

CIPO

Drainage
Improvement
Project

Canal Importation Ponds & Outfall



Our “A” Team – APDS Contracting



ANDERSON CONSULTING ENGINEERS, INC.
Civil • Water Resources • Environmental



CTL | THOMPSON
INCORPORATED



BHA DESIGN INCORPORATED



CEDAR CREEK ASSOCIATES, INC.



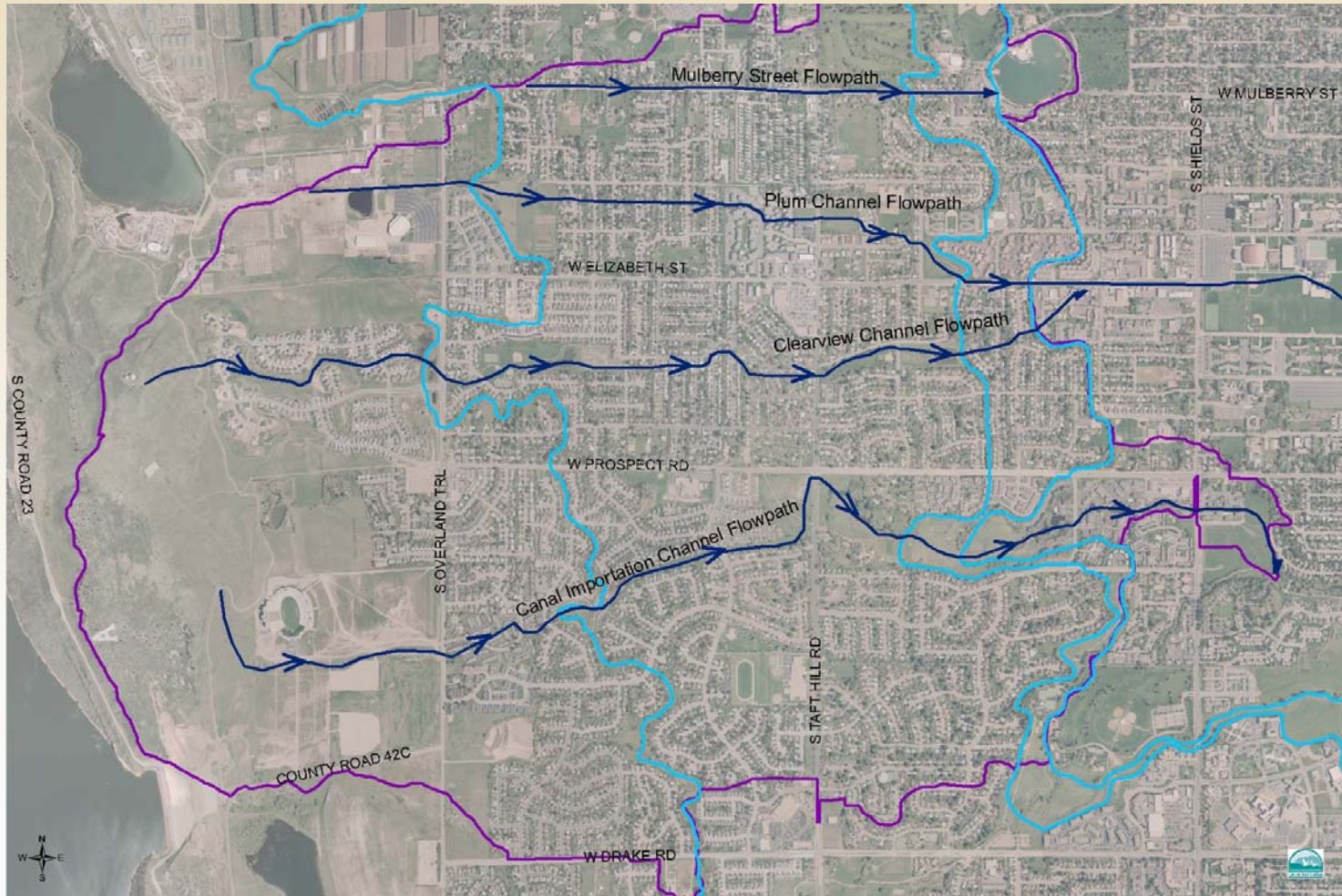
CIPO

Drainage
Improvement
Project

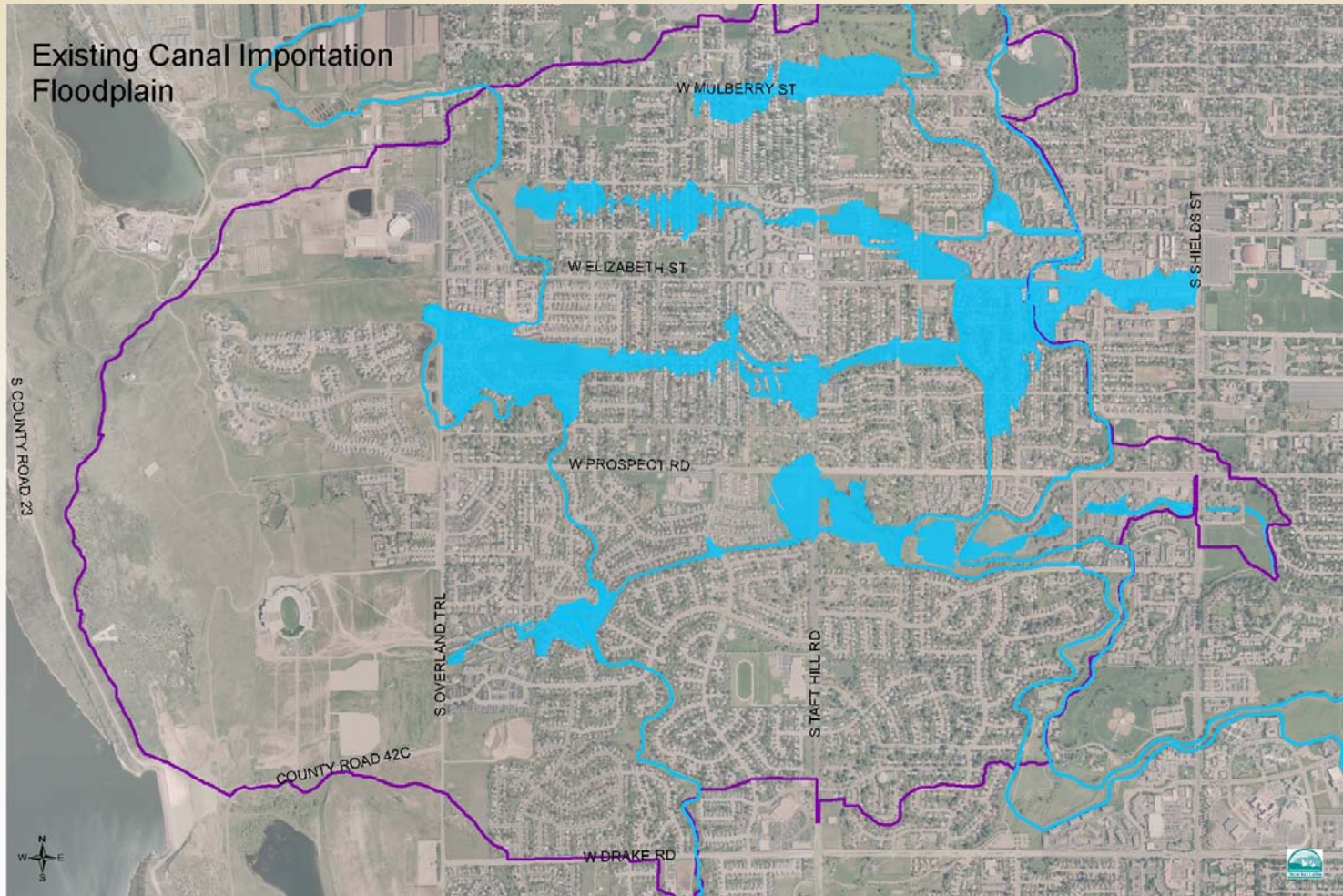
Canal Importation Ponds & Outfall

Definition of the Problem

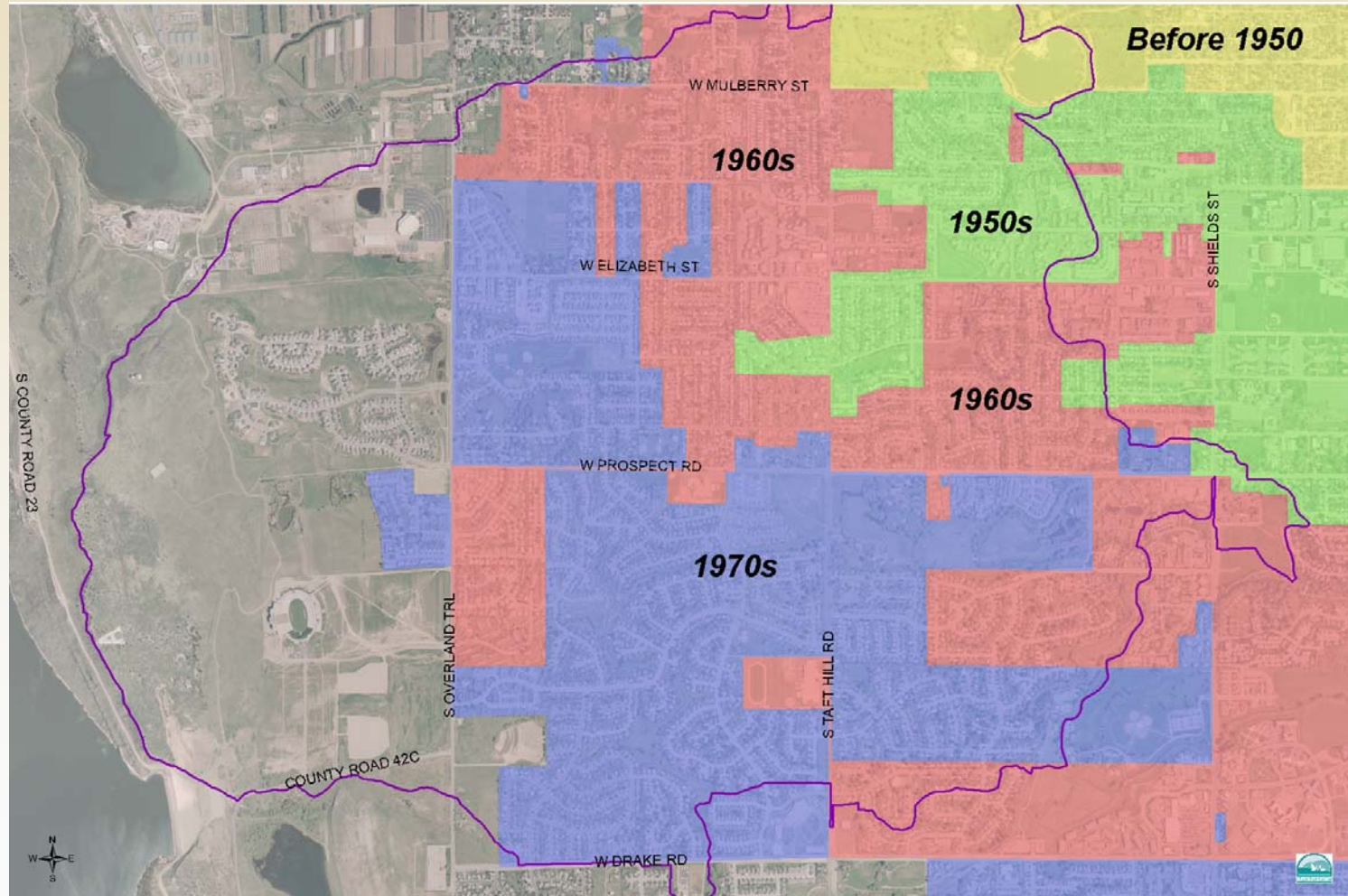
Canal Importation Basin



Existing Floodplain



Development by Decades



Contributing Factors to Flooding

- Historic streams obliterated by irrigation canals, agriculture and urbanization
- Urbanization without detention
- Discharge into irrigation canals
- Upstream flows not considered
- Stormwater system designed for very small storms

Flood Simulation – Constitution Avenue



Flood Simulation – Constitution Avenue



Water Overtopping

New Mercer Canal - 1997 Flood



1

**South stormwaters from Mercer ditch and West
at Woodbox Condos** *Looking south from*

It's Not Just the Flood Water...

- Raw sewage
- Mold
- Disease
- Flooded arterial and collector streets
- Death

The logo features the acronym 'CIPO' in a large, blue, serif font. To the left of the text is a stylized illustration of a landscape with a body of water, a sandy bank, and some reeds. The background is a light beige color with a white horizontal band behind the text.

