County of Yolo

PARKS AND RESOURCES DEPARTMENT

Warren Westrup
DIRECTOR

120 West Main Street, Suite C
Woodland, CA 95695
(530) 406-4880 FAX (530) 666-1801
www.yolocounty.org

Cache Creek Technical Advisory Committee

Summary Minutes
November 5, 2007

Members in Attendance: Eric Larsen, Tim Horner

County Staff: Julia McIver, Kent Reeves, Kevin Schwartz, Warren Westrup

Others in Attendance: David Pratt, Yasha Saber, Laurie Brajkovich, Tony Barela, Christian Carleton, Ed Armstrong, Paul Robins, Jeanette Wrysinski, Bob Schneider, Brian King, Lynnel Pollock, Max Stevenson, Brian Foster, Spencer Defty, Duane Chamberlain

Members Absent: none

1. CALL TO ORDER

The meeting was called to order by Kevin Schwartz at 10:05 AM.

2. PUBLIC COMMENTS:

2.1 Paul Robins (Yolo County Resource Conservation District, Yolo RCD) announced and described the $388,000 CalFED funded project to conduct a hydrologic-geomorphic-focused assessment of the Capay Valley section of Cache Creek. The analysis will be done with the help of consultant Kamman Hydrology & Engineering, Inc. and will highlight potential areas for habitat restoration based on the watershed assessment. Davis Media Access will help develop funding mechanisms/strategies to support environmental education digital media projects for youth and use those media projects to support erosion control and watershed education projects. The project will daylight work through cooperation with Esparto Junior High School.

2.2 Max Stevenson (Yolo County Flood Control and Water Conservation District, YCFCWCD) gave an update on YCFCWCD projects and related information. The irrigation season is over. Currently, Clear Lake is at 0 feet and needs to come up 3 feet. The Indian Reservoir is also very low. If the 2007-2008 season is like the 2006-2007 season, water allocations will be very limited. Stantec will be inspecting the Moore Siphon for repairs. The YCFCWCD sees major repairs needed in the CCRMP area. Apron repairs are needed on the dam; the whole structure is in danger of tipping over. The YCFCWCD is not sure of the timeline for getting these repairs done. The Moore Siphon is in need of fixing or moving. The solution for the Moore Siphon should give it a 50-100 year lifespan. Some options include removing

it from the Creek completely, perhaps, by routing it under the I-505 Bridge. Ideas for the Moore Siphon are exploratory right now. Mr. Stevenson also discussed the current status of gauges on Cache Creek. Most USGS gauges are for monitoring high flows. The low flow gauge during the summertime at Yolo is completely unreliable. The Yolo gauge tends to blow out. Construction at Huff's corner may have contributed to the recent readings on Yolo gauge. The gauge at Rumsey is officially not accurate below 1200 cfs. Gauges typically should be measured and checked 1 time/month.

2.3 Members of the public addressed the Technical Advisory Committee on subjects relating to the Technical Advisory Committee, but not relative to items on the agenda. Bob Schneider (Tuleyome) described current work being done by Tuleyome and their bioregion vision for Cache Creek. Mr. Schneider also discussed his concerns about the invasion of Ravenna grass along Cache Creek.

4. STAFF UPDATE:

4.1 Kevin Schwartz announced the revised Requests for Proposals for the TAC Riparian Biologist.

4.2 Warren Westrup the new Yolo County Parks and Resources Director was introduced. Mr. Westrup discussed his experience and the importance while working for California State Parks of bringing many levels of expertise together to make decisions.

4.3 Kevin Schwartz gave an update on Capay Open Space Park.

4.4 Lynnel Pollock, (Cache Creek Conservancy, CCC) provided an update on CCC projects. The CCC has been spraying arundo near the Capay Dam where there has been a change in property ownership. Currently, it is too late in the season to be spraying Tamarisk. There has been a 10 fold increase in Ravenna grass in Cache Creek since the summer of 2006. The beetles released by the USDA to control Tamarisk in the Capay Valley are moving their way down the Creek. The Reynolds barn has been entirely cleaned up and an adjacent landowner is taking down a barn that is in danger of falling in the Creek.

