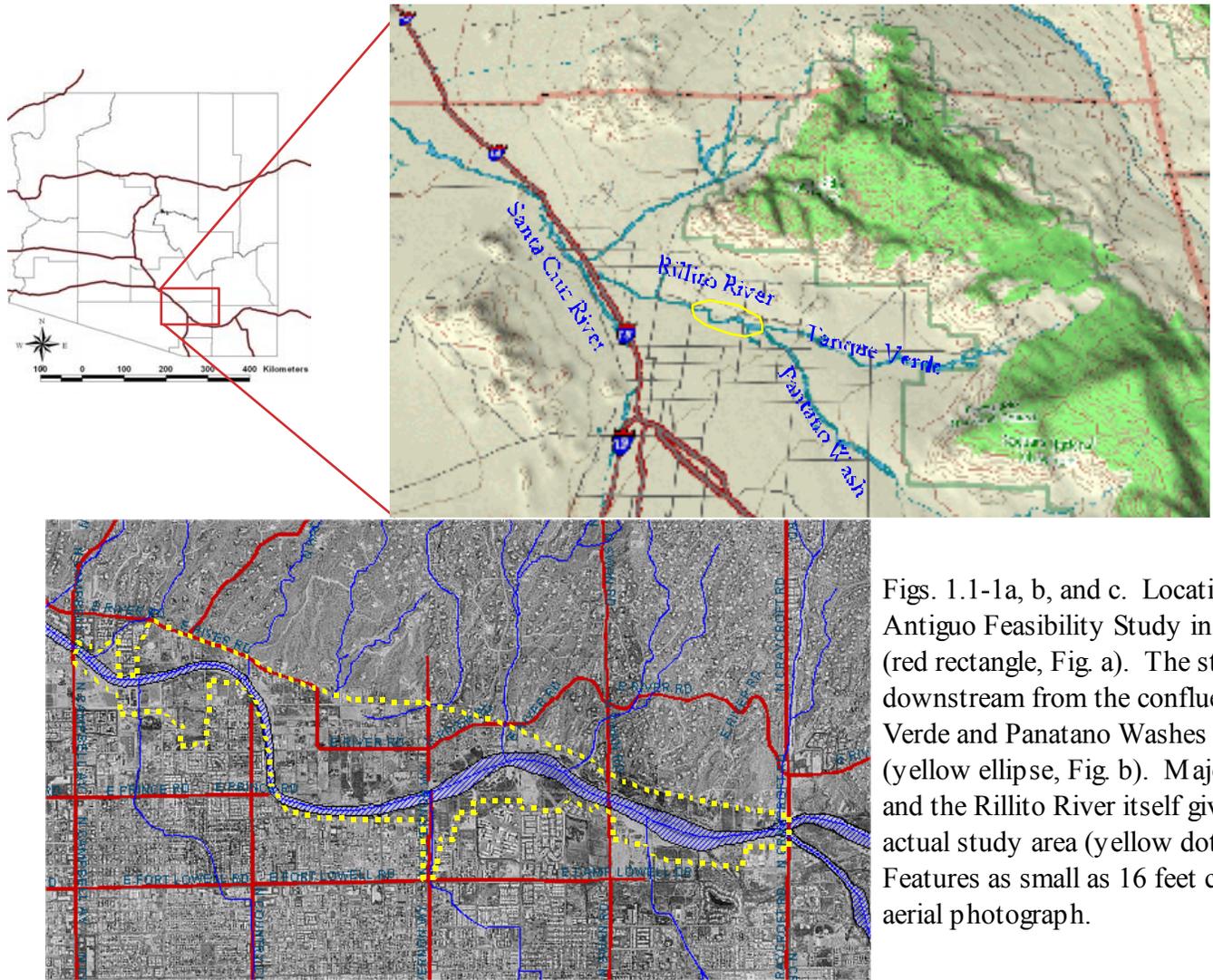
1.2 Purpose and Scope of the Environmental Impact Statement

As carried out by the U. S. Army Corps of Engineers (the Corps, hereafter), a Feasibility Study may eventually identify specific ways of achieving the objectives sought by the participating sponsor, PCFCTD in this case. Those possible ways of achieving results also cause changes in all manner of features present within the study area, features such as (but not confined to) land use, growth of trees and shrubs, movement of water in the river bottom, recreational uses of the area, and so forth.