CIPO

Drainage
Improvement
Project

Canal Importation Ponds & Outfall

A Stormwater and Natural Areas Joint Project

Purpose of the Stormwater Program

City Code Section 26-492

- Drain and control flood water
- Reduce pollution
- Enhance the environment
- Protect the health, safety, property and welfare of the city

Mission of the Natural Areas Program

City Council Resolution 2004-92

Protect and enhance:

- Lands with existing or potential natural area values...

Protection of natural habitats and features while providing education and recreation

Stormwater Watershed Approach

City Council Resolution 1995-14

- Pollution prevention education
- Stormwater treatment criteria
- Protection of habitat
- Integrated approach

Natural Areas Easement Policy

City Council Resolution 2001-94

...To the maximum extent feasible, planning for storm drainage, water quality and natural areas and open land acquisitions shall continue to be coordinated so that lands needed for all of these uses are purchased jointly.

Natural Areas Easement Policy

City Council Resolution 2001-94

...Innovative approaches shall continue to be used so that flood control and water quality facilities are designed, constructed and managed to maintain or enhance natural area protection values while meeting flood control, stream stability and water quality needs.

The logo features the acronym 'CIPO' in a large, blue, serif font. To the right of the acronym, the words 'Drainage Improvement Project' are written in a smaller, brown, sans-serif font, stacked vertically. The background of the logo is a stylized landscape with a light blue sky, a white horizon line, a blue body of water, and a brown sandy bank in the foreground. On the left side of the bank, there are several brown reeds or grasses. The entire logo is set against a light beige background.

CIPO

Drainage
Improvement
Project

Canal Importation Ponds & Outfall

A Team Approach
to Provide Exceptional Service
for an Exceptional Community

Our Approach to the Problem

Our project team is focused on the importance of keeping citizens informed and involved in plans for final design and construction.

Our Approach to the Problem

As a group, including Utilities and Natural Areas staff, we have worked hard to develop a good understanding of the proposed project area and its current uses – including its role in stormwater detention and as a neighborhood natural area.

A stylized landscape illustration featuring a body of water in shades of blue and white, a sandy bank in the foreground, and several reeds on the left side. The background is a light beige color.

CIPO

Drainage
Improvement
Project

Canal Importation Ponds & Outfall

Proposed Conceptual Solution

Alternatives Considered

The Canal Importation Master Plan evaluated over 60 detention and conveyance facility alternatives.