Trespassing and vandalism have increased significantly in the last 2 weeks by OHV users, including the fence being cut 2 times. Nearly every day the CCC has had 3+ OHVs going through the preserve. Warren Westrup asked about what enforcement could be or has been done to prevent OHVs from trespassing and vandalism. It is unclear what legal process the County has to work with on OHV enforcement and we haven't had a definitive answer from County Counsel. The Sheriff's department may have received at one time a grant for OHV enforcement. Mr. Westrup mentioned also that, perhaps, CA State Parks OHV division could be involved with buying, running, and maintaining an OHV park within Yolo County that would work for locals. Lynnel has asked in the past for the County to install "No Parking" signs along the road near the entrance to the Cache Creek Nature Preserve. "No Parking" signs along the CCC and other County roads could improve the County's ability to enforce against illegal use of OHVs. Bob Schneider mentioned that SB750 which passed to renew the State OHV program did not address increasing OHV fees or licensing.

5. REGULAR AGENDA:

Presentation of Correll/Rodgers Enhancement Plan by Foothill Associates and Domenichelli & Associates

5.1 Tony Barela (Domenichelli & Associates), Ed Armstrong (Foothill Associates), and Christian Carleton (Foothill Associates) representing the consultants hired to create the Correll/Rodgers Enhancement Plan introduced themselves and were introduced to everyone attending the TAC meeting.

5.2, 5.3 After introductions, Mr. Armstrong gave a PowerPoint presentation discussing the existing conditions, project goals and objectives and alternative conceptual designs. The PowerPoint presentation is included as Exhibit A.

5.4 Correll Rodgers Ponds Enhancement Alternative Conceptual Designs

Universal Design Concepts

Existing trees and riparian vegetation will be preserved wherever possible. To facilitate mosquito control, the bottom of all ponds will be re-contoured to provide a series of interconnected pools and swales, rather than the current flat bottoms. This will help ensure that mosquito fish and other mosquito predators can access all pools as the water level lowers and thus will control the mosquito population. As part of re-contouring the ponds the edges will be varied to create habitats for different plant communities. The annual grasslands on the slopes and upper benches of the pits are dominated by nonnative annual grasses and invaded in areas by star thistle. This habitat can be improved by planting of upland species such as valley oak and native bunchgrasses. Nonnative invasive species such as yellow star thistle and whitetop will be targeted for control and removal in all concepts. There is currently extensive erosion on the back side of the earthen berm in the eastern half of the Correll pit, in all options this will be repaired or regarded to minimize future problems in this area.

Option A: Low Impact

Option A focuses on improving habitat values while minimizing impacts to the site. The hydrologic connection between Cache Creek and the mining pits will be improved by further lowering the weir section of the earthen berm to surrounding existing grade so that the Correll pit floods on a more regular basis. Erosion at this section of the berm will be repaired in a way to reduce the potential for future erosion. Smaller more naturalistic ponds/pools will be added to the pit floor to provide a more diverse topography to improve mosquito control and establish additional hydrologic regimes for plant establishment. The hydrologic connection between the pits will also be improved by the removal of the concrete spillway between the two pits, removal of the interior berms in the Rodgers Pit, and construction of a swale connecting the ponds. The existing overlook and native plant garden will be protected with a retaining structure or armored bank.

Option B: Reintroduce Site Inundation

Option B will reconnect Cache Creek to the pits throughout the length of the project site. The earthen berm will be lowered to establish bankfull channel geometry (assumed to be approximately the 2 year event for this study) with three weirs to allow controlled flow of water over the berm, armored to protect against erosion. Soil excavated from the berm will be used to fill areas of the Rodgers pit to reduce side slopes and create more natural upland topography. The hydrologic connection between the pits will be improved by the

removal of the concrete spillway and lowering of the berm separating the Correll and Rodgers pits, removal of the interior berms in the Rodgers Pit, and construction of a swale connecting the ponds. Smaller more naturalistic ponds/pools will be added to the pit floor to provide a more diverse topography to improve mosquito control and establish additional hydrologic regimes for plant establishment. The existing overlook will be kept in place and protected with a retaining structure or armored bank.

Option C: Restore Channel-Floodplain Processes
Option C will remove the earthen berm along the entire project site to match the existing elevations on the Cache Creek side. This will connect the entire pit with the creek and allow the creek to re-establish its own bankfull channel geometry. Existing mature trees on the earthen berm along Cache Creek will be preserved as elevated islands. Soil excavated from the earthen berm will be used ease the slopes throughout the Rodgers pit. The hydrologic connection between the pits will be improved by the removal of the concrete spillway between the two pits, removal of the interior berms in the Rodgers Pit, and construction of a swale connecting the ponds. Smaller more naturalistic ponds/pools will be added to the pit floor to provide a more diverse topography to improve mosquito control and establish additional hydrologic regimes for plant establishment. In order to minimize the pinch point between the pits, the existing overlook will be relocated to the southwest corner of the Rodgers pit on County Road 96 and the existing orchard will be protected by a reinforced slope. A seasonal wetland will be constructed below the relocated overlook and can continue to be utilized for a variety of interpretive activities. The pipe for the Magnolia Drain will be repaired and a new outfall location installed at the existing failure site.

