

COCHISE COUNTY

Engineering & Natural Resources

Board of Supervisors
Work Session
May 9, 2023



Public Programs...Personal Service

COCHISE COUNTY

Engineering Division Updates



Public Programs...Personal Service

Special Event Permitting

- Updated Special Event Permit completed.
- Citizenserve is currently formatting the permit for online use.



Signing

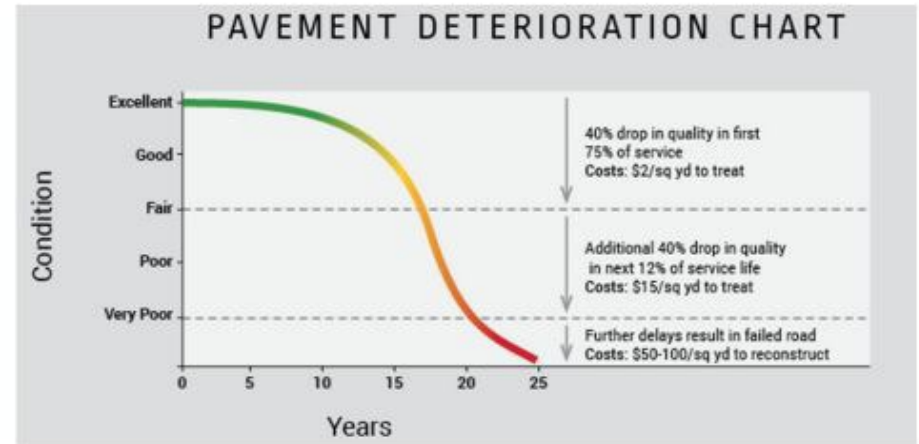
Nighttime Inspections Completed

- Checking for retro reflectivity of existing signs and pavement markings. All County maintained roads completed.



Road Rehabilitation

- Cochise County 2040 Long Range Transportation Plan (2015)
 - Estimated \$434 million to \$1.9 billion to improve roadways to County design standards.
 - An additional \$33 to \$64 million to maintain these roadways.

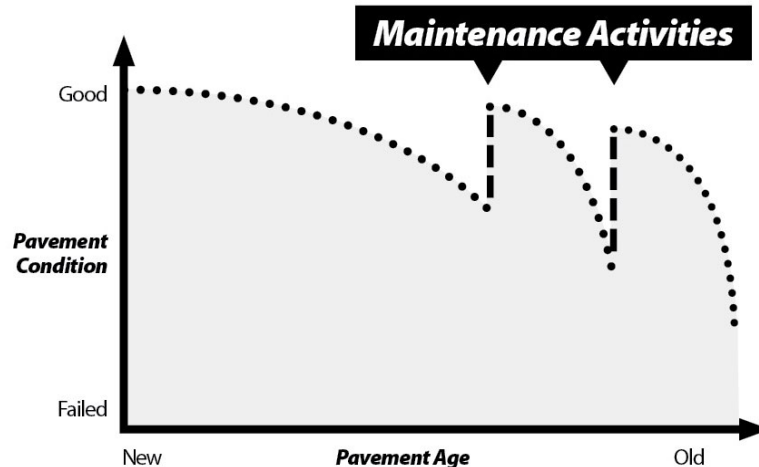
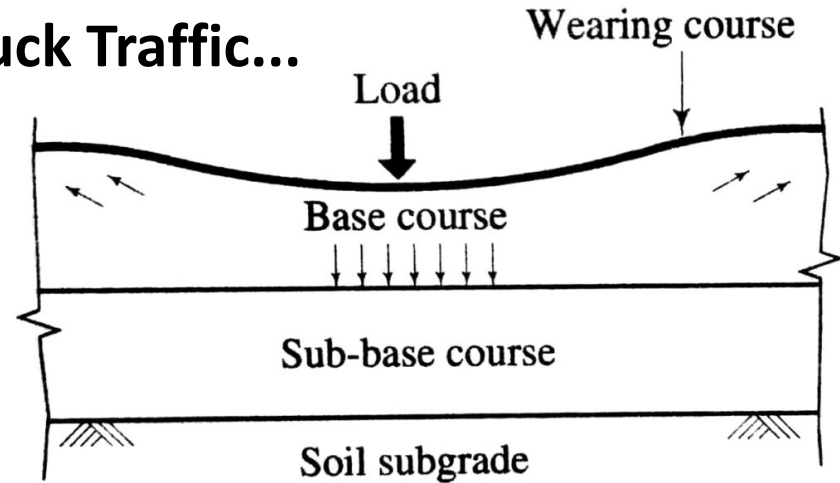


Cochise County 2040 Long Range Transportation Plan

Road Rehabilitation

Why DBST does not work for Truck Traffic...