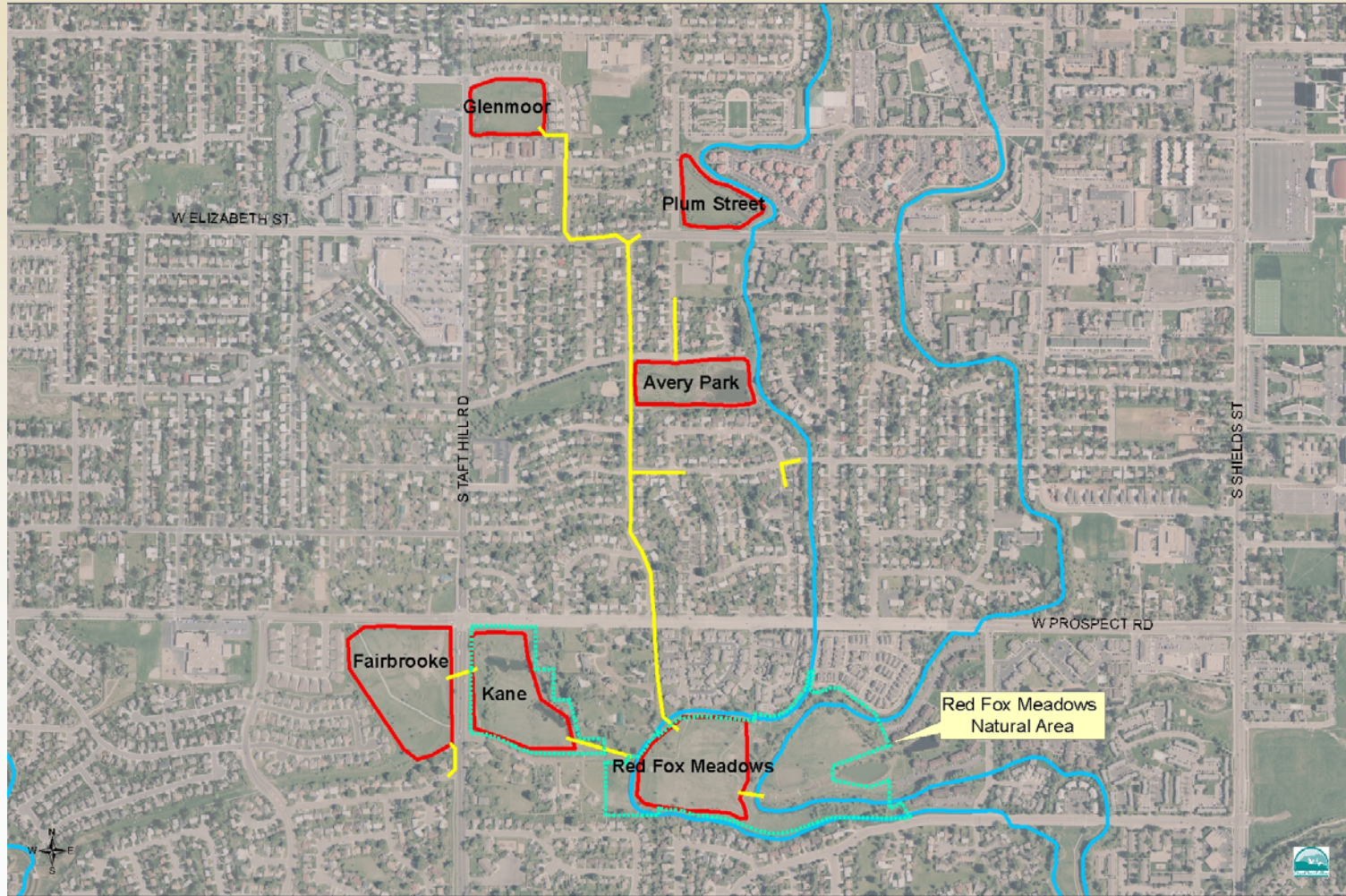
In general, alternatives considered included:

- Level of protection;
- Balancing detention vs. conveyance; and
- Protecting and enhancing habitat areas.