5.5 Discussion:
Hydraulic Analysis
The Cache Creek Hydraulic Analysis was done 2000' up and downstream of the Correll-Rodgers site for the model. HEC-RAS was used to examine 1-yr, 2-yr, 5-yr, 10-yr, and 100-yr Cache Creek levels given the current conditions at the site. The downstream end of the site was designed for the 2-yr level to allow inundation of the site. Currently, at the 5-yr level, water overtops the concrete weir from the Correll Pit to the Rodgers pit. At the 10-yr level the whole site is inundated. The consultants explained that maintaining the bank flow elevations in Option B will physically constrain channel movement while Option C doesn't prevent channel movement; however, because the wavelength of the creek is longer than the length of the site the creek will not have the opportunity to meander at this point. Option C best represents the restoration of channel processes that are recommended in the CCRMP. All of the designs incorporate an approximation of an ox-bow on the site. Because the Rogers pit is much deeper than the Correll pit, a real ox-bow won't be possible on the site.

Erosion and Water Quality
At the downstream end where the berm had been lowered there is a lot of erosion as no erosion protection has been installed. In discussing the current conditions hydrology, Christian Carleton mentioned that the 50,000 cubic yards of soil in the berm will continue to increase sedimentation downstream if not removed. He mentioned that the berm is unnatural and that natural processes will continue to erode the berm given current conditions. Tim Horner had questions about whether the fine soils will be removed completely after deepening the ponds. The soils from deepening the ponds and from

any berm removal will be used to recontour the basins and swales. According to the CCRMP, any excavations on site will have to stay 6' above thalweg; however, this is to the designs' benefit as this will prevent the existing channel from changing its current course, a concern for protecting adjacent landowner properties.

Habitat and Wildlife
Concern was raised by Jeanette Wrysinski (Yolo RCD) that swales created and intermittent ponding will strand fish. The consultants responded that the final alternative designs would take fish stranding into consideration while improving fish habitat and improving the site's design in order to control mosquito populations. Option C would drain more quickly than Option B and, thus, maintaining mosquito fish populations might be more difficult. Ms. Wrysinski was also interested in improving the understory plant species diversity on site. Kevin Schwartz mentioned that increasing native plant species diversity was very much a part of the plan. In response to concerns that hummingbird habitat would be affected by removing the non-native Tobacco plants on site, Kevin mentioned that native plants that attract hummingbirds such as California Fuchsia and Common or Sticky Monkey Flower would be planted on site.

Hard Points
Concerns were raised that entrance into and out of the site at the up- and downstream ends of the site and at the finger of the land sticking out between the Correll and Rodgers' pits would have to be armored in order to protect adjacent land from erosion. Option B contained the most "hard points" with armored weirs to protect erosion on the back side of the berm and allow entry of water on site while still maintaining 2-yr water surface elevation protection. TAC members were most concerned about reducing the number of hard points in the final design as this would increase the sustainability of the project and decrease the maintenance required on site. A combination of Option B and C would reduce the number of hardpoints in the site design.

Flood Attenuation, Sedimentation, and Groundwater Recharge
Spencer Defty and Supervisor Duane Chamberlain raised concerns that the Yolo Flood Basin is currently filling with sediment and the associated flood concerns and how plans along Cache Creek should be incorporated to attenuate these concerns. It was discussed that the size of the Correll-Rodgers site was not nearly large enough to significantly attenuate these concerns. However, the current designs would decrease sedimentation downstream in comparison to existing conditions. This is because removal or reduction of the berm height and recontouring the basins and swales will decrease creek velocities in this area and will remove or decrease significantly the erosion that occurs on site and the point source of sediment that currently exists in the berm. Max Stevenson mentioned that Option B would have better groundwater recharge benefits as water will be moving faster through the site given Option C's design.

Alternative Designs
The Parks and Resources Department, the TAC, and the consultants preferred Option B or C, but costs would be a big factor. Lynnel Pollock wanted to ensure that the Final Enhancement Plan was consistent with the Yolo County Habitat Conservation Plan (HCP). The Test 3 line was discussed as an important concept to include in the planning. Christian Carleton detailed that the alternative plans were consistent with the

CCRMP and better follow the Test 3 line than current conditions. Several members of the public expressed interest in having the plan invest in barriers to OHV traffic. Option C was considered the most stable and long term solution for the site and in 50-100 years time Option B and C will look similar. TAC members did not like the armored weirs in Option B because of maintenance issues and suggested the development of an alternative design that combined the strengths of Option B and C. Cost was a concern for implementation of Options B and C. Spencer Defty mentioned that moving 50,000 cubic yards of soil would cost several $100,000s. Option C will allow more deposition. Max Stevenson questioned why Options B and C were immediately preferred when Option A was the least expensive alternative and if the creek would naturally erode the berm down over time anyway. Kent Reeves mentioned that the Option B and C reflect better the goals of the CCRMP and that it would be important to see the CCRMP goals and changes on the site sooner rather later. It was noted that the final plan should more clearly delineated the advantages and disadvantages for each option.

