



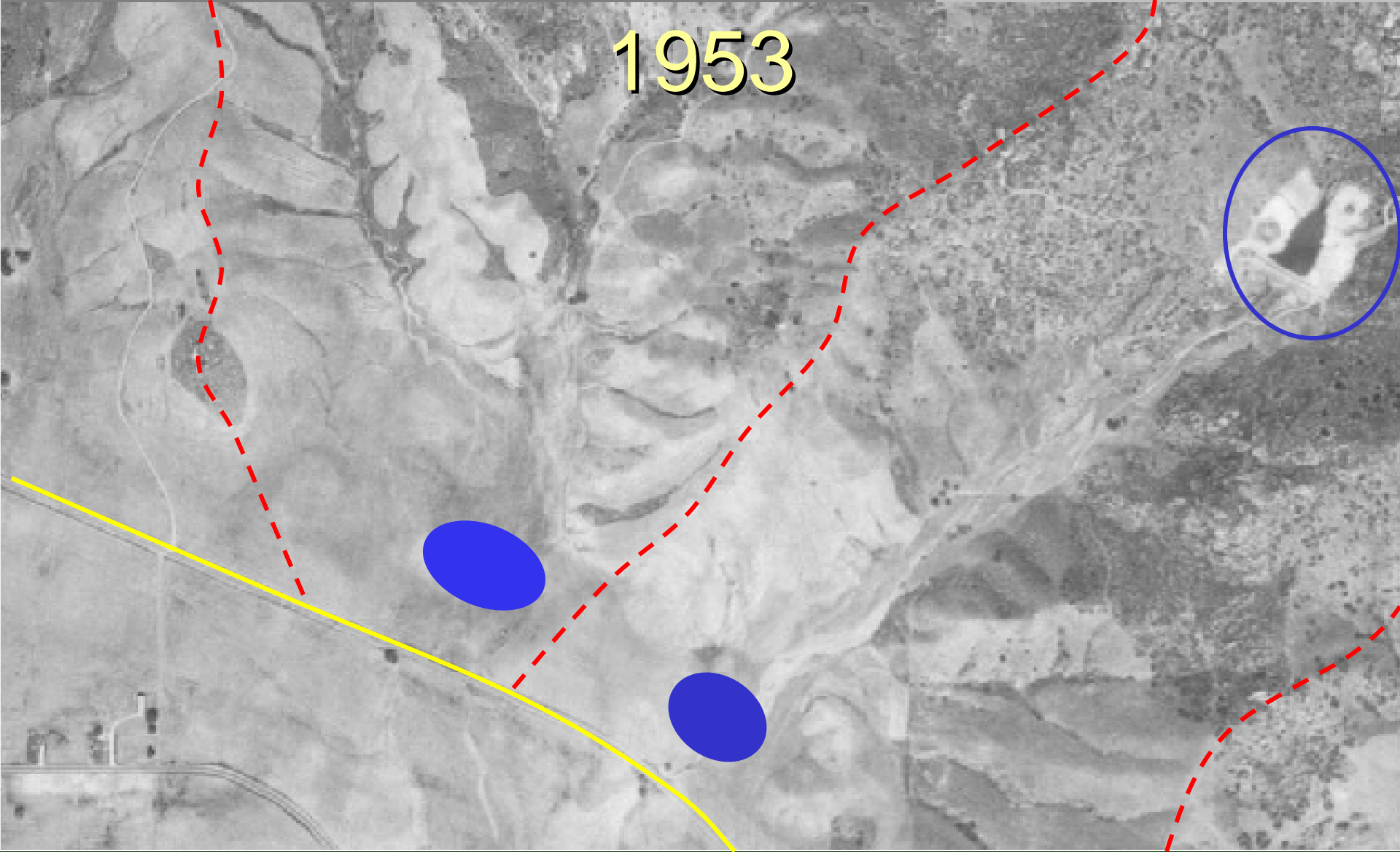
# Water Quality and Water Management

San Diego Zoo's Wild Animal Park

07 May 2007

AALSO

1953



2003



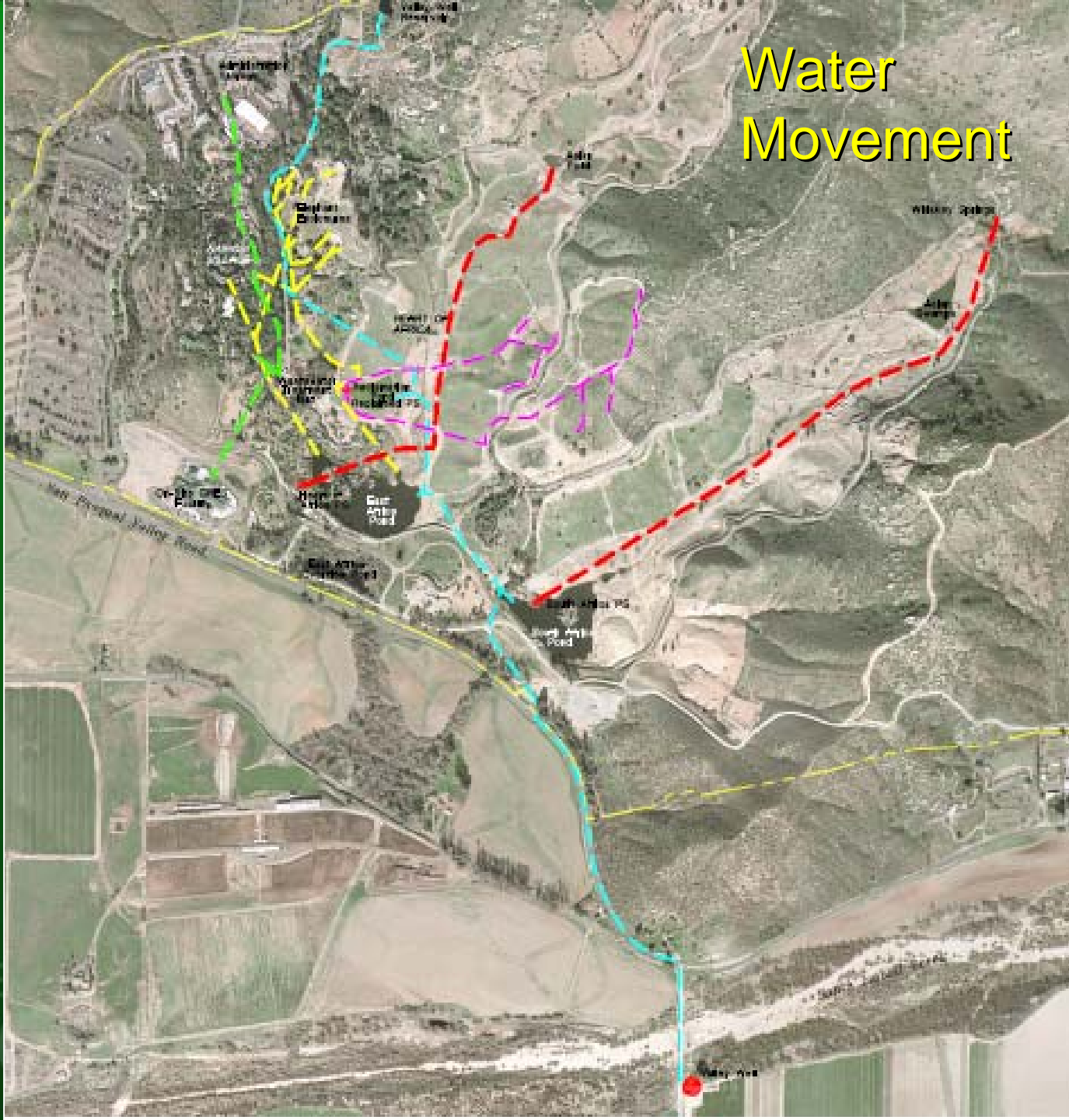




SAN DIEGO  
**ZOO**

SAN DIEGO ZOO'S  
**wild**  
ANIMAL PARK.