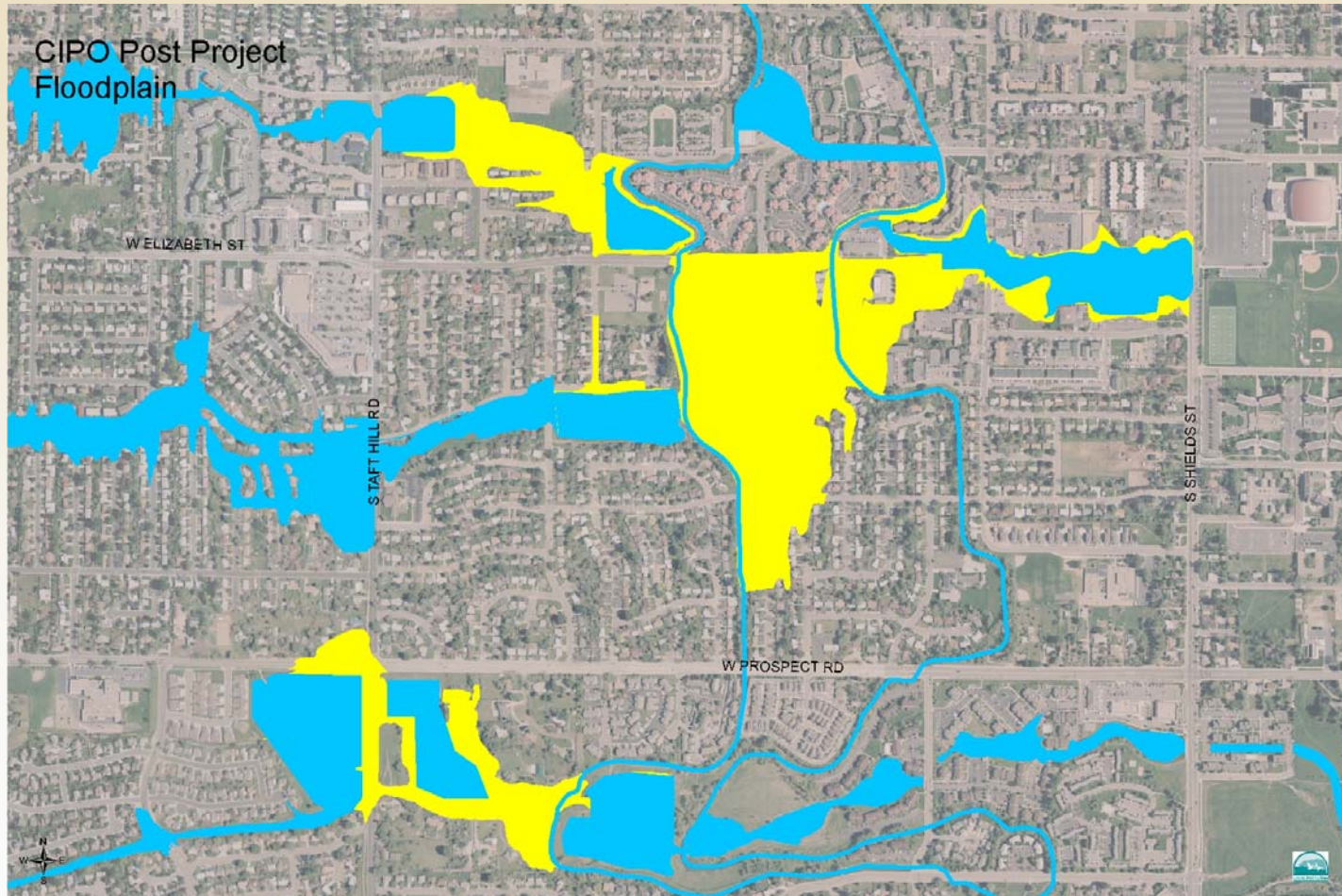
Evaluation Criteria

- Provide flood protection for homes
- Reduce flood hazards along streets
- Minimize the exportation of runoff
- Minimize adverse impacts to existing habitat
- Enhance habitat and water quality opportunities
- Cost of improvements
- Maintenance requirements