7. SET DATES FOR FUTURE MEETINGS:

The next regular meeting of the TAC was scheduled for December 10, 2007 10am-12pm in DESS Community Room 167.

8. ADJOURNMENT:

The meeting was adjourned by Kevin Schwartz at 1:00 pm.

Correll-Rodgers Pond Enhancement

Technical Advisory Committee Meeting

11-5-2007

Overview

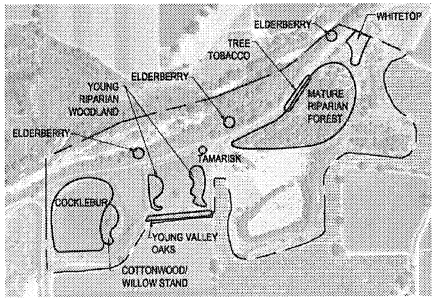
- Existing Conditions Summary
  - Biological Resources
  - Creek Hydraulics
  - Water Quality
- Project Goals and Objectives
- Alternative Conceptual Designs
- Discussion

Exhibit D

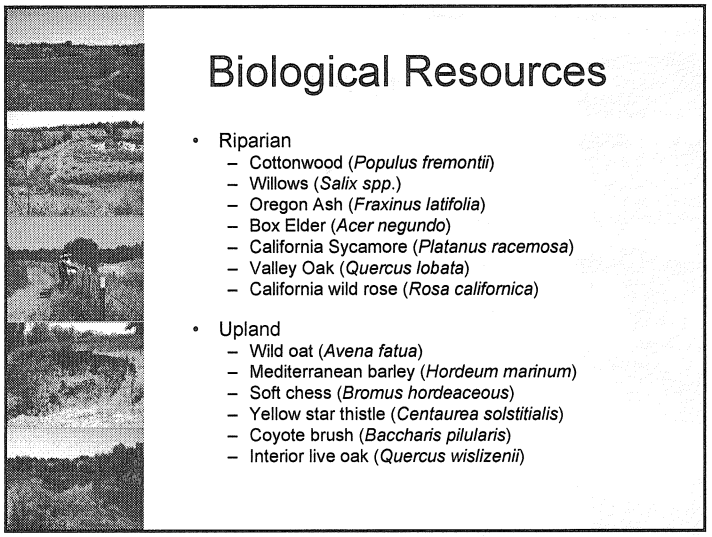
Existing Conditions

- Biological Resources
  - Large mature riparian forest in the Correll pit.
  - Young Riparian habitat in the easternmost basin of the Rodgers pit.
  - Potential Swainson's hawk/other migratory bird nesting habitat.
  - Elderberry bushes along earthen berm may be habitat for valley elderberry longhorned beetle.

Biological Assessment

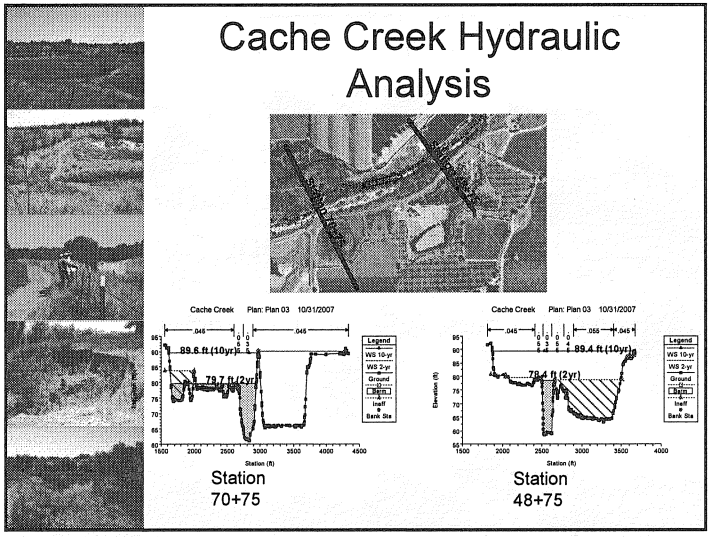


Observed invasive species present on-site:
- Yellow star thistle throughout grasslands
- Annual grasses and forbs
- Whitetop at eastern edge of Correll Pit
- Tree Tobacco on north side of Correll Pit
- Tamarisk at northeast corner of Rodgers Pit