- A bituminous surface treatment is not a pavement in and by itself. Rather, it provides a protective cover that helps to resist traffic abrasion, and provides a waterproof cover over the underlying structure.
- Prevent surface water from penetrating pavements that have become weathered or cracked;
- Plug voids, coat, and bond loose aggregate particles in pavement surfaces;
- Renew a surface and restore skid resistance to traffic worn pavements;



Road Rehabilitation

Major Roads

- Davis Road
- Charleston Road
- Fort Grant Road
- Kansas Settlement Road
- Dragoon Road
- Moson Road
- Hereford Road
- Washington Avenue
- Naco Highway
- Shelton Road
- Bell Ranch Road
- Noland Road
- Ocotillo Road
- Pomerene Road
- Central Highway
- Double Adobe Road
- Cochise Stronghold Road



Structures

- Geronimo Trail MP 8
 - Design Complete (In-House)
 - Culvert Purchased (\$35,000)
 - Bid received for construction by KE&G (\$236,799)
 - Work to start this month
- Prioritize Replacement List



Neighborhood Traffic Management Program (NTMP)

- NTMP is used for citizen concerns and traffic management of local roads.
- Analyzes Road Traffic Volumes and Speed.
- NTMP study is being performed on San Xavier (Sierra Vista) and Rogers Avenue (Naco). Traffic counts and a speed study has been completed. Placement of temporary speed humps to be completed in July or August on San Xavier.



COCHISE COUNTY

Moson Road

- County Review of the Preliminary Moson Road Design Completed
- Moson Road ADOT Project Initiation Completed



Davis Road

- RAISE Grant application submitted for the 22 mile section of roadway between Highway 80 and N Central Highway.
 - Study and NEPA Clearance
- Davis Road Milepost 5 & 13 approved for \$2,893,000 through Senator Kelly's Discretionary Funds in the 2023 Spending Bill.
 - ADOT Initiation In-process
- Central to US191
 - Acquiring Right-of-Way
 - Completing 100% Design

(Continued on next page)



Roads

- Road Design & Construction Manual Updates
- Road Easements & Right-of-Way
 - Public - Private
 - Subdivision Plat
 - Record of Survey



Survey Flights

- Willow Lakes
- Bay Acres
- Cochise Stronghold
- Jefferson – Whitewater School



COCHISE COUNTY

Flood Control District



Public Programs...Personal Service

Flood Control District

- Citizen Concerns
- Floodplain Regulations
- Commercial Reviews
- Project Updates



Floodplain Regulations

- Develop Drainage Design Manual
- Community Rating System (CRS)
 - Continue 5-yr cycle detailed CRS Reporting complete August
 - Finalizing updates to FCD Regulations to assist with reaching level 8 CRS rating through ADWR and FEMA



Project Updates

- Revised FEMA Mapping, Final 2026
 - Bisbee
 - St David
 - Benson
 - Huachuca City
 - Sierra Vista
 - Hereford
- Municipal Separate Storm Sewer System (MS4) Inspections
- Watershed Studies
 - Willcox Basin \$250,000 (Pending BRIC Grant)
 - Elfrida



COCHISE COUNTY

The Value of Updated Flood Maps for Local Communities



Identifying and Assessing Flood Risk



Establishing Flood Insurance Rates



Determining Local Land Use



Informing Engineers and Developers



Equipping Emergency Managers

Risk changes over time

•All floods are different. Nature and communities change.

Flooding happens

•Communities may face flooding. It's important to understand how and where flooding could occur to assess impacts.

Mitigation is Possible

•Proactive communities plan to reduce flood impacts and other hazards.



FEMA

Federal Emergency Management Agency



COCHISE COUNTY

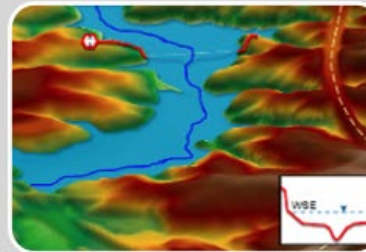
Flood Risk Studies – An Overview



Hydrology

Volume of water?

When will storm water or runoff make it to the stream?



Hydraulics

Will the stream in question be able to convey all storm water or runoff that arrives?



Floodplain Mapping

What areas of a community will be inundated based on engineering analysis?