Project Overview



Project Floodplain – Before and After



Impact on Neighborhood –Excavation



Impact on Neighborhood – Pipe Laying





CIPO

Drainage
Improvement
Project

Canal Importation Ponds & Outfall

History of Red Fox Meadows

1950 Aerial Photo – Red Fox Meadows



1956 Aerial Photo



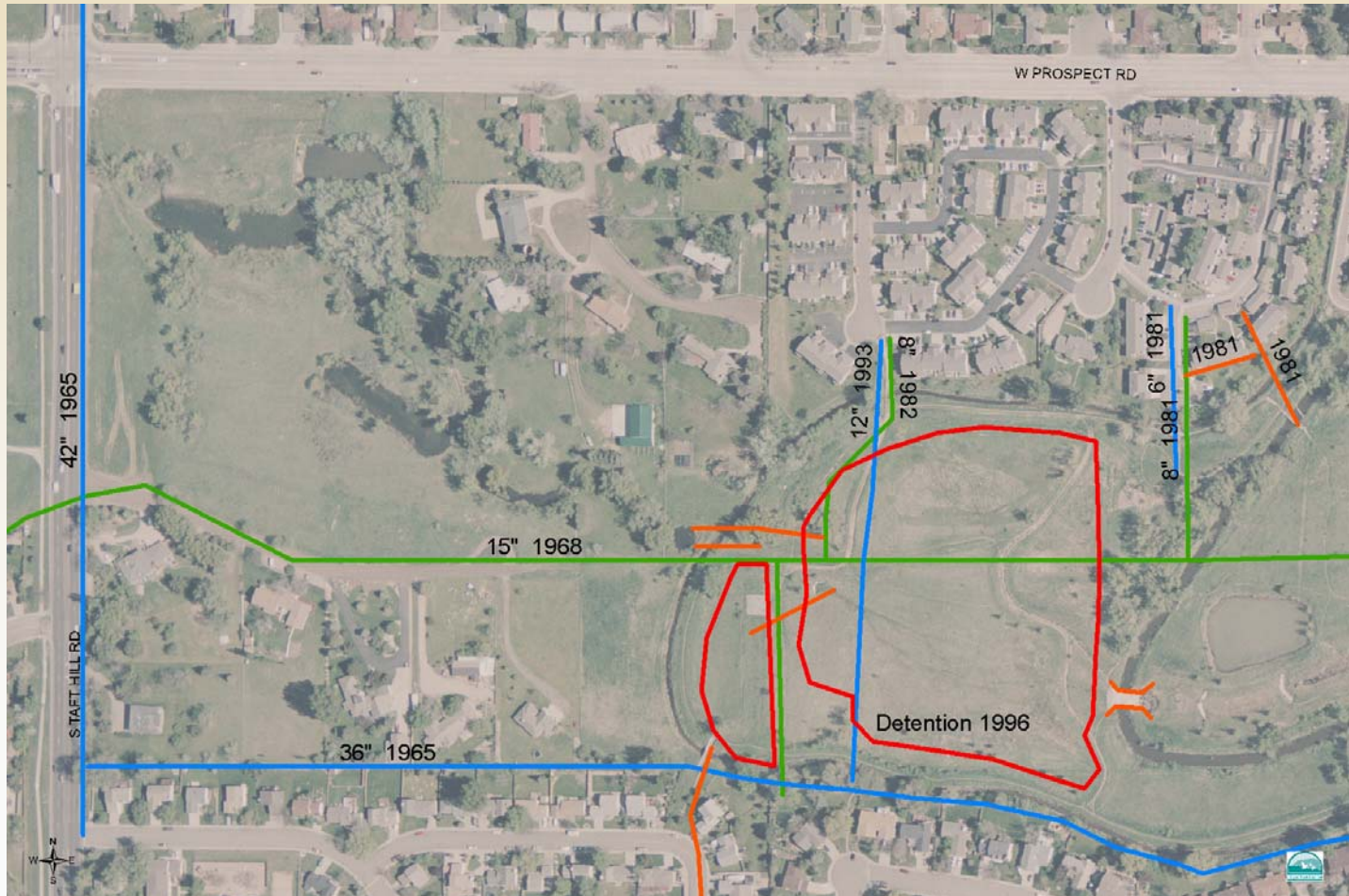
1969 Aerial Photo