Biological Resources

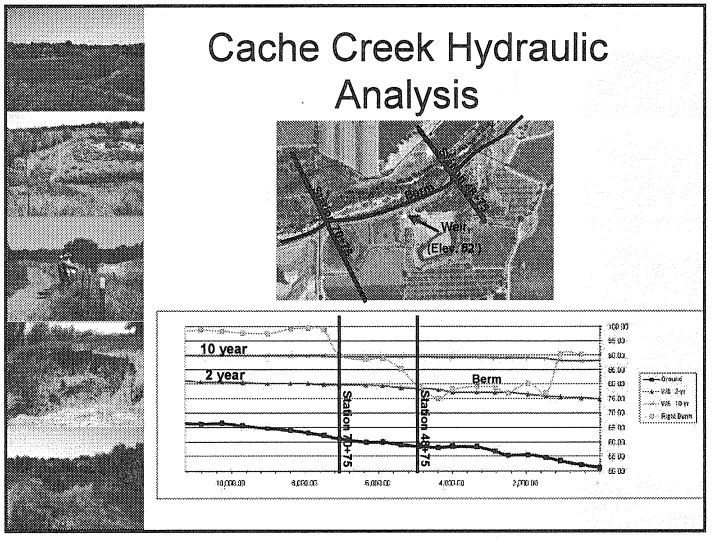
- Riparian
  - Cottonwood (*Populus fremontii*)
  - Willows (*Salix spp.*)
  - Oregon Ash (*Fraxinus latifolia*)
  - Box Elder (*Acer negundo*)
  - California Sycamore (*Platanus racemosa*)
  - Valley Oak (*Quercus lobata*)
  - California wild rose (*Rosa californica*)
- Upland
  - Wild oat (*Avena fatua*)
  - Mediterranean barley (*Hordeum marinum*)
  - Soft chess (*Bromus hordeaceous*)
  - Yellow star thistle (*Centaurea solstitialis*)
  - Coyote brush (*Baccharis pilularis*)
  - Interior live oak (*Quercus wislizenii*)



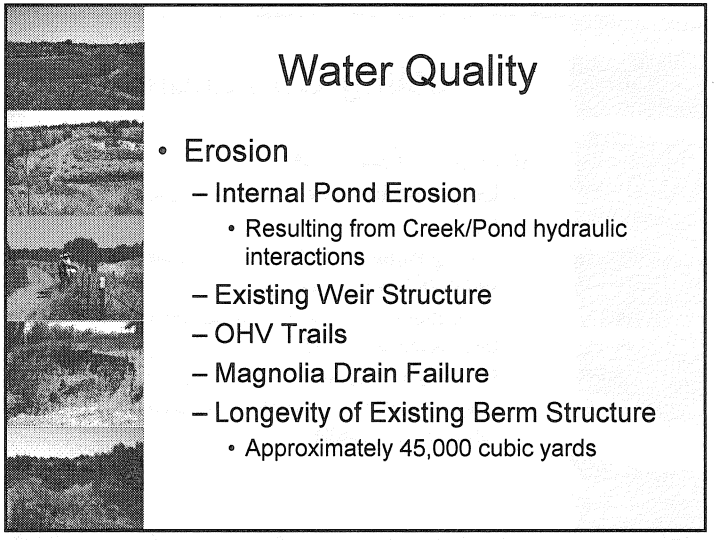
Cache Creek Hydraulic Analysis

Station 70+75

Station 48+75



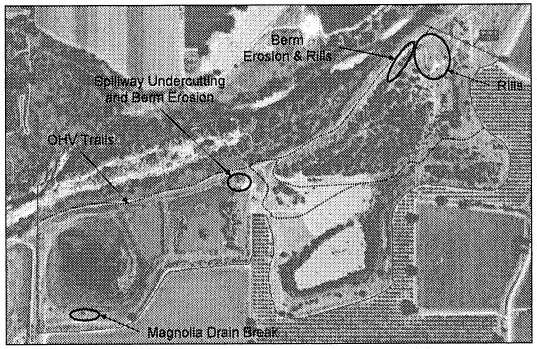
Cache Creek Hydraulic Analysis



Water Quality

- Erosion
  - Internal Pond Erosion
    - Resulting from Creek/Pond hydraulic interactions
  - Existing Weir Structure
  - OHV Trails
  - Magnolia Drain Failure
  - Longevity of Existing Berm Structure
    - Approximately 45,000 cubic yards