# Water Movement











SAN DIEGO  
ZOO

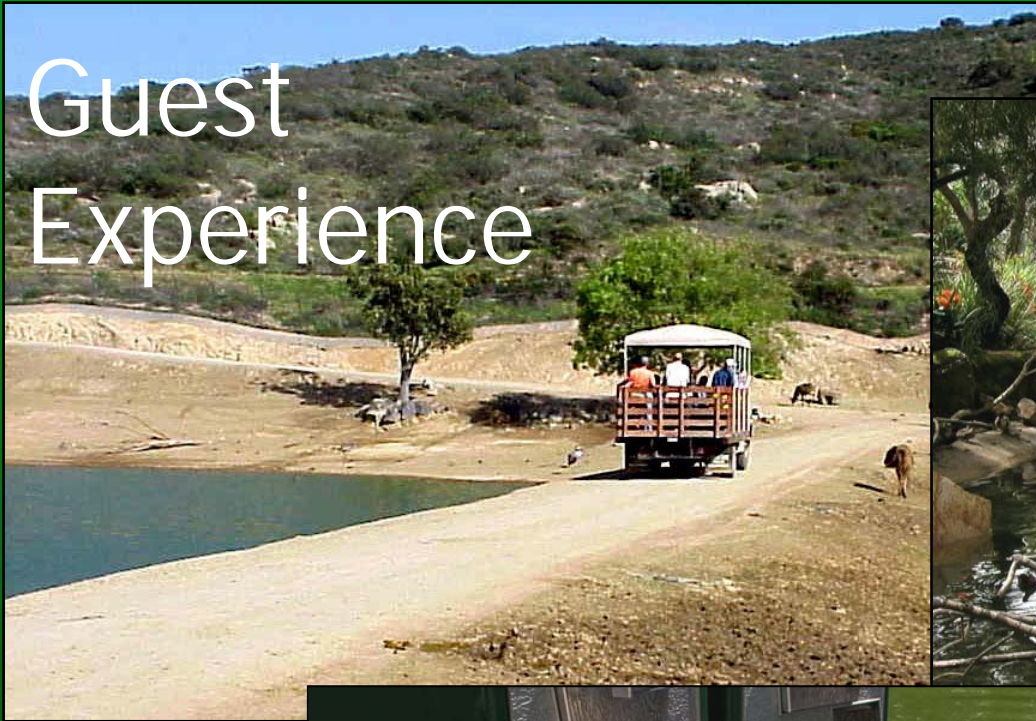
# Project Goals

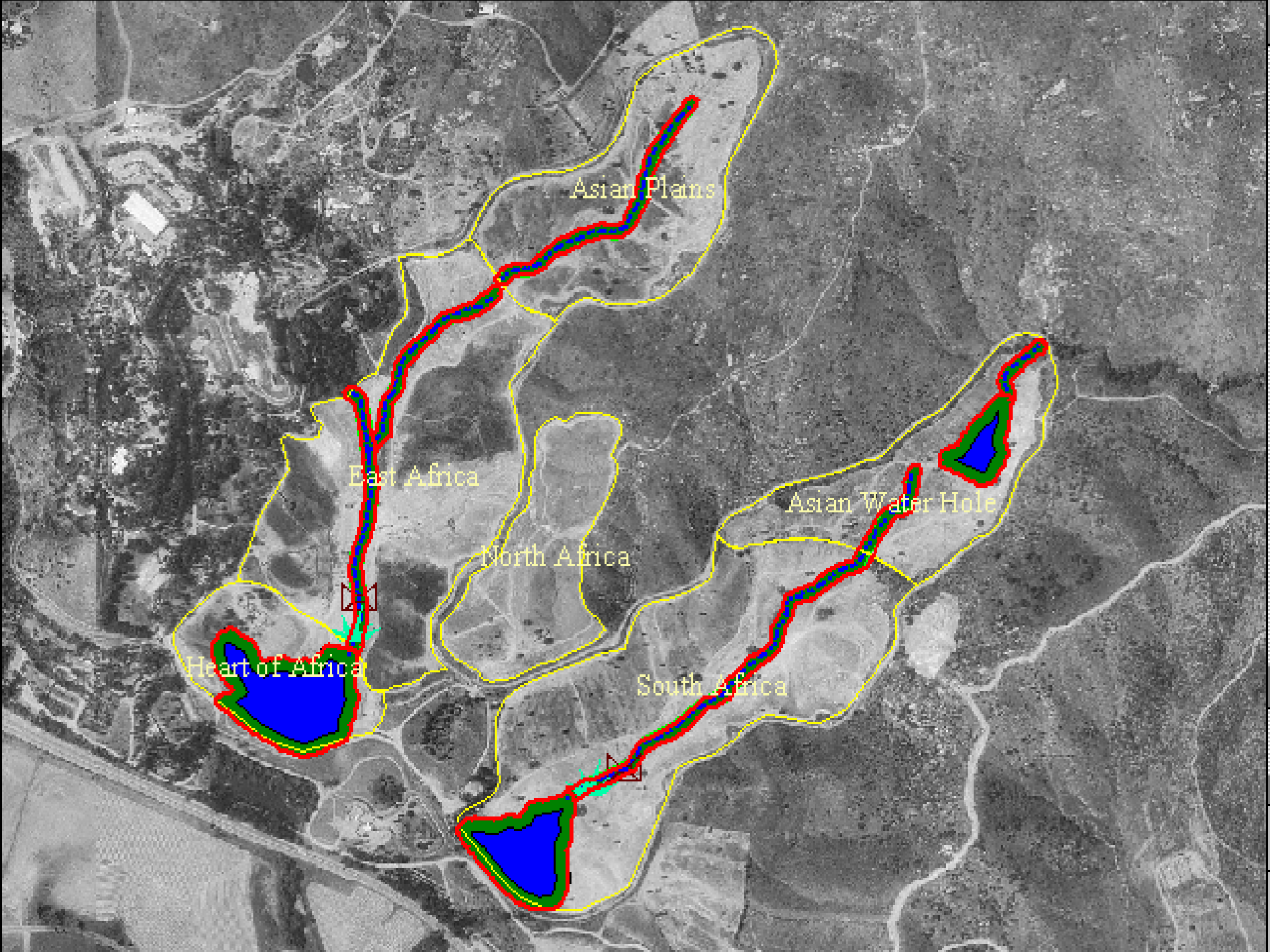
To ensure that water at the WAP is managed in such a way that ...

- 1) Captive and free-living wildlife will have access to only healthy water environments,
- 2) Employees and public health are not at risk through exposure to unhealthy water,
- 3) Managed water environments enhance the guest experience
- 4) The Park will rely less on imported water
- 5) The Park's watershed is managed in an environmentally responsible manner, and
- 6) Our successful story can be a model for outreach.