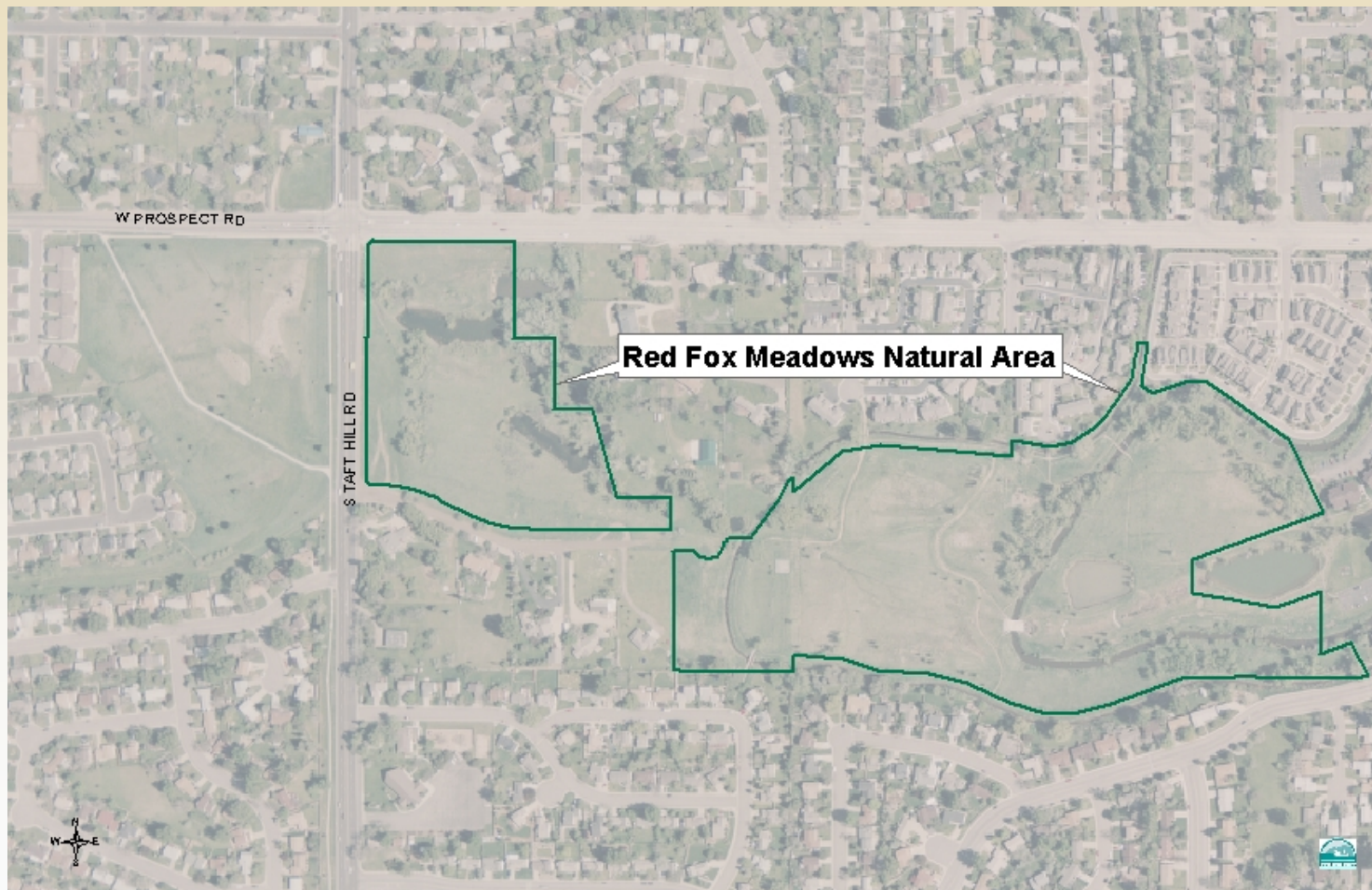
1985 Aerial Photo



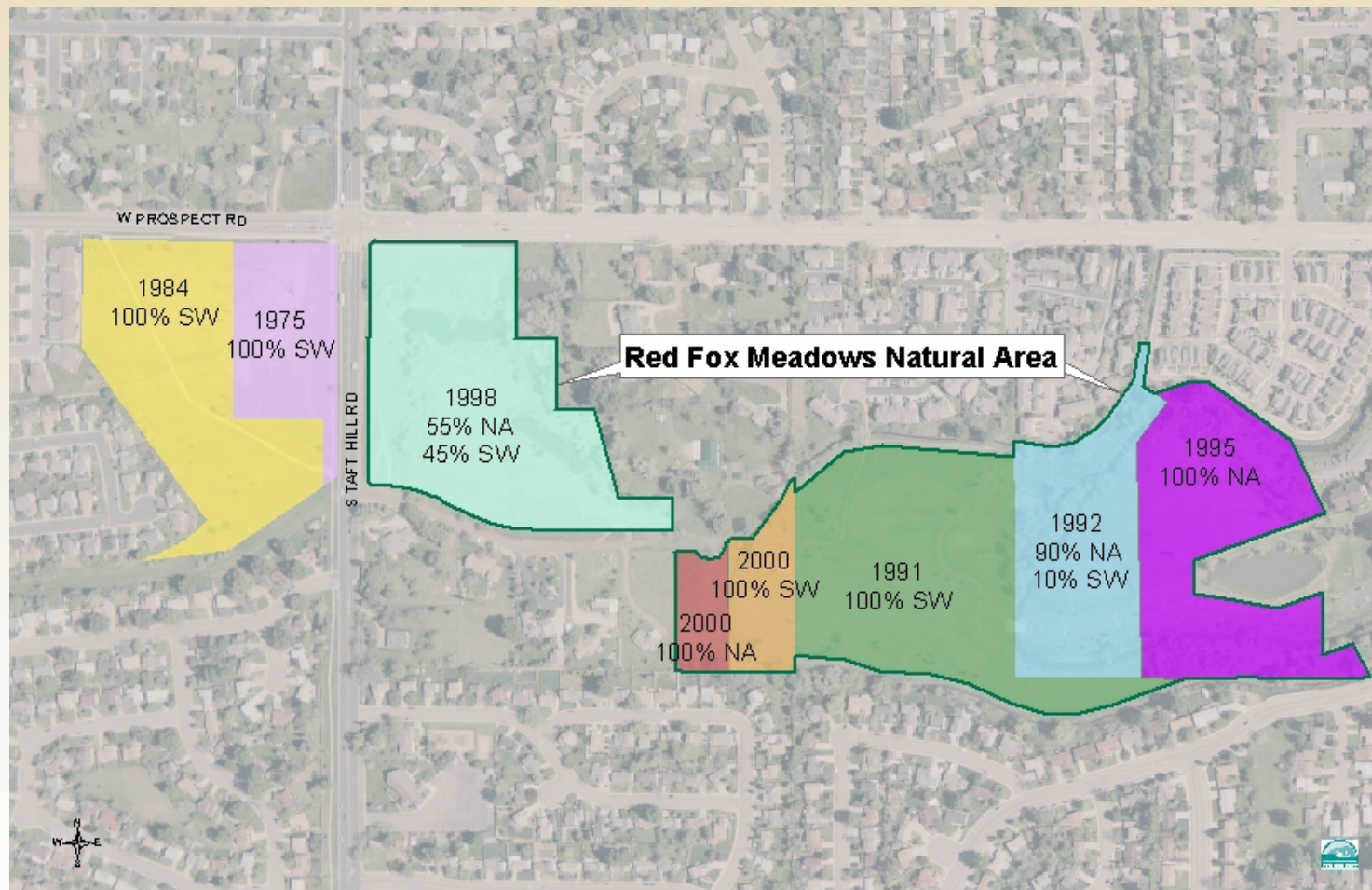
2005 Aerial Photo



Acquisition History



Acquisition – 2000



A stylized landscape illustration featuring a body of water in shades of blue and white, a sandy bank in the foreground, and several reeds on the left side. The background is a light tan color with a white horizontal band.

CIPO

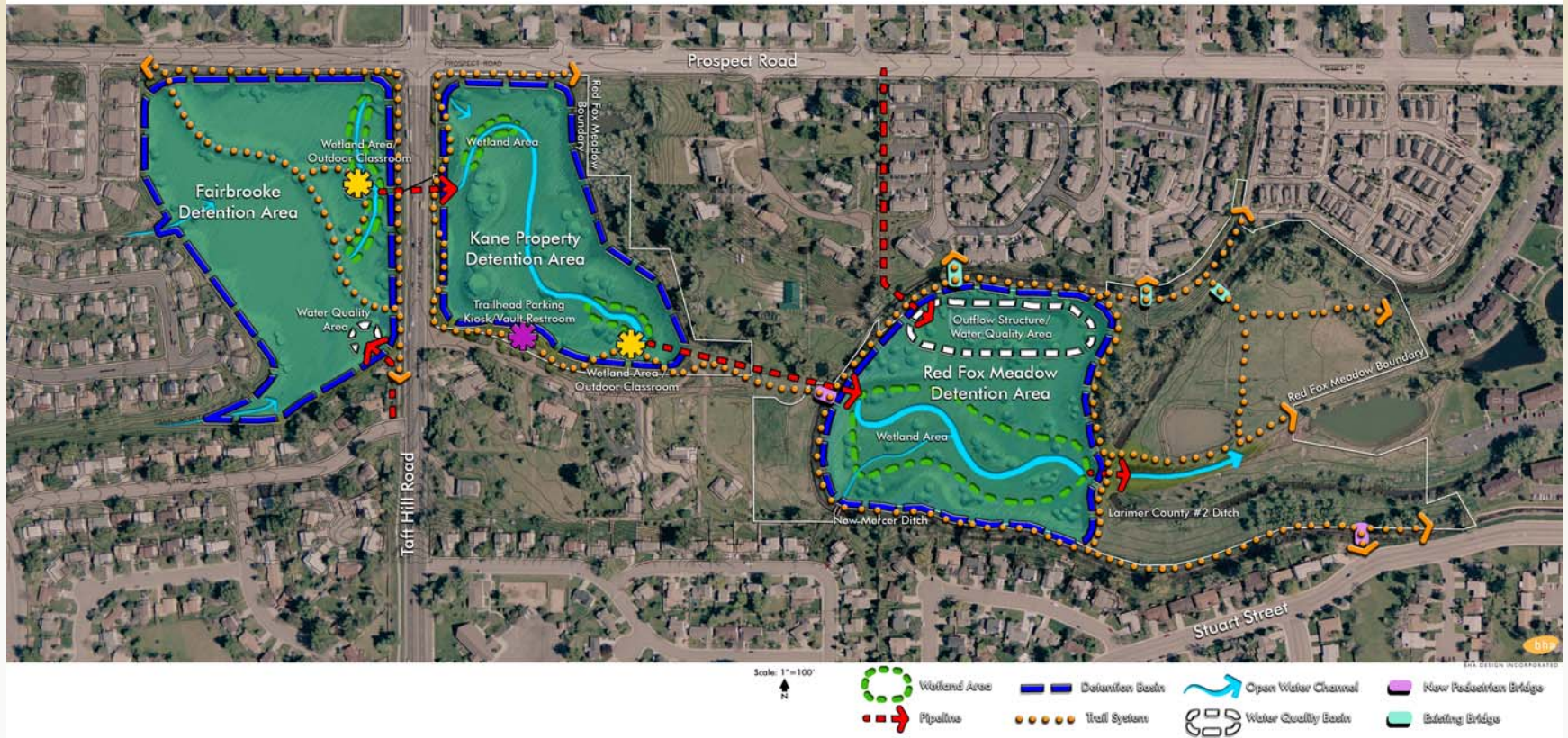
Drainage
Improvement
Project

Canal Importation Ponds & Outfall

Design Concepts for
Red Fox Meadows

Site Concept

Concept Diagram



Concept Rendering

Concept Rendering

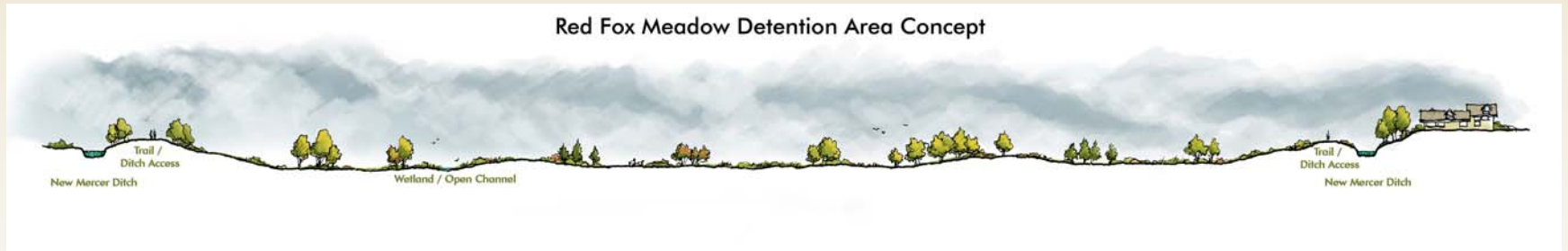


Slope Design Concept

Slope Design Concept



Detention Area Design Concept



A stylized landscape illustration featuring a body of water in shades of blue and white, a sandy bank in the foreground, and several reeds on the left side. The background is a light tan color with a white horizontal band.

CIPO

Drainage
Improvement
Project

Canal Importation Ponds & Outfall

Public Communication,
Education and Outreach

Communication Plan Focus Areas

- Project need and benefits
- Construction impacts for businesses and neighborhoods affected by project
- Natural area impacts and restoration

Outreach Goals

- Inform community about the project
- Help gather input for design planning
- Provide ongoing communication support for the project

Communication Plan

- Periodic project newsletter
- Open house(s)
- Neighborhood/HOA presentations
- Community/neighborhood tours
- Project phone line (970) 222-5099
- Targeted mailings and staff outreach as needed
- Continuously updated Web site

A stylized landscape illustration featuring a body of water in shades of blue and white, a sandy bank in the foreground, and several reeds on the left side. The background is a light tan color.

CIPO

Drainage
Improvement
Project

Canal Importation Ponds & Outfall

Project Status

Preliminary Project Schedule

- Preliminary design investigations – 2006
- Public outreach – starting March 2007
- Final design – 2007
- Construction at Red Fox Meadows – 2007-2008
- Pipe collection system – 2008-2009
- Avery, Plum and Glenmoore Ponds – 2009-2010
- Project completion – 2010