Erosion Hot-Spots



Project Goals

- Goal: Enhance terrestrial and aquatic habitats
- Goal: Improve hydrologic connections and water quality
- Goal: Protect private property values and rights and preserve public safety

Project Objectives

- Goal: Enhance terrestrial and aquatic habitats

Objectives:

- Increase diversity of riparian plants in and around the ponds,
- Manage invasive species so that native species are not significantly displaced,
- Remove berms between the three Rodgers ponds and revegetate,
- Reduce side-slopes on ponds to create better upland habitats and improve transitions of upland to wetland habitat,

Project Objectives

- Goal: Improve hydrologic connections and water quality

Objectives:

- Improve connectivity of the pond site to the creek,
- Repair areas of erosion and recontour banks to reduce erosion potential,
- Improve connectivity between the ponds.

Project Objectives

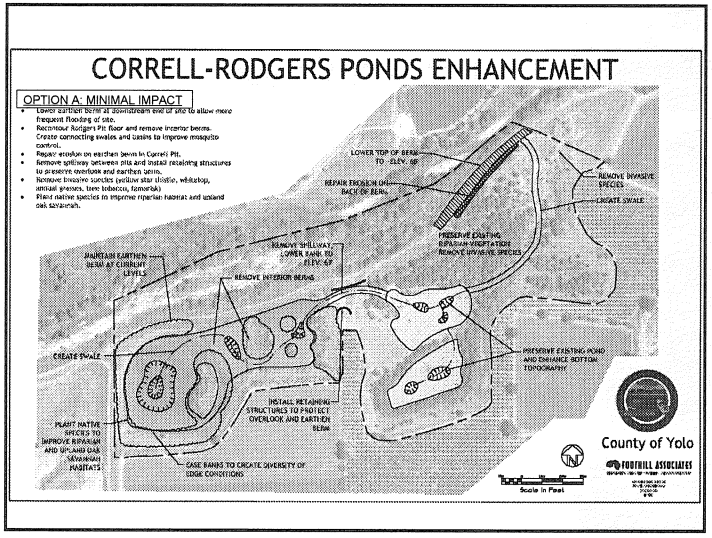
- Goal: Protect private property values and rights and preserve public safety

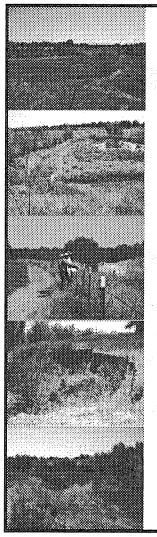
Objectives:

- Encourage native species that contribute to better IPM (such as bat-houses to attract bats that eat codling moths, parasitic wasps, etc.)
- Maintain current level of flood protection to neighboring property,
- Reduce impact of off-highway vehicles (OHV) on project site and neighboring parcels
- Improve ability to control mosquitoes,
- Reduce incidence of trespass.

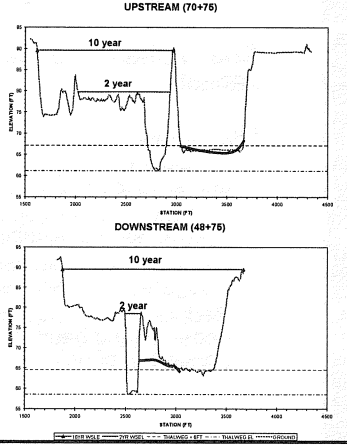
Alternative Conceptual Designs

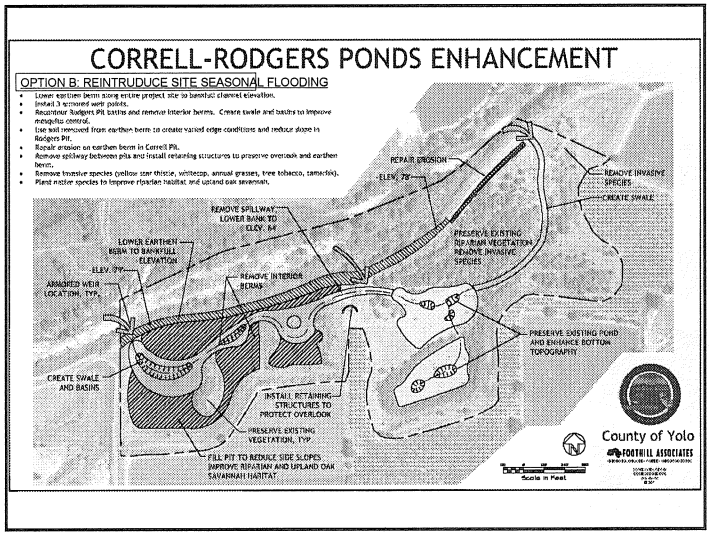
- Alternative A
  Minimal impact
  - Enhance ponds and revegetate
- Alternative B
  Reintroduce Flooding
  - Lower berm and reshape ponds
- Alternative C
  Restore Floodplain
  - Remove berm, reshape ponds and recreate uplands