The possible results of these different ways of achieving objectives are best thought of as alternatives. In brief, an Environmental Impact Statement (EIS hereafter) attempts to foresee the nature and level of effects each alternative might cause. To weigh those effects, an EIS begins by evaluating conditions as they exist within the study area. The EIS for the El Rio Antiguo Feasibility Study will consider the year 2008 as the time of first comparison, and the calendar year 2058 as the time of the second comparison.

Existing conditions have been described based on what existed within the study area in the 2002. Any important changes which occur between 2002 and 2008 would be noted and factored in at a later date, changes such as might be caused by a major flood and its attendant damages to bridges, banks, and real estate. Otherwise, the assumption that existing conditions remain virtually unchanged between 2002 and 2008 underlies the analysis to be presented in the EIS.

Additionally, the Corps writes its analysis of possible effects by comparing the possible results each alternative brings about and as they would appear fifty later, calendar year 2058, with



Figs. 1.1-1a, b, and c. Location of El Rio Antiguo Feasibility Study in eastern Pima County (red rectangle, Fig. a). The study area extends downstream from the confluence of Tanque Verde and Panatano Washes to Campbell Road (yellow ellipse, Fig. b). Major roads, washes, and the Rillito River itself give perspective to the actual study area (yellow dotted line, Fig. c). Features as small as 16 feet can be seen in the aerial photograph.

with the anticipated conditions throughout the study area had no alternative ever been implemented. This is nearly equivalent to asking how all features in the study area would behave if no project of any sort were ever conducted. The EIS will thus compare the results of implementing each alternative against prevailing conditions in the year 2058 in the absence of any project.

The EIS must address all matters important to each person's enjoyment of a healthful environment. The EIS written by the Corps will act in Congress's stead to evaluate

“ . . . all practicable means and measures, including financial and technical assistance, in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans.” (National Environmental Policy Act of 1969, as amended).”

The EIS will describe existing conditions, expectations of how those conditions would appear in the year 2058 in the absence of any project, and expectations of how alternatives would change as a result of implementing alternatives. These evaluations focus on:

- ▶ Topography and Geography
- ▶ Hydrology and Water Resources
- ▶ Biological Resources
- ▶ Land Use
- ▶ Aesthetics
- ▶ Recreation
- ▶ Air Quality
- ▶ Noise
- ▶ Cultural Resources
- ▶ Hazardous and toxic waste materials
- ▶ Socioeconomics
- ▶ Utilities
- ▶ Traffic and transportation
- ▶ Safety

The EIS prepared for a feasibility study such as this does not begin with a predetermined set of objectives gradually to be revealed as the study progresses. It begins by asking what is there. It asks, next, whether the aims of the cost-sharing sponsor may be achieved. After that alternatives which might achieve those aims are developed. Finally, the EIS report does its best to measure how well the alternatives fit the aims. In reality, the EIS report reflects a steady process of thinking hard on ways of modifying the human environment and what the results of those modifications might be. In that respect, the EIS changes substantially along the way from its inception, through various draft stages, to a final report. Changes clarify and improve the ultimate evaluation. This current EIS will certainly change along its way, but in ways that cannot be foreseen at the start.

Its final appearance and conclusions will be entirely depended upon the formulation of alternatives, for they guide all aspects of analysis which comprise the EIS. Formulation of alternatives has not yet begun in any substantive manner.

1.3 Technical and environmental reports preceding this EIS

archival synopsis to be provided

1.4 Background and history of project alternatives

PCFCTD asked the Corps to explore possible remedies for several problems recognized along the Rillito. Many of these problems have long standing, and regionally widespread, roots but are evident in the immediate region of the study area. In brief, they can be attributed to land use changes in the past 150 years. The Rillito no longer runs as a perennial stream and the average depth to ground water is far greater than was true in 1850. Without that groundwater, most of the native vegetation and wildlife cannot survive, and the Rillito is biologically quite impoverished. Development of the urban metropolis also caused unwitting degradation of the Rillito and promoted circumstances under which flooding of its overbanks began to cause economic loss, bank erosion, and lateral migration of the stream bottom. In an efforts to stem those types of flooding damages, soil cement bank stabilization has been applied to nearly all parts of the Rillito's banks.