# Guest Experience





Asian Plains

East Africa

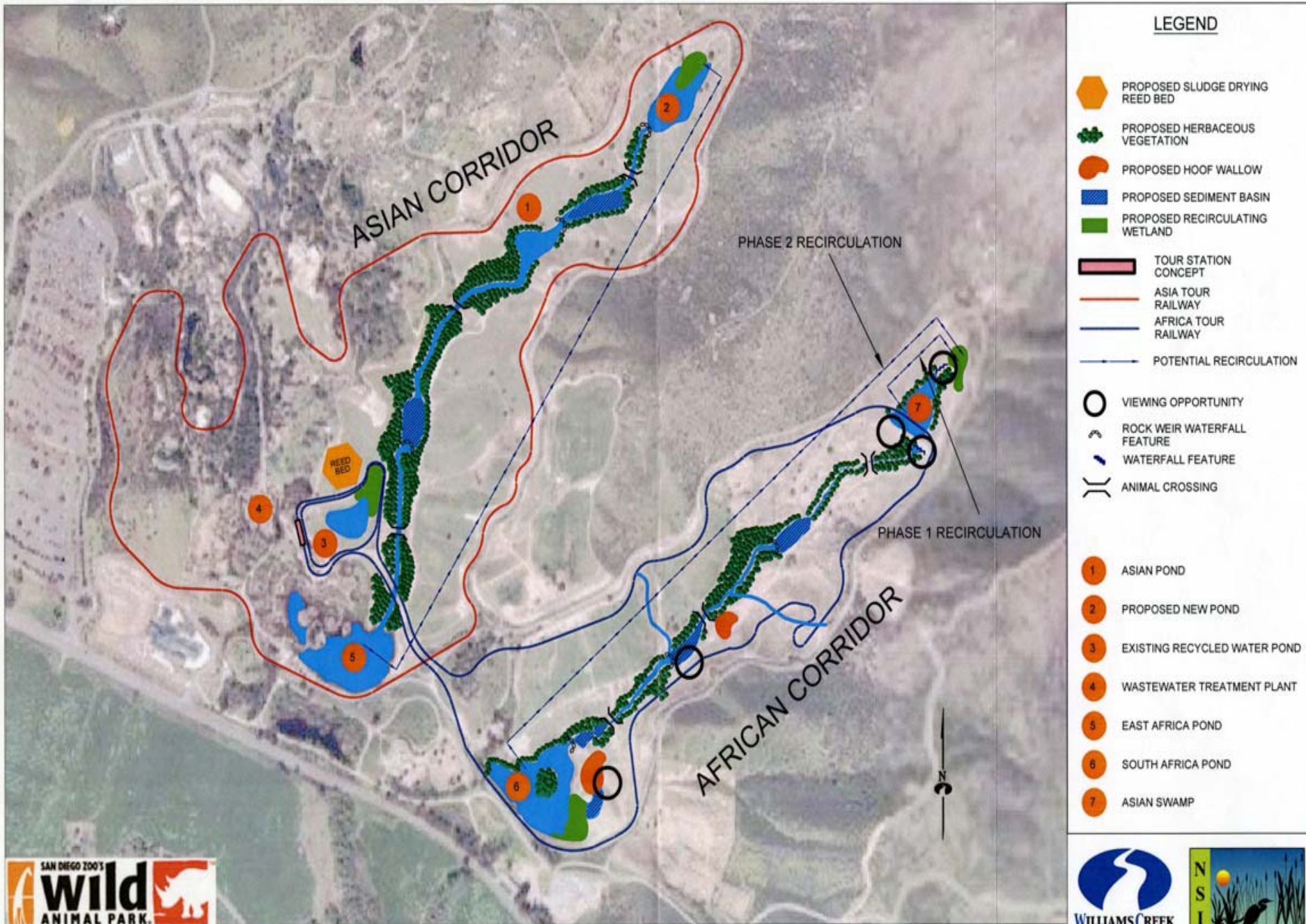
Asian Water Hole

North Africa

Heart of Africa

South Africa





**LEGEND**

- PROPOSED SLUDGE DRYING REED BED
- PROPOSED HERBACEOUS VEGETATION
- PROPOSED HOOF WALLOW
- PROPOSED SEDIMENT BASIN
- PROPOSED RECIRCULATING WETLAND
- TOUR STATION CONCEPT
- ASIA TOUR RAILWAY
- AFRICA TOUR RAILWAY
- POTENTIAL RECIRCULATION
- VIEWING OPPORTUNITY
- ROCK WEIR WATERFALL FEATURE
- WATERFALL FEATURE
- ANIMAL CROSSING