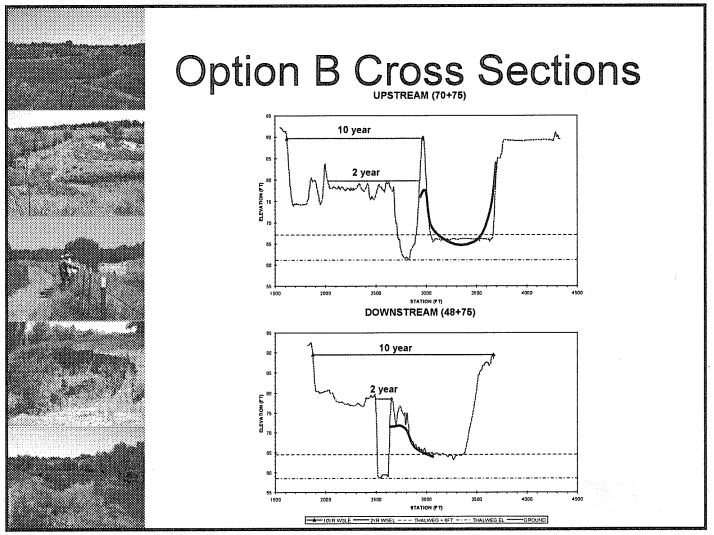


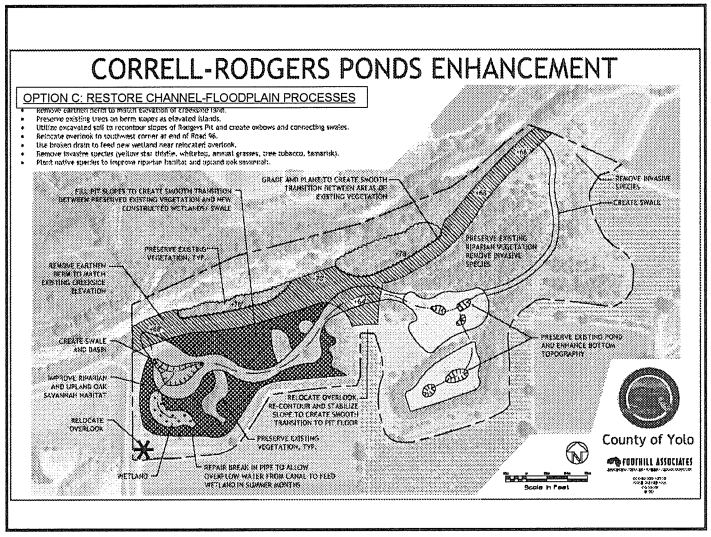


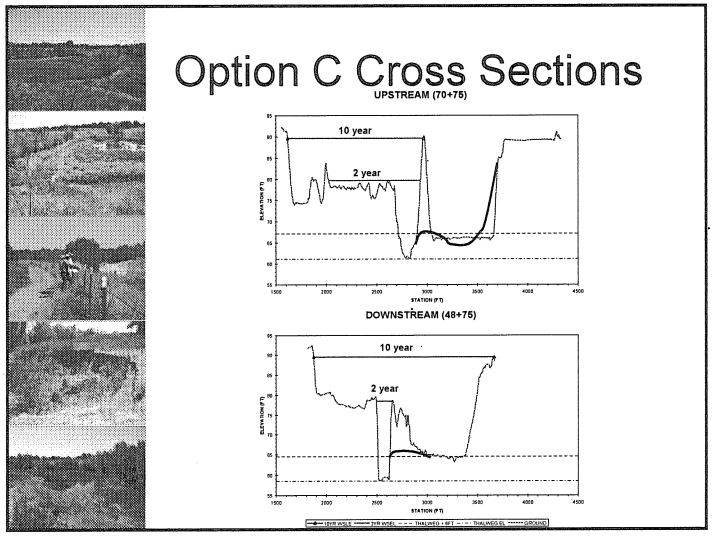
Option A Cross Sections



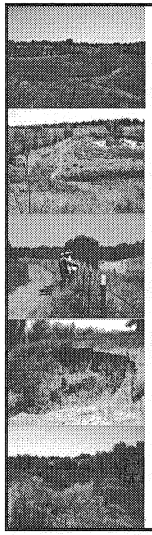

CORRELL-RODGERS PONDS ENHANCEMENT
OPTION B: REINTRUDUCE SITE SEASONAL FLOODING
Lower earthen berm along entire project site to bankfull channel elevation.
Install 3 removed weir points.
Recontour Rodgers Pit basins and remove interior berms. Create swale and basins to improve mosquito control.
Use soil removed from earthen berm to create varied edge conditions and reduce slope in Rodgers Pit.
Repair erosion on earthen berm in Correll Pit.
Remove spillway between pits and install retaining structures to preserve overlook and earthen berm.
Remove invasive species (yellow star thistle, whitetop, annual grasses, tree tobacco, tamarisk).
Plant native species to improve riparian habitat and upland oak savannah.
REPAIR EROSION
ELEV. 79'
REMOVE INVASIVE SPECIES
CREATE SWALE
REMOVE SPILLWAY LOWER BANK TO ELEV. 64
PRESERVE EXISTING RIPARIAN VEGETATION REMOVE INVASIVE SPECIES
LOWER EARTHEN BERM TO BANKFULL ELEVATION
ELEV. 77'
REMOVE INTERIOR BERMS
ARMORED WEIR LOCATION, TYP.
PRESERVE EXISTING POND AND ENHANCE BOTTOM TOPOGRAPHY
CREATE SWALE AND BASINS
INSTALL RETAINING STRUCTURES TO PROTECT OVERLOOK
PRESERVE EXISTING VEGETATION, TYP.
FILL PIT TO REDUCE SIDE SLOPES IMPROVE RIPARIAN AND UPLAND OAK SAVANNAH HABITAT
County of Yolo
FOOTHILL ASSOCIATES
Scale in Feet


Option B Cross Sections
UPSTREAM (70+75)
10 year
2 year
ELEVATION (FT)
STATION (FT)
DOWNSTREAM (48+75)
10 year
2 year
ELEVATION (FT)
STATION (FT)
LEVEE SIDE
EVEE SIDE
THALWEG + BFT
THALWEG EL
GROUND


CORRELL-RODGERS PONDS ENHANCEMENT
OPTION C: RESTORE CHANNEL-FLOODPLAIN PROCESSES
Remove earthen berm to match elevation of crossover road.
Preserve existing trees on berm slopes as elevated islands.
Utilize excavated soil to recontour slopes of Rodgers Pit and create oxbows and connecting swales.
Relocate overlook to southwest corner at end of Road 96.
Use breaks drain to feed new wetland near relocated overlook.
Remove invasive species (yellow star thistle, whitetop, annual grasses, tree tobacco, tamarisk).
Plant native species to improve riparian habitat and upland oak savannah.
FILL PIT SLOPES TO CREATE SMOOTH TRANSITION BETWEEN RESERVED EXISTING VEGETATION AND NEW CONSTRUCTED WETLAND/SWALE
GRADE AND PLANT TO CREATE SMOOTH TRANSITION BETWEEN AREAS OF EXISTING VEGETATION
REMOVE INVASIVE SPECIES
CREATE SWALE
PRESERVE EXISTING VEGETATION, TYP.
PRESERVE EXISTING RIPARIAN VEGETATION REMOVE INVASIVE SPECIES
REMOVE EARTHEN BERM TO MATCH EXISTING CREEKSIDE ELEVATION
CREATE SWALE AND BASIN
PRESERVE EXISTING POND AND ENHANCE BOTTOM TOPOGRAPHY
IMPROVE RIPARIAN AND UPLAND OAK SAVANNAH HABITAT
RELOCATE OVERLOOK
RE-CONTOUR AND STABILIZE SLOPE TO CREATE SMOOTH TRANSITION TO PIT FLOOR
PRESERVE EXISTING VEGETATION, TYP.
WETLAND
REPAIR BREAK IN PIPE TO ALLOW OVERFLOW WATER FROM CANAL TO FEED WETLAND IN SUMMER MONTHS
County of Yolo
FOOTHILL ASSOCIATES
Scale in Feet


Option C Cross Sections
UPSTREAM (70+75)
10 year
2 year
ELEVATION (FT)
STATION (FT)
DOWNSTREAM (48+75)
10 year
2 year
ELEVATION (FT)
STATION (FT)
LEVEE SIDE
EVEE SIDE
THALWEG + BFT
THALWEG EL
GROUND

Questions?



Thank You!