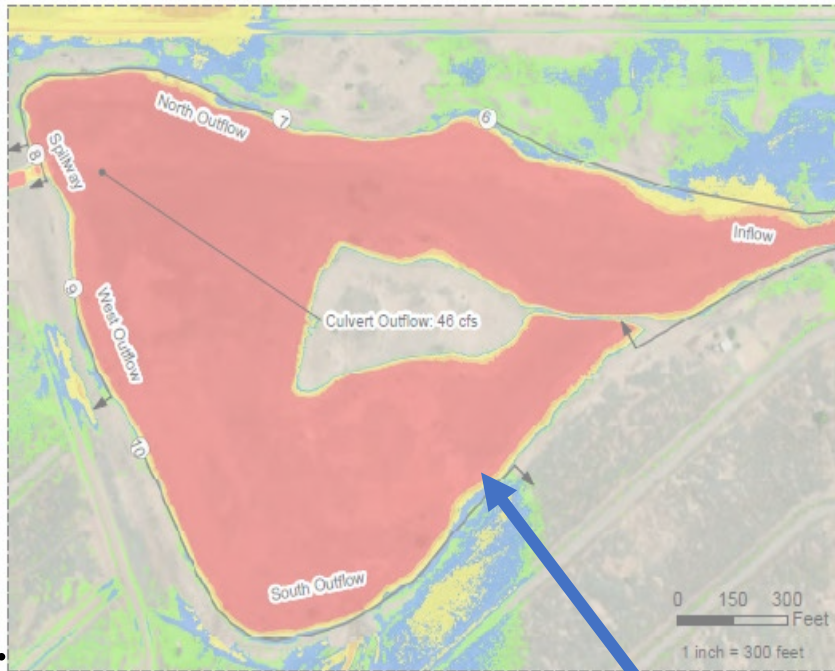


FEMA

Federal Emergency Management Agency



COCHISE COUNTY Leslie Canyon Pond



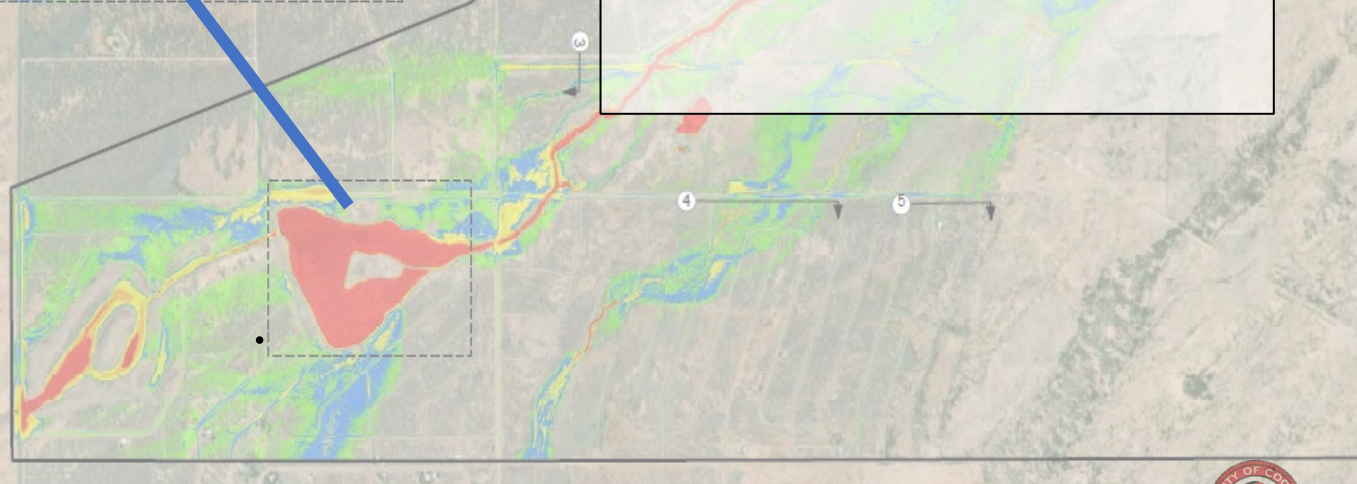
DISCHARGE SUMMARY	
CROSS SECTION	DISCHARGE [CFS]
1	96
2	41
3	239
4	666
5	17
6	2852
7	886
8	203
9	2
10	1283

Design Consultant \$219,250

- Utility coordination
- Design concept for spillway which meets storage threshold (50 acres feet)
- Running new HECRAS 2D models for modified spillway and reduced storage

Legend

- Cross Section
- ▭ 2D_Study_Limits
- Flow Depth [ft]
- 0.0 - 0.2
- 0.2 - 0.5
- 0.5 - 1
- 1 - 2
- 2 - 3
- 3 - 17



Bay Acres



- Design Consultant \$261,791
- Hydrologic analysis (33%)
- Hydraulic analysis (28%)
- Design (36%)

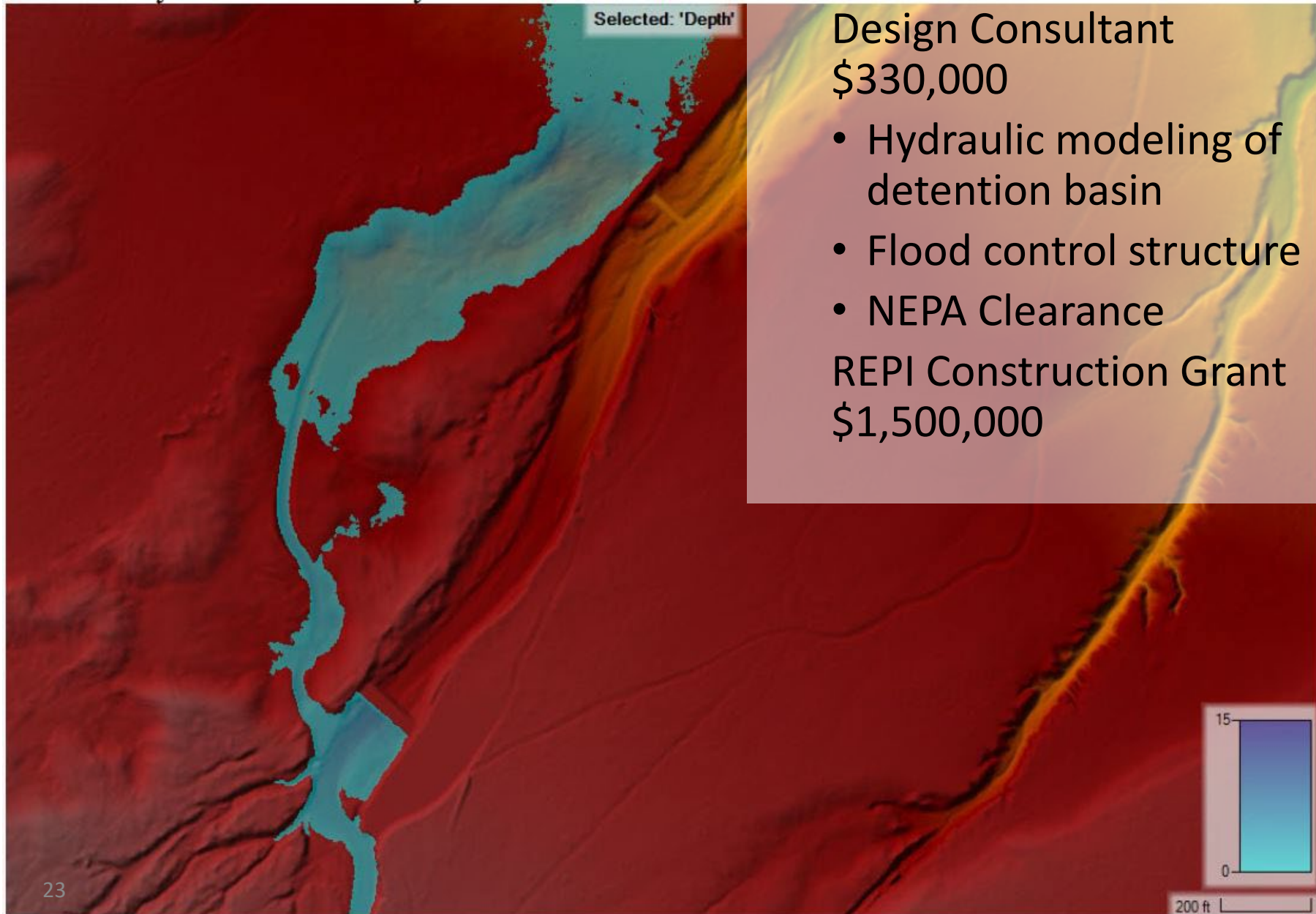
COCHISE COUNTY

Upper San Pedro Projects

- Riverstone
 - REPI Grant \$900,000
 - Final Design & Engineering
- Horseshoe Draw
 - Armor around outlet pipes
 - Design outlet fix
- Bisbee Effluent
 - Design Concept Report \$345,000
 - \$250,000 Grant & \$95,000 FCD



COYOTE WASH



Design Consultant
\$330,000

- Hydraulic modeling of detention basin
- Flood control structure
- NEPA Clearance

REPI Construction Grant
\$1,500,000

Questions ?