- 1 ASIAN POND
- 2 PROPOSED NEW POND
- 3 EXISTING RECYCLED WATER POND
- 4 WASTEWATER TREATMENT PLANT
- 5 EAST AFRICA POND
- 6 SOUTH AFRICA POND
- 7 ASIAN SWAMP



SAN DIEGO ZOO'S, WILD ANIMAL PARK CORRIDOR RENOVATION CONCEPT

# SAN DIEGO WILD ANIMAL PARK DRAFT WATER MASTER PLAN

February 2006

**DRAFT**



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PBS&J Client/Project No.: 620669.01



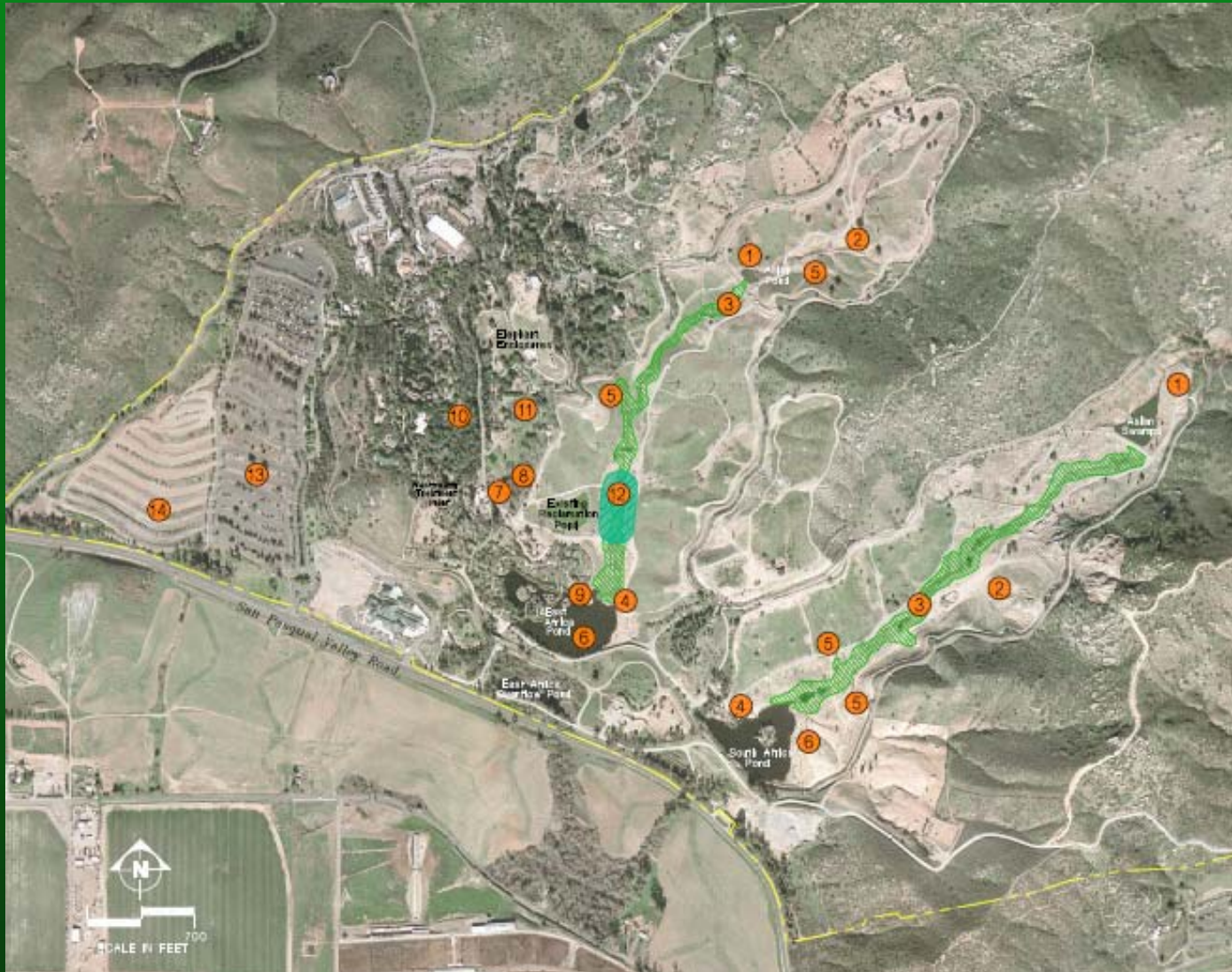
James B. Rasmus, P.E., DEE  
Project Manager



San Diego Wild Animal Park  
Draft Water Master Plan  
February 2006



# Proposed Water Projects



## LEGEND

- 1 Improved detention basin hydraulics
- 2 Phased erosion control, soil conservation
- 3 Showcase riparian corridor
- 4 Enhanced water circulation pumping and plying to maintain steady dry season flow
- 5 Sidestream mud/wallow areas
- 6 Wetlands treatment
- 7 Add tertiary treatment capabilities to existing plant
- 8 Modify existing treatment to reduce noise and odors
- 9 Removing/relocating existing treatment plant
- 10 Build dedicated recycled water system in rainforest area to offset potable water demands
- 11 Divert dry season flows from elephant enclosures to treatment plant/new wetlands treatment. Apply to other areas as well
- 12 Wetlands treatment system
- 13 Runoff recovery, irrigation conservation measures
- 14 Pavement, runoff recovery, irrigation conservation measures

**INITIAL  
PROPOSED PROJECTS**

# Prioritized Water Projects

1. Improve water quality in East Africa Pond
2. Phased erosion control in streambed channels
3. Improve water quality in South Africa Pond
4. Provide tertiary upgrades to WWTP
5. Provide recirculation of ponds and streambeds
6. Provide redundancy of Valley Well
7. Provide combined recycled and ground water storage facilities









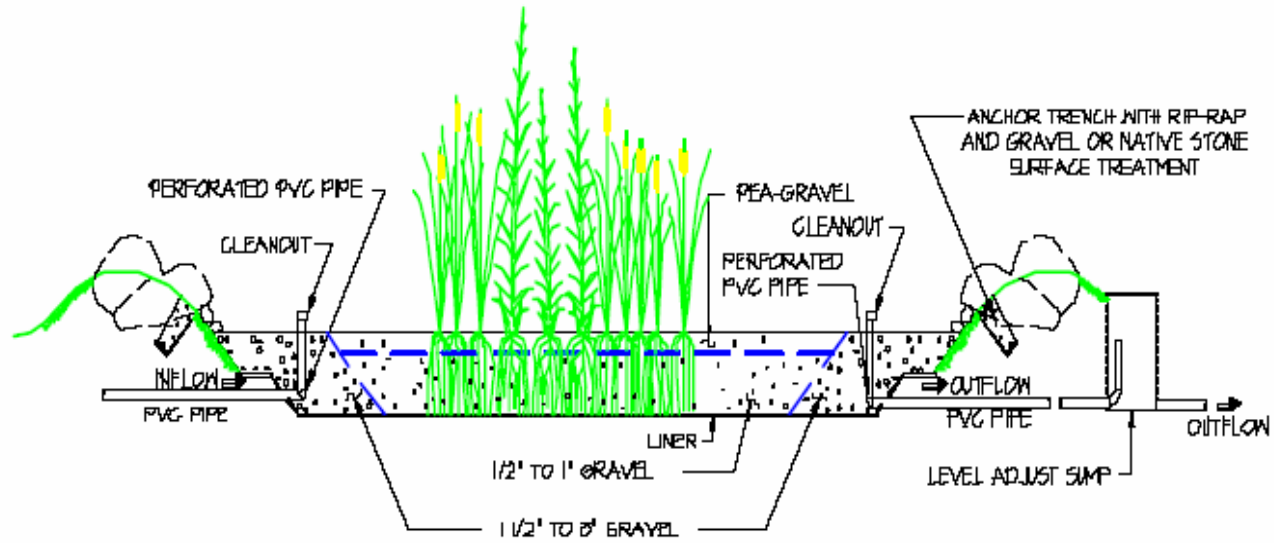


Figure B1. Free Water Surface Constructed Wetlands

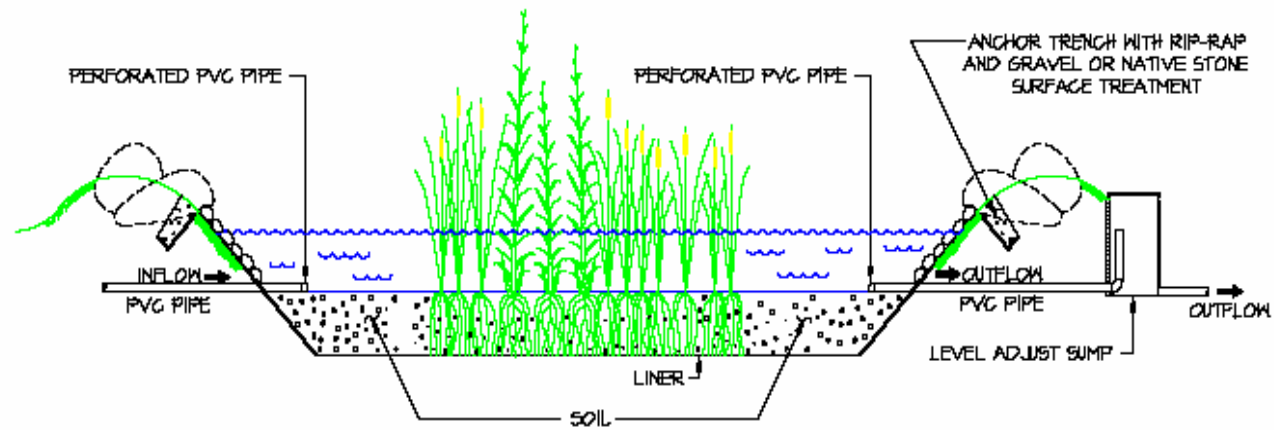
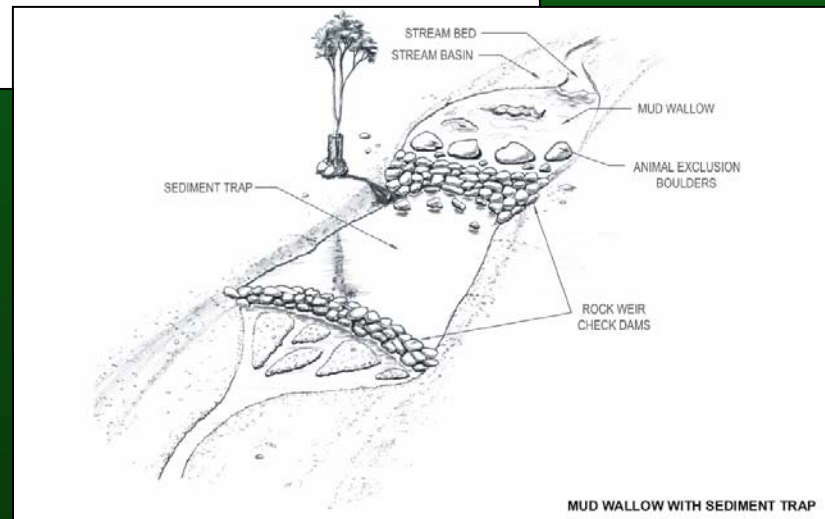
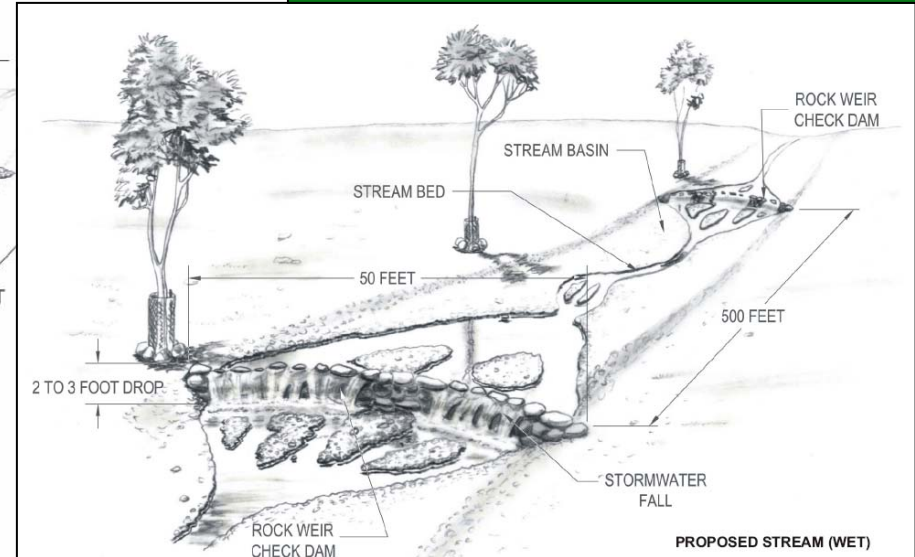
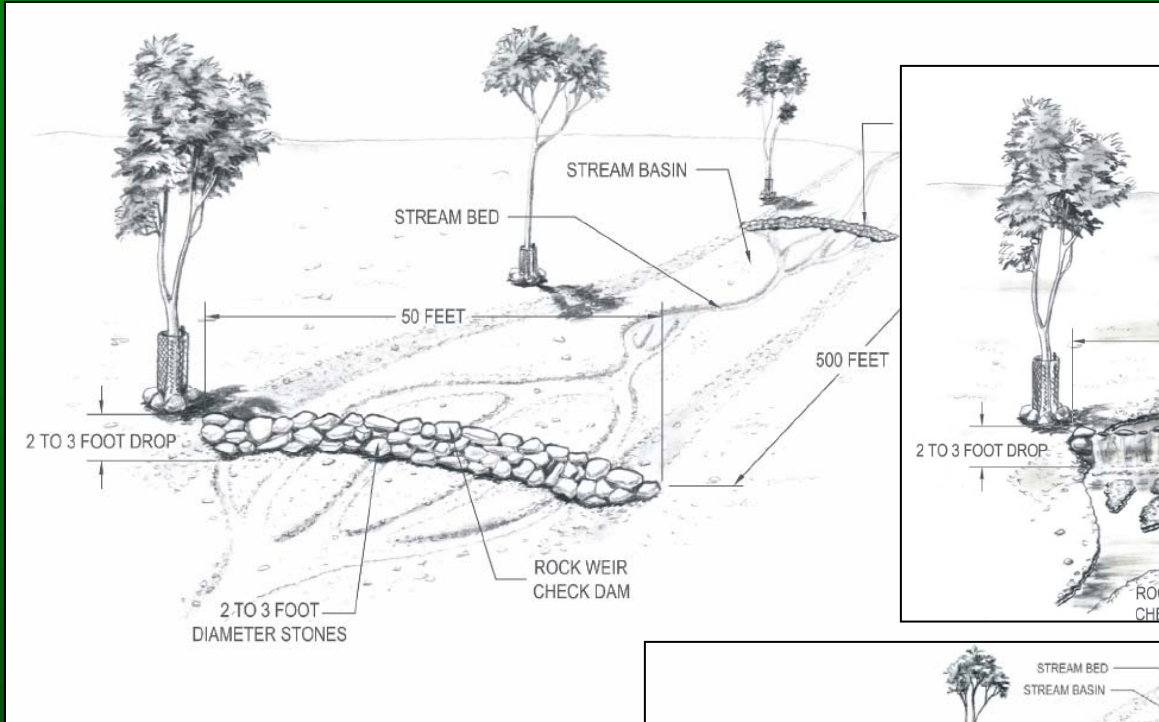
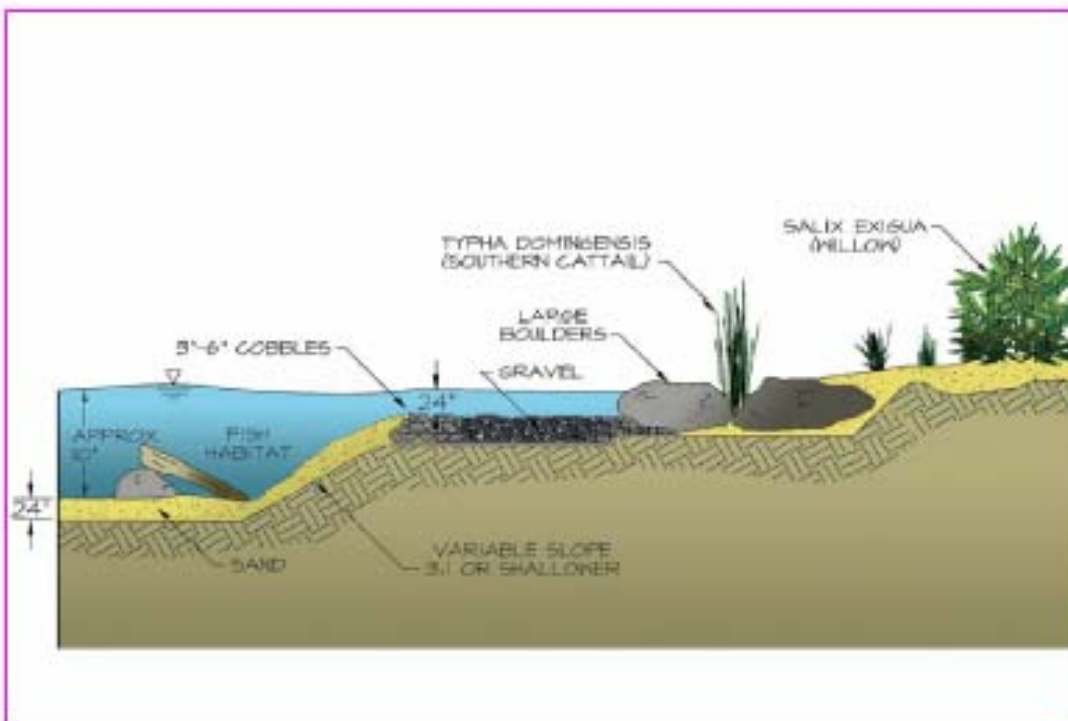


Figure B2. Subsurface Constructed Wetlands

# Dry, wet stream (& mud wallow)



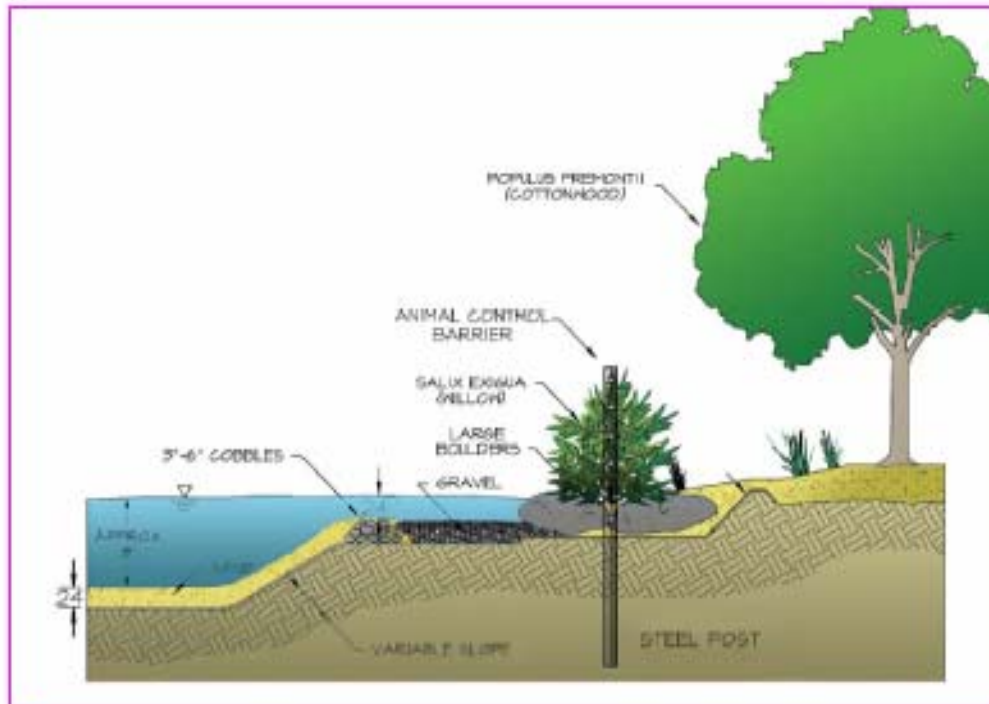




NOT TO SCALE

SHORELINE SECTION #2

FIGURE B5

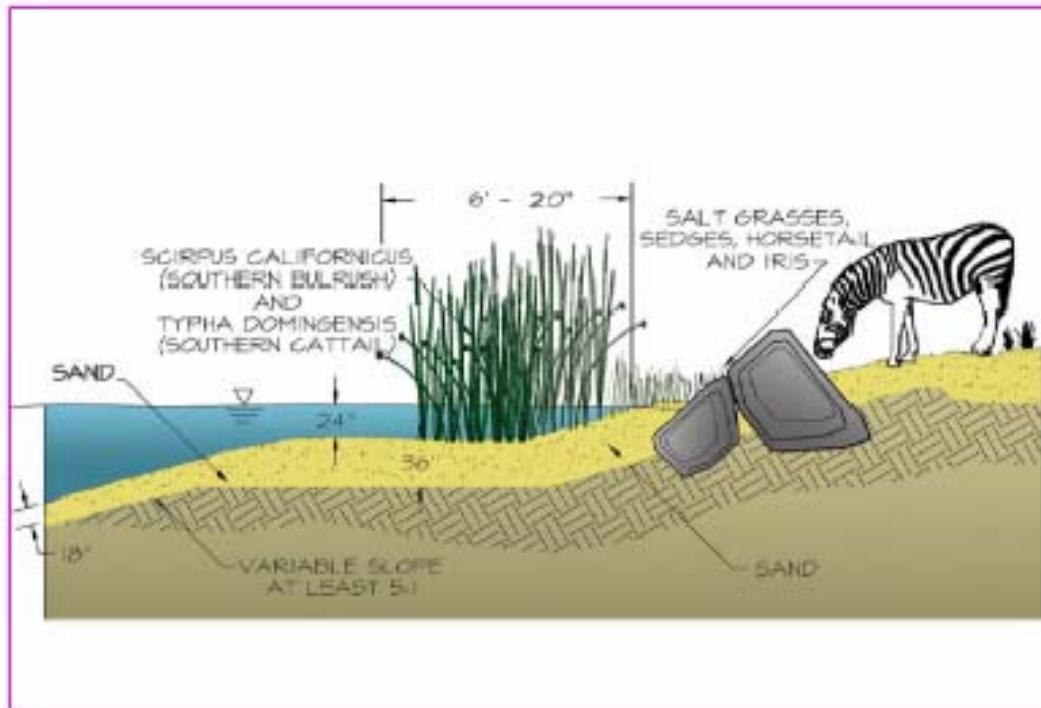


NOT TO SCALE

SHORELINE SECTION #3

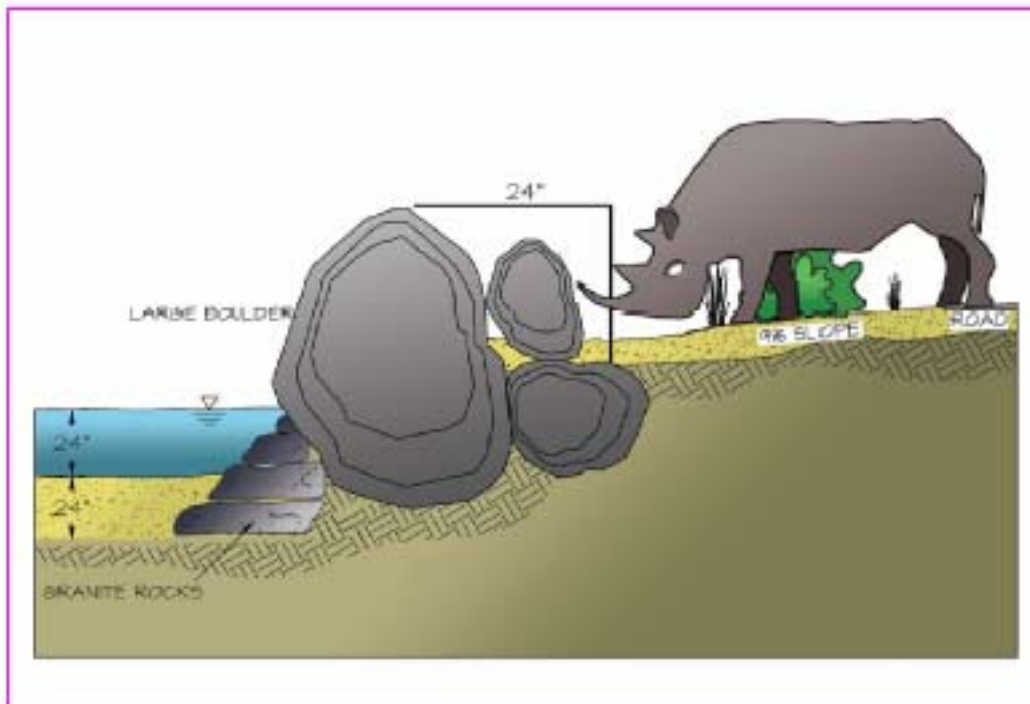
FIGURE B6





NOT TO SCALE

SHORELINE SECTION #5



NOT TO SCALE

SHORELINE SECTION #1

FIGURE B4



# Our Vision