The sponsor wishes to rectify some of these past abuses. Broad aims include:

- ▶ increasing native riparian quality for both plants and animals;
- ▶ attraction for migratory birds into these better habitats;
- ▶ gradual creation of a continuous biological corridor upstream and downstream in this watershed, and ultimately connecting to the Santa Crus River to the west;
- ▶ foster the re-establishment of species native to the Sonoran Desert, and augmentation of overall species diversity;
- ▶ elimination of invasive and non-native plant species.

further elaboration of aims and relevant background await development of feasible alternatives

1.5 Compliance with National Environmental Policy Act

details to be provided

1.6 Agency coordination

details to be provided

Chapter 2.0

Rationale and Planning Objectives

2.1 Study Authority

Congressional directive to pursue feasible means of habitat restoration and development of water resources in Pima County resides in two distinct authorities. The more recent charges

"...the Secretary of the Army is requested to review reports of the Chief of Engineers on the State of Arizona...in the interest of flood damage reduction, environmental protection and restoration and related purposes." by Resolution of the House of Representatives, House Resolution 2425, 25th of May 1994.

An older legislative enactment was more specific to water resources in southern Arizona.

The 75th Congress of the United States enacted Public Law 761, known as Section 6 of the Flood Control Act of 1938. This authority, dated June 28, 1938, states:

“...the Secretary of War (now Secretary of the Army) is hereby authorized and directed to cause preliminary examinations and surveys...at the following localities:...Gila River and tributaries, Arizona...”

2.2 Need for the Project

Written accounts of Tucson and its environs 150 years ago portray a Rillito River of entirely different character than that seen today. It ran year-round. Gallery forests lined the wetter soils along its banks. Both animal and plant life was more abundant, varied, and widespread along the water course.

This feasibility study will address a proposed project offering an opportunity to restore critical riparian and cienega habitats that have been lost in the region due to water resource changes in Pima County. The opportunity exists to use knowledge gained from existing ecosystem restoration projects and utilize other water sources to expand and sustain riparian and cienega habitats along the watercourse.

2.3 Planning Objectives

elaboration of the objectives will occur after development of feasible alternatives

2.4 Public participation

2.4.1 Notice of Intent to Prepare an EIS

Formal declaration to the public of the initiation of the feasibility study occurred with publication in the Federal Register of the Notice of Intent. The full text follows.

56660 Federal Register / Vol. 66, No. 218 / Friday, November 9, 2001 / Notices

DEPARTMENT OF DEFENSE

**Department of the Army;
Corps of
Engineers**

**Intent To Prepare a Draft
Environmental Impact
Statement
(DEIS) for *El Rio Antiquo*,
Rillito River,
a Feasibility Study of a Portion
of the
Rillito River in the City of
Tucson, Pima
County, AZ**

AGENCY: Army Corps of
Engineers, DoD.

ACTION: Notice of intent.

SUMMARY: The Los Angeles
District of
the U.S. Corps of Engineers (the
Corps)
will initiate analyses of foreseeable
environmental impacts from actions
potentially to be implemented on a
reach of the Rillito River. The
Corps will prepare an
Environmental Impact
Statement (EIS) to accompany the
Feasibility Report. Pima County
will
participate in the Feasibility Study.

The Rillito River flows from
east to
west along the south face of the
Catalina
Mountains, and is tributary to the
Santa
Cruz River. The study area extends
from
the confluence of Pantano and
Tanque
Verde Washes, which happens to
coincide with Craycroft Road,
downstream to Campbell Road.
About
4.8 river miles lie between those
limits.
Except for a region on the south
side
approximately one mile long, all
existing banks have been stabilized
with
soils cement. The study area will
extend
on the north side to include uplands
in
a region known locally as “the
bend”,
and on the south side to encompass
lands potentially to be acquired
along
Alvernon Way and at Campbell
Road.
Approximately 925 acres lie within
the
roughly defined study area, and of
that

about 525 acres would be called
uplands. A habitat restoration
project on
the south bank of the Rillito
(Continuing
Authorities Program, section 1135
of the
Water Resources Development Act
of
1986, as amended) has been
initiated
within the proposed study area.
Refinements of the study area, both
additional inclusions and
exclusions,
can be expected during the course of
the
Feasibility Study as appropriate to
the
general study objectives.

The proposed project
emphasizes opportunities to restore
riparian habitat, address matters of
surface and
groundwater quality, explore aquifer
recharge along the Rillito,
restoration of
natural riverbed conditions, fashion
localized seasonal wetlands (known
in
the southwest by the Spanish noun
ciénegas) at opportune places in the
river bottom, and create venues
appropriate for recreational
educational
uses of the river. Flood damage

reduction on the Rillito itself and washes entering it from foothills of the Catalinas will also constitute aspects of the Feasibility Study.

ADDRESSES: District Engineer, U.S.

Army Corps of Engineers, Los Angeles

District, ATTN: Dr. John E. Moeur, Regional Planning Section, CESPL-PD-

RP, PO Box 532711, Los Angeles, California 90053-2325.

FOR FURTHER INFORMATION

CONTACT: Dr.

John E. Moeur, Environmental Manager,

telephone (213) 452-3874.

SUPPLEMENTARY INFORMATION:

1. Authorization

The Feasibility Study for El Rio Antiquo has two distinct Congressional authorities. The more recent, House Resolution 2425 (dated 17 May 1994),

directs: * * * the Secretary of the Army * * * to review reports of the Chief of Engineers on the State of Arizona * * * in the interest of flood damage reduction, environmental protection and restoration, and related purposes.

Congress previously authorized similar endeavors through section 6 of

the Flood Control Act of 1938. The 75th

Congress of the United States passed

what became Public Law 761. This legislation states, in part:

* * * the Secretary of War [Secretary of the Army since 1947] is hereby authorized and directed to cause preliminary examinations and surveys * * * at the following locations:

* * * Gila River and tributaries, Arizona, * * *

2. Background

The Rillito River now appears as a

broad dry, wash most of the year.

Summer thunderstorms in its watershed

may cause it run modestly, or in genuine flood, but it soon reverts to a

dry desert wash.

Its environs were much different

a century and a half ago. A

description

written in 1910 portrays it before

the

Civil War as an unbroken gallery

forest

along the Rillito dominated by

cottonwoods, willows, Arizona ash,

Arizona walnut, diverse underbrush

species adapted to the Sonoran

Desert,

interspersed with grasslands of

sacaton

and big galleta grass. Beavers

dammed

the Rillito in many places. Where

water

infiltrated somewhat faster, cienegas

formed along the riverbed.

Diversion of surface waters, and

then

extraction by pumps of water from

subsurface strata caused profound

regional changes in hydrology

starting

about the turn of the last century.

Thereafter, the Rillito began to

decline.

3. Proposed Action

No explicit proposed alternative has

yet been identified. The Feasibility

Study to be evaluated by this EIS

will

evaluate impacts of viable

alternatives

once they have been framed in light

of

the topography, hydrology, biotic

communities, and preferences of the

local sponsor. A No action

Alternative

will form the basis for comparison

for

these evaluations. The EIS will

address

at least sixteen diverse kinds of

resources important to the Sonoran

Desert biome: Aesthetics,

agriculture, air

quality, biology, cultural, geology,

groundwater recharge, hazardous

wastes, land use, physical

environment,

recreation and education, safety,

socioeconomic, sound and noise,

transportation and communications,

and water quality. The public will

be

afforded ample opportunity to

comment

on these analyses prior to taking any

action to implement any alternative

that

may then be under consideration.

4. Scoping Process

The Corps will conduct a scoping

meeting to aid in determining the

importance of pertinent

environmental

issues. Participation of all interested

Federal, State, and County resource

agencies, as well as Native

American

peoples, groups with environmental

interests, and all interested

individuals

is encouraged. Public involvement

will

be most beneficial and worthwhile

in

identifying pertinent environmental

issues, offering useful information

such

as published or unpublished data.

direct

personal experience or knowledge

which inform decision making,

assistance in defining the scope of

plans

which ought to be considered, and

recommending suitable mitigation

measures warranted by such plans.

Those wishing to contribute

information, ideas, alternatives for

actions, and so forth can furnish

these

contributions in writing to the points

of

contact indicated above, or by

attending

public scoping opportunities.

The scoping period will

conclude 60

days after publication of this NOI

and

concurrent publication in newspapers circulated in the greater Tucson area.

5. Public Scoping Meeting

The Corps and the local sponsor invite all interested parties to a public scoping meeting to discuss project goals and offer ideas essential to developing alternatives to achieve those goals. An

initial public meeting for the proposed El Rio Antiguo study is scheduled for the evening of Tuesday, November 13, 2001. Please gather at 6 PM in the 1st Evangelical Free Church, located at 4700 N. Swan Road, in Tucson, Arizona.

Individuals, organizations, and agencies who wish to offer information or data relevant to anticipated project

objectives, alternatives, impacts, mitigation, or any similar consideration may do so by attending the public scoping meeting. If that means for communication proves infeasible, then kindly mail the information to any of the three addresses noted above.

Luz D. Ortiz,

Army Federal Register Liaison Officer.
[FR Doc. 01-28244 Filed 11-8-01; 8:45 am]
Billing Code 3710-KF-M

2.4.2 Public Workshop

Pima County Flood Control and Transportation District and the Corps of Engineers conducted a public workshop during the evening of November 13, 2001. At least sixty people attended and requested their name be added to a permanent mailing list. Written remarks were received from thirty one of the people in attendance. For the sake of brevity, the full proceeding appears as an appendix to this chapter (*Public Involvement Appendix to be provided in a later draft*).

An excerpt from the full transcript, following, conveys the tenor of public interest in the study and the varied points of view of individuals who took the time to participate.

3. Public Input

The attending members of the public were invited to split into two groups on either side of the room. At each meeting area, there were maps of the study area, one showing the study area over an aerial photograph of the area, and another showing the land ownership of parcels in the study area. A representative from the USACE and the PCFCD were available at each map. Participants were encouraged to ask questions of the representatives and to indicate their concerns and desires for the project by adding their comments to the comment sheets, placing labeled dots on the maps, and recording their comments on paper. A team member from Novak Environmental, Inc. was also available at each station to facilitate the session.

A. General Public Comments

Three overlying themes stood out in the comments, Recreation, Restoration and Development.

1. Recreation:
 - Many people indicated that they wanted to see the trail system that is found west of Campbell continued, including the trail amenities like parking lots, drinking fountains, equestrian access points, etc.
 - People like that the North bank has paved trails for bikes, etc. and the South bank has unpaved trails for pedestrians. They would like to see this continue.
 - Equestrian access was a major point, many people use the river bed to ride their horses and are very concerned that this be allowed to continue. · Equestrian access is desired from both the north and south banks, at many locations throughout the study area. Equestrians also indicated that for safety reasons, equestrian access (ofcial and unofcial) is needed frequently so riders are able to get out of the river in the case of a flood.
 - Several people indicated that they did not want to see soccer fields and other lighted sports fields developed within the study area. Many people indicated that they wanted to see the area stay as “natural’ as possible.

- People requested that shaded recreation areas be provided in the design- specifically trees that would shade the pathways and rest areas.
- Neighbors were concerned that access to the study area be provided from nearby neighborhoods, and that both vehicular, pedestrian, and equestrian access be addressed.

2. Habitat Restoration:

- Mesquite bosque and grassland restoration, both in the channel bed and the overbanks was considered desirable.
- Though most people gave a general acceptance of the existing bank protection; understanding the need for existing food control, but would like to see other bank options explored in future projects. Suggestions included planting banks with cottonwood, bioengineering, etc.
- People wanted to know if water would be put back in the
- river?
- People also asked about groundwater recharge in the river. Some expressed that they would like to see more of this. However, equestrians wanted the recharge

areas to be clearly marked because the soft ground in these areas can be dangerous to horses.

- There were suggestions made that some areas be turned into wetlands, to facilitate groundwater recharge and provide wildlife habitat.
- Several people suggested that storm water in the channel needs to be slowed. The channelization of the creek has increased water velocities, preventing the water from pooling or ponding and creating the temporary wetlands/recharge areas that historically formed in the channel. (Possible detention areas or areas of open water in channel?)
- There were also concerns raised about tributary channels and the maintenance and restoration of these channels as well.
- There was a general concern that vector control be addressed in any areas of open water.

3. Existing and Future Development

- There was concern that the planned changes to River Road will impact the study area and this should be addressed and coordinated within the Feasibility Study.

- Several people indicated that they did not want to see commercial development along the river.

It was also expressed by several people that they would like to see local, Tucson consultants working on the Feasibility Study and the Design and Implementation of this project. The public is concerned that people from outside the area (California) are not familiar with the Rillito, the local ecosystems, plants, and desires of the residents of Tucson. They felt that local consultants could be more responsive and better understood the unique hydrology and ecology of the Rillito. This was also expressed in an E-mail response which can be found in Appendix B of this document.

B. Specific Workshop Comments

These comments were placed on the maps and comment boards provided.

**SPECIFIC COMMENTS GENERATED FROM
MAP WORKSHOPS**

- Keep south bank pedestrian (unpaved)
- Keep equestrian access from both north and south banks
- Provide equestrian access from the south bank
- Indicate locations of recharge areas for equestrian users
- Do not reduce access points for equestrians
 - Safety during floods
- Provide shaded recreation areas—trees along pathways, etc.
- Water in the channel at specific points
- No further narrowing of bed and floodplain
- Slow water down
- Explore alternatives to soil cement banks
- Try to get back to 50 years ago
- Look at effect of powerlines and wildlife habitat
- No reclaimed water
- Detention areas to slow water / provide habitat
- Address flooding at the bend in River Road
- Maintain Equestrian access
- Vector control throughout project
- Maintain channels and tributaries
- Restore Grasslands/ riparian vegetation

- Extension of recreation facilities (trails, water fountains, rest rooms, parking lots, etc.) like west of Campbell
- No parking lots
- No soccer fields

FROM DOTS ON MAPS

- Currently significant soil and hill erosion on north side of river walkway- needs to be reversed soon, with permanent solution formal design. Growing cottonwood trees off the sidewalk would help. (At bend in Rillito west of Country Club Rd.)
- Christmas wash is being degraded because it is being used as a ‘default’ parking lot near the river. As a protected wash, it is important to restore this area also. (At Christmas Wash and the Rillito)
- Craycroft wash traditional trail connects to Rillito – Request it remains open – important for equestrian usage, as there is very little access remaining for horse riders elsewhere. (West of Craycroft)
- Don’t let “liability issues” prevent a quality solution
- Need to study effect of any increased infiltration upstream of Columbus landfill mobilizing contaminants, i.e., creating

leachate that would impact groundwater. (At Columbus Road, south of the Rillito)

- Equestrian access along entire wash (East of Swan, West of Alvernon, East of Christmas Wash)
- Equestrian paths along river
- Concrete berms for water recharge – more or less? (East of Country Club where river bends to North)
- It's oddly mis-prioritized to run Colorado River water down the Rillito River
- Maintain culverts better. Swan and Craycroft and elsewhere, and enlarge if necessary (At Swan and Craycroft)
- Affect on tributary going into River such as Christmas Wash as it goes through Winterhaven (On Christmas Wash, south of study area)
- Formation of an earthen dam for recycle of natural water as it is formed by lake (Between Dodge and Country Club near TEP property)
- Equestrian Paths / Access throughout between Craycroft and Swan
- Water in River between Swan and Alvernon.
- No Soccer Fields (Undeveloped area south of the river between Swan and Alvernon)

- Restore destroyed trees and grasses (Undeveloped area south of the river between Swan and Alvernon)
- Clean up and Plant (North of the river, east of Valley View wash and south of River Road)
- Keep South bank pedestrian (throughout study area)
- Bridge crossing Rillito at Alvernon (At Alvernon)
- No bridge at Alvernon
- Equestrian access (at Alvernon – north of the river)
- Horse access (on north bank between Dodge and Country Club)
- No commercial development (north of River road at bend in road)
- No additional development (near the bend in the Rillito, between the Rillito and River Road)
- Already too much noise (On River Road between Country Club alignment and Christmas Wash alignment)
- Horse access (On north bank east of Christmas Wash alignment)
- Keep Open (Park) (Undeveloped area owned by City of Tucson, south of the Rillito, east of Christmas Wash)

- Horse properties (South of study area, east of Christmas Wash)
 - Restore/Revegetate Christmas Wash (On Christmas Wash)
 - U of A Extension Farm (East of Campbell, south of the Rillito)
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Chapter 3.0

Alternatives

To be inserted.