2023 ANNUAL REPORT ON FEDERALLY FUNDED PROJECTS

Southern Sandoval County Arroyo Flood Control Authority

EST 1990

Lower Montoyas Arroyo 2023

SOUTHERN SANDOVAL COUNTY ARROYO FLOOD CONTROL AUTHORITY

MESSAGE FROM THE CHAIRMAN

MR. RON ABRAMSHE

SSCAFCA has emerged from the pandemic healthy and ready to continue moving forward with its balanced approach to flood control, the environment, and water conservation. SSCAFCA continues to improve its understanding of how best to manage our arid ephemeral arroyos to provide both flood and erosion control while preserving natural systems of surface water infiltration into the bottoms of natural arroyos as well as maintaining healthy sediment transport regimes to minimize sediment starved, aggressive water in our natural systems.

While SSCAFCA has continued to advance and complete several critical flood control projects throughout its jurisdiction, we also have been completing research to quantify the impact of our natural arroyos on the water balance within our jurisdiction as well as develop frameworks for preserving to greatest extent possible the natural bottoms of our arroyos for infiltration while still providing critical erosion and flood control. This booklet summarizes our activities over the past year. Inside you will find information on flood and erosion control projects and initiatives that are currently the focus of our organization.

We have included a summary of all the projects that have received, or are in the process of receiving, the benefit of federal funding, as well as a list of other projects that remain unfunded at the present time. We are very grateful for the federal support that has allowed these projects to move forward and we are pleased to be able to show you the progress we have made on those projects.

I hope that you find the information in this booklet informative and useful. As always, if you would like further details or information on any of the enclosed materials, we are available for further discussion.

Sincerely,

Ron Abramshe

Ron Abramshe
Chariman
SSCAFCA Board of Directors

INTRODUCTION

Established in 1990 by New Mexico Statute Section 72-19-1 through 72-19-103, Southern Sandoval County Arroyo Flood Control Authority (SSCAFCA) is an independent corporate political body with an elected board empowered to undertake the acquisition, improvement, maintenance and operation of flood and storm water control facilities on streams and watershed which enter, originate or cross the Authority's facilities.

SSCAFCA serves the communities of Rio Rancho, the Village of Corrales, the Town of Bernalillo and southern Sandoval County, New Mexico.

MISSION

- Protect citizens and property by implementing proven flood control solutions that:
  - Manage our watersheds prudently for future generations
  - Enhance the Quality of Life
  - Create the most appealing multi-use facilities
  - Set an example of quality, integrity, leadership, and professionalism
  - Educate the public concerning flood hazards
  - Administer public funds prudently

GOALS AND COMMITMENTS

1. Provide flood protection up to the 100 year storm for the public health, safety and welfare of residents and properties within its boundaries.
2. Recognize the value of land purchased or controlled for floodways as areas with multi-use potential.
3. Reduce sediment and erosion within the boundaries of the flood control authority.
4. Assist in the coordination of flood control with other entities for the common good of the public.

AREAS OF EMPHASIS

Stormwater Quality – Urban stormwater runoff is a source of pollution in the nation's waters. We are working to provide treatment at all outfalls to the Rio Grande from our jurisdiction, protecting our limited surface waters.

Resiliency – In the midst of a record drought, preservation of groundwater recharge areas is critical to drought resiliency. SSCAFCA's natural arroyos are excellent at infiltrating stormwater into groundwater.

Flood and Erosion Control -It's not just flooding that destroys in the desert. Our highly erodible soils are easily mobilized during storm events.

QUALITY-OF-LIFE

RESEARCH

OPEN SPACE

FLOOD/EROSION CONTROL EMPHASIS

As a Flood Control Authority, SSCAFCA naturally is concerned with stormwater imppacts from flooding; however erosion is equally hazardous to development and infrastructure adjacent to natural arroyos. SSCAFCA works to protect infrastructure and development from both of these hazards while balancing our other areas of emphasis. Other important concepts to keep in mind during project selection and design is the maintenance of sediment transport in the system. By continuing to maintain healthy sediment transport in these natural systems, natural channels will be less prone to vertical incision.

SSCAFCA ACTION:
CONTINUE THROUGH OUR WATERSHED PARK PLANNING EFFORTS TO IDENTIFY FLOOD AND EROSION PRONE AREAS.

EROSION

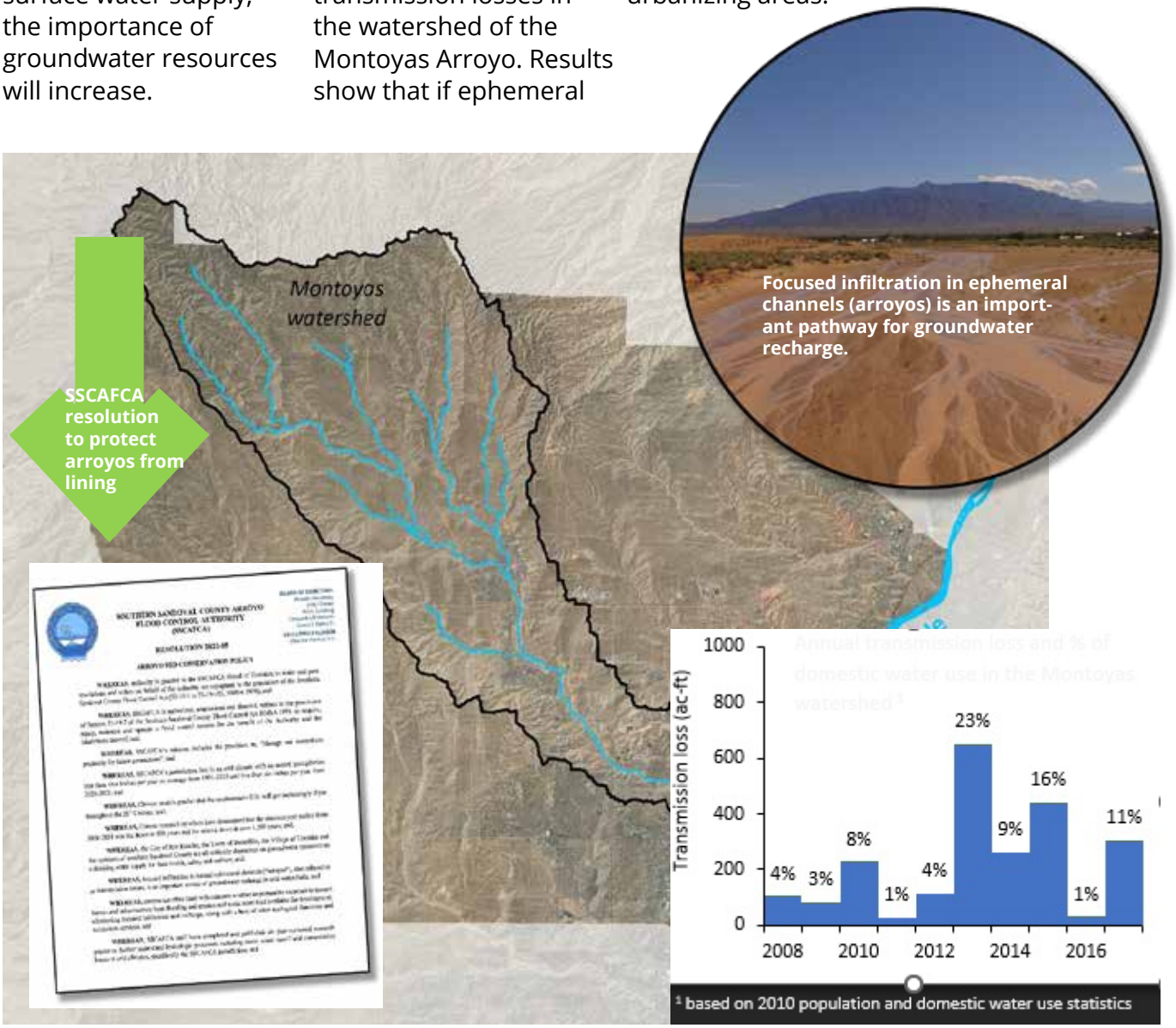
FLOODING

(DROUGHT) RESILIENCE = PROTECTION OF EPHEMERAL CHANNELS

Water resources in dryland areas are particularly sensitive to variability and climate change. Climate models predict that the southwestern U.S. will get increasingly dryer throughout the 21st century. Already, the 22-year period from 2000-2021 was the driest in over 1,200 years. Given growing uncertainty of snowmelt-driven surface water supply, the importance of groundwater resources will increase.

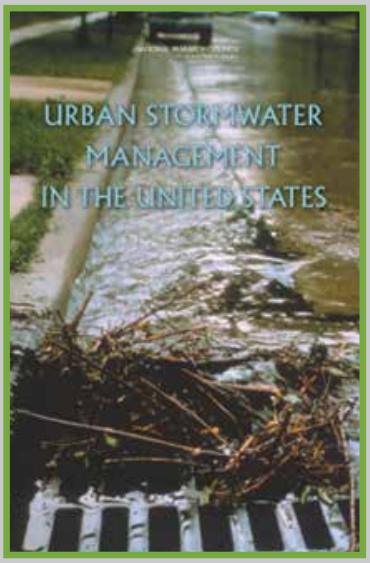
All communities within SSCAFCA's jurisdiction rely on groundwater to fulfill municipal demand. Focused infiltration in ephemeral streams (also called transmission loss) is an important source of groundwater recharge in dryland areas. In a recent study, SSCAFCA evaluated the impacts of urbanization and stormwater infrastructure on transmission losses in the watershed of the Montoyas Arroyo. Results show that if ephemeral channels remain natural, transmission losses on average comprise 7-10% of annual domestic water use in the basin. Preservation of ephemeral channels, in particular permeable channel beds, is crucial for protecting this important infiltration function, and should be considered a viable strategy for managed aquifer recharge in urbanizing areas.

SSCAFCA ACTION: MAKE PRESERVATION OF ARROYO BOTTOMS A PRIORITY IN DESIGN



STORMWATER QUALITY EMPHASIS

The National Research Council published a report in 2008 called Urban Stormwater Management in the United States. This report concluded that urban stormwater runoff is one of the largest sources of surface water contamination in the country. Surface water in New Mexico is an especially precious and rare commodity and preventing pollution from entering water bodies is a priority of SSCAFCA.



The techniques for treating storm water do not need to be overly complicated. Effective removal of floatable trash, fats, oils, greases and sediment can be accomplished with or other storm water management facilities. inverted port structures placed within arroyos.

SSCAFCA ACTION: EQUIP ALL NEW FACILITIES WITH STORMWATER QUALITY FEATURES. TREAT ALL WATERSHEDS BEFORE DISCHARGE TO RIVER.

SSCAFCA has constructed one facility for treatment of stormwater at the bottom of the Montoyas Watershed. This facility has proven effective in removing floatable debris and sediment from this highly urbanized storm water flow. This type of facility, in tandem with water quality structures located within all of our stormwater detention facilities, provides the best available treatment of storm water discharging to the Rio Grande.

From this

To this

Typical water quality tower

Trash removed from storm event

FEDERAL FUNDING - LOCAL BENEFITS

Since 2012, the Southern Sandoval County Arroyo Flood Control Authority has completed numerous projects that have benefited from federal funding with additional projects that are funded and are currently in design or construction. It would not have been possible to complete these projects in a timely manner without federal funding. SSCAFCA believes it is critical to let our federal partners know about the success of the projects and importance of the federal funding to SSCAFCA achieving its mission. In order to achieve the milestones that we have accomplished so far, we have taken a strategic approach to project funding and development which is based on three guiding principles:

1. Be Prepared. Before we seek funding to complete a project, SSCAFCA completes a detailed plan of the project, sometimes including a full design. This includes completing a cost-benefit analysis to verify that the benefit provided by the project will exceed the cost of development.

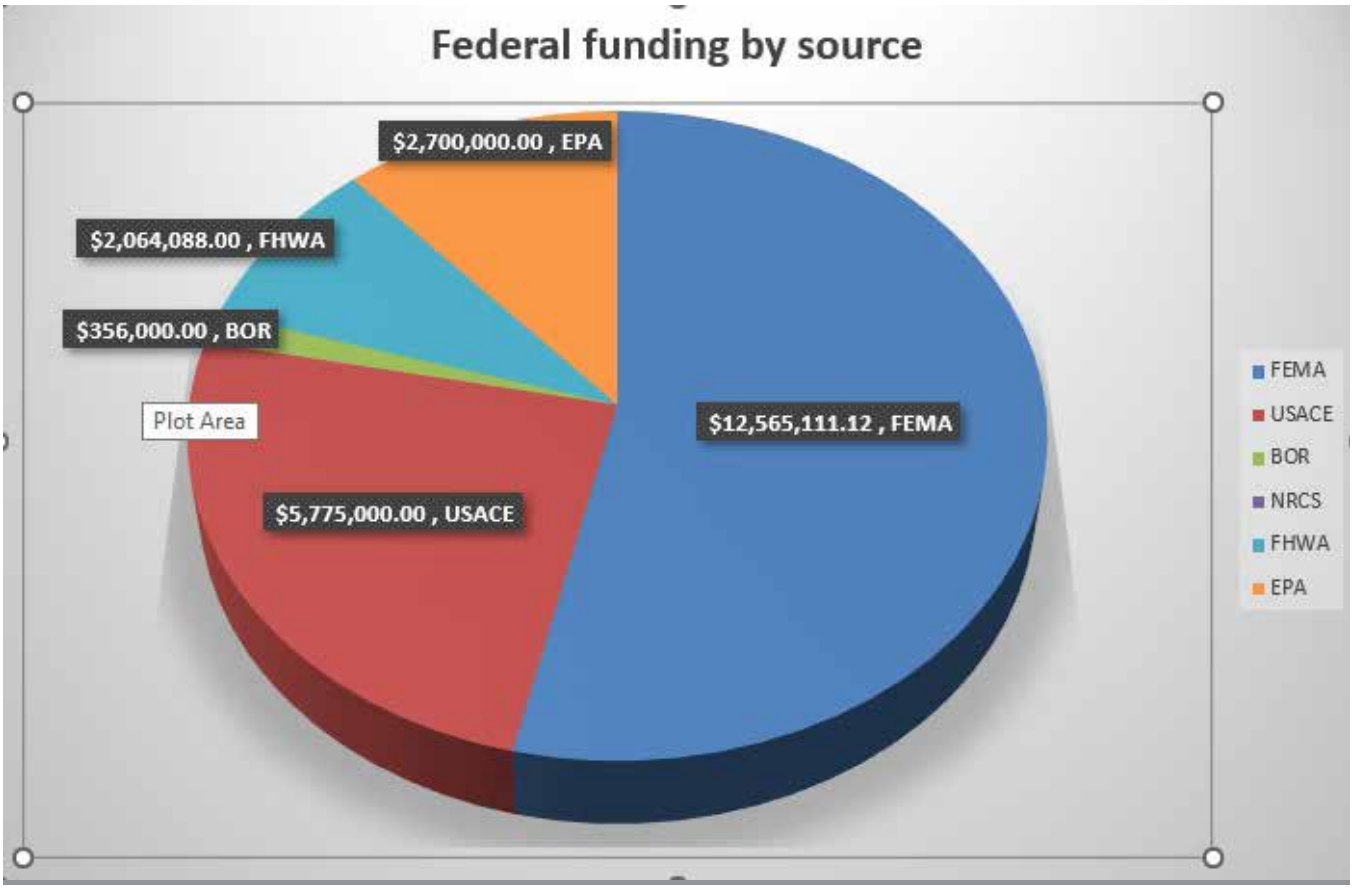
2. Engage our Community. Whether it is ensuring we have met with local residents or working with other state and local partners to secure matching funds, we want to make sure we are proceeding with a project that is fully funded and has broad local support.

3. Be Efficient. In today's economy, we understand that every dollar, federal or otherwise, is a precious resource and we strive to ensure the funding is spent in a timely and effective manner. For the list of projects included in this report, the average time for SSCAFCA to take a project from grant award to completion is under 23 months - less than two years. We feel this demonstrates the success of our strategic approach.

SSCAFCA is dedicated to continuing to evolve our project designs as our knowledge and understanding of processes in our arid environment expands. Research conducted by SSCAFCA personnel and published in national publications has reinforced our desire to maintain natural bottom of our arroyos to preserve infiltration to groundwater capaiblities. Experience and monitoring of these natural systems has also played a role on the direction of our facility construction. A thorough understanding of sediment transport and the experience of managing natural systems in an urban environment has steered our designs, when possible, toward off-channel facilities for stormwater detention versus traditional, in-line facilities.

FEDERAL FUND PORTFOLIO (2012 – 2023)*

*INCLUDES RECENTLY AWARDED PROJECTS AND IN-KIND SERVICES




Lower Montoyas Water Quality feature

SSCAFCA has successfully utilized a diverse array of funding from various Federal agencies to implement flood control solutions in our jurisdiction. Over the past 10 years, the agency has developed a highly efficient and successful process to deliver 13 projects using federal, state and local funding.

Southern Sandoval County Arroyo Flood Control Authority

Federally Funded Projects

Project Name	Federal Fund Source	Federal Share	Project Cost	Award Date	Completion Date	Project Status
Lower Montoyas Water Quality Improvements	EPA Clean Water State Revolving Fund	$2,000,000	$2,138,190	3/5/2013	**10/7/2015**	COMPLETE
Harvey Jones Channel Improvements	FHWA Transportation Improvement Program	$600,000	$1,343,330	10/9/2013	**5/22/2015**	COMPLETE
Black Arroyo Bridge & Trails, Phase 1	FHWA Transportation Alternative Program	$620,480	$1,115,036	8/8/2014	**4/13/2016**	COMPLETE
Alberta Road Drainage Improvements	FEMA Hazard Mitigation Grant	$1,171,445	$1,811,422	2/4/2015	**3/31/2017**	COMPLETE
Black Arroyo Bridge & Trails, Phase 2	FHWA Transportation Alternative Program	$351,422	$469,703	9/11/2015	**8/8/2017**	COMPLETE
Montoyas Bank Stabilization	FEMA Hazard Mitigation Grant	$274,538	$472,131	9/15/2015	**7/15/2016**	COMPLETE
Lisbon Channel Access & Trail Improv	FHWA Transportation Alternative Program	$542,168	$689,501	3/1/2017	**10/9/2018**	COMPLETE
Lomitas Negras Flood Control, Phase 2	FEMA Hazard Mitigation Grant	$4,064,881	$5,419,841	3/15/2017	**2/6/2020**	COMPLETE
Cactus Ponds Flood Control	FEMA Pre-Disaster Mitigation	$1,405,805	$1,934,277	2/2/2018	**5/18/2020**	COMPLETE
Lisbon Dam & Channel Improvements	FEMA Hazard Mitigation Grant	$1,554,194	$2,173,091	3/1/2018	**4/20/2021**	COMPLETE
Natural Playa Preservation	EPA Clean Water State Revolving Fund	$700,000	$700,000	10/11/2016	**N/A**	ACTIVE
Upper Bosque de Bernalillo	FEMA Pre-Disaster Mitigation	$395,605	$527,473	11/12/2019	12/16/2020	COMPLETE
Lower Montoyas Bank Stabilization	FEMA Pre-Disaster Mitigation	$3,238,691	$4,318,254	4/21/2020	3/18/2023	COMPLETE
Riparia Pond Drain. Improv., Design	FEMA Pre-Disaster Mitigation	$195,338	$65,112	9/17/2020	2/7/2023	COMPLETE
Industrial Park WQ @ Tortugas Arroyo	USACE - Section 595 Program	$1,500,000	$2,000,000	2/22/2021	N/A	**ACTIVE**
Middle Venada WQ Drain Improvements	USACE - Section 595 Program	$1,850,000	$2,467,000	8/3/2021	N/A	ACTIVE
Upper Venada WQ Drain Improvements	USACE - Section 595 Program	$2,800,000	$3,733,000	11/17/2022	N/A	ACTIVE
Nightglow Avenue Flood Risk Reduction	FEMA BRIC Grant	$215,689	$283,111	9/8/2022	N/A	ACTIVE
Thermopylae Diversion, Phase 1	FEMA Hazard Mitigation Grant	$335,174	$370,456	1/20/2023	N/A	ACTIVE

LISBON CHANNEL FLOOD PREVENTION PROJECT

Photo #1 – Lisbon Project, Pre-Construction, 2020

FUNDING SOURCE: FEMA HAZARD MITIGATION GRANT PROGRAM

PROJECT COST: $2,173,091.00

Photo #2 - Lisbon Project, Post Construction, 2022

LOWER MONTOYAS BANK STABILIZATION PROJECT

Photo #1 – Lower Montoyas Pre-Construction, 2019

FUNDING SOURCE: FEMA PRE-DISASTER MITIGATION, PROJECT COST: $4,318,254.24

Photo #2 – Lower Montoyas Post-Construction, 2022

Southern Sandoval County Arroyo Flood Control Authority

Future Needs

Project Name	Description	Potential Federal Funding Source	Estimated Project Cost
Thermopylae Diversion Drainage Project, Phase 2	Divert flows from three arroyos to the Calabacillas to protect downstream infrastructure including a regional high pressure natural gas line. Currently, SSCAFCA has received funding from FEMA for Phase 1, project design, through the Hazard Mitigation Grant Program	FEMA, HMGP	$3,100,000
Lisbon Channel Improve, Southern to Ped Bridge	Construct bank and grade control structures along this heavily incised reach of the Lisbon Channel, protecting adjancent development while preserving the natural bottom of arroyo. FEMA HMGP grant for this project has been applied for.	FEMA, HMGP	$1,795,250
Arroyo Access & Trails System	Acquisition and conservation of over 87 miles of arroyo bank to be used as flood control facility access and for recreational trail systems, connecting the high mesa with the Rio Grande Valley.	FHWA, TAP	$10,153,000
Riparia Pond Construction	Construct a flood control facility with water quality features to treat urban storm water runoff from large commercial area in the Rio Rancho urban core. USACE Section 593/595 funding has been applied for.	USACE, WRDA Section 593	$3,150,000
La Barranca Arroyo Water Quality Improvements	Construct a water quality structure in the La Barranca arroyo to treat storm water for floatable debris and sediment prior to discharging to the Rio Grande. USACE Section 593/595 funding has been applied for.	USACE, WRDA Section 593	$3,100,000
North Hills Off-Channel Water Quality Project	Provide a singular or series of off channel flow reduction and debris removal facilities to protect downstream infrastructure and improve water quality. USACE Section 593/595 funding has been applied for.	USACE, WRDA Section 593	$7,845,000
Montoyas Arroyo Bank and Grade Stablizaton Project	Develop grade control and bank protection along an unrestrained segement of the Montoyas Arroyo within the City of Rio Rancho to protect high pressure gas mains, sanitary sewer collection system, and adjacent development and infrstructure. FEMA HMGP grant for this project has been applied for. Project can be constructed in phases to fit available funding.	FEMA, HMGP or BRIC	$11,000,000
Honduras Ave Watershed Improvements	Construct a series of ponds and storm drain facilities to protect existing development and infrastructure. FEMA HMGP grant for this project has been applied for.	FEMA, HMGP or BRIC	$5,558,000
Lisbon Channel Improve, Tarpon Ave. to Southern Blvd.	Stabilize the existing urban channel with hardened elements to halt erosion occurring along this reach of the Lisbon Channel system. USACE Section 593/595 funding has been applied for.	USACE, WRDA Section 593	$2,800,000

LA BARRANCA FLOOD MITIGATION AND WATER QUALITY PROJECT

Project Site Map

1 inch = 800 feet

N

0 487.5 975 ft

Date: 2/23/2021

Southern Sandoval County Arroyo Flood Control Authority

- Acquired, Fee Simple
- Acquired, Easement
- Other, <Null>
- Planned Acquisition, <Null>
- SSCAFCA boundary
- Parcels CORR

LA BARRANCA FLOOD MITIGATION AND WATER QUALITY PROJECT

SSCAFCA is proposing to reduce stormwater impacts which flow from the City of Rio Rancho into the Rio Grande. Storm flows from the La Barranca Arroyo discharge directly to the Rio Grande without any treatment or attenuation. The La Barranca Flood Mitigation and Water Quality Project will remove debris and contaminants from storm flows as well as consolidate storm flows from three separate tributaries to protect adjacent infrastructure.

Total Cost: $3,100,000

Objective:

To protect adjacent and downstream infrastructure and provide water quality treatment to remove debris and sediment from entering the Rio Grande.

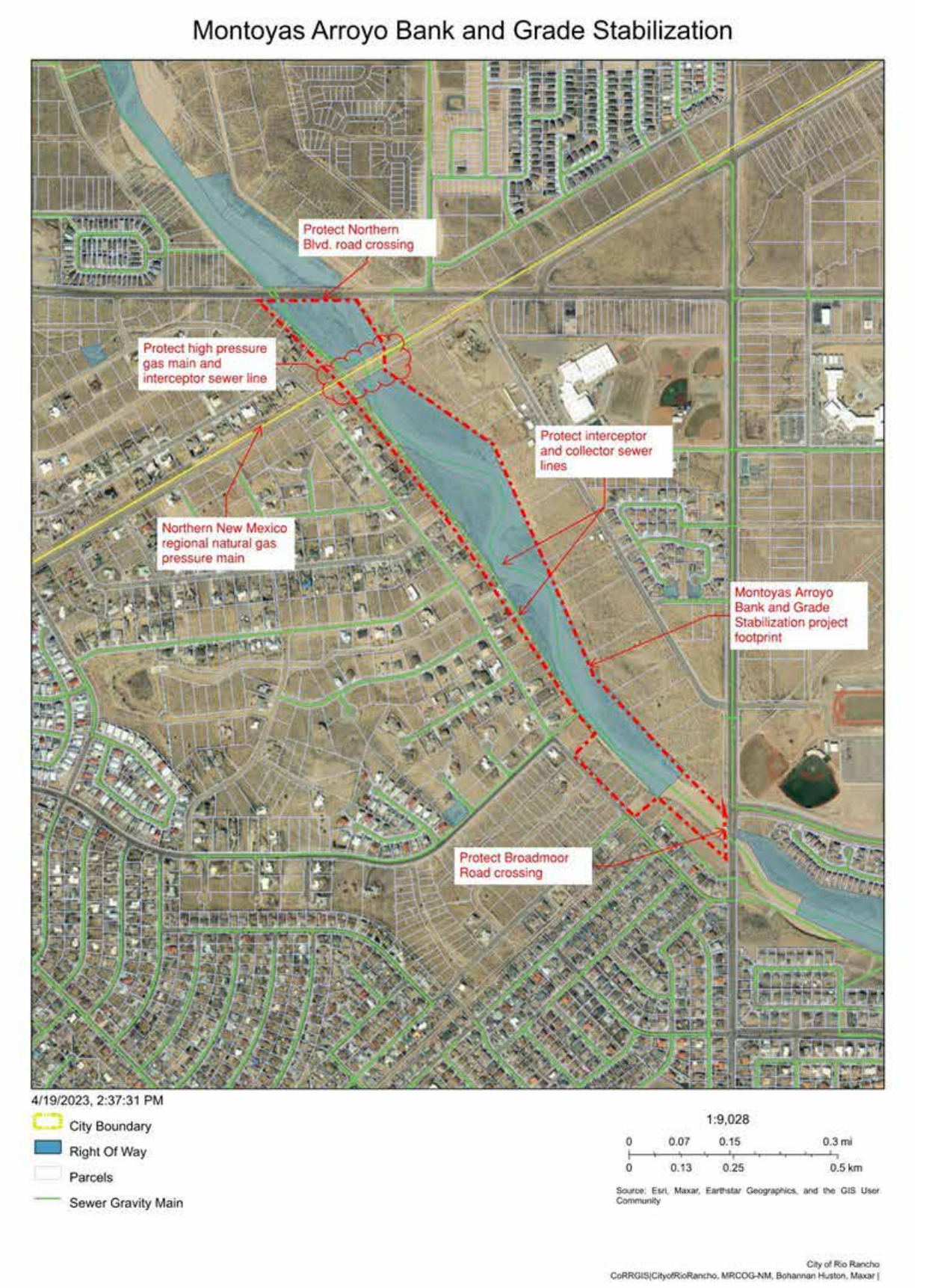
Description

The La Barranca Watershed covers an area over 11 square miles that can generate flows exceeding 3,840 cubic feet per second in the 100-year storm event. The watershed contains residential, commercial and industrial properties that can discharge a wide variety of contaminants in storm flows. Flows in the La Barranca Arroyo ultimately discharge to the Rio Grande. The majority of the storm flows in the La Barranca Watershed, approximately 90%, do not currently receive any treatment.

SSCAFCA is proposing to construct a water quality facility in the main stem of the La Barranca Arroyo modelled after the existing water quality structure currently in place on the Montoyas Arroyo, which has proven to be successful at mitigating downstream flows and improving water quality.

Pictures show existing Lower Montoyas structure to be used as a template

ARROYO DE LOS MONTOYAS BANK AND GRADE STABILIZATION



ARROYO DE LOS MONTOYAS BANK AND GRADE STABILIZATION


Erosion at crossing at Northern Blvd. on Montoyas Arroyo

Introduction:

SSCAFCA is proposing to stabilize approximately 5500 linear feet of the Arroyo de los Montoyas by:

• Evaluating the arroyo hydraulic and geomorphologic characteristics.

• Designing appropriate bank and arroyo bed stabilization.

• Constructing the necessary infrastructure to protect citizens, land, and infrastructure from flooding and erosion.

Total Cost: **$11,000,000***

*Based on availability of funds, this overall project could be phased into multiple, smaller projects.

Objective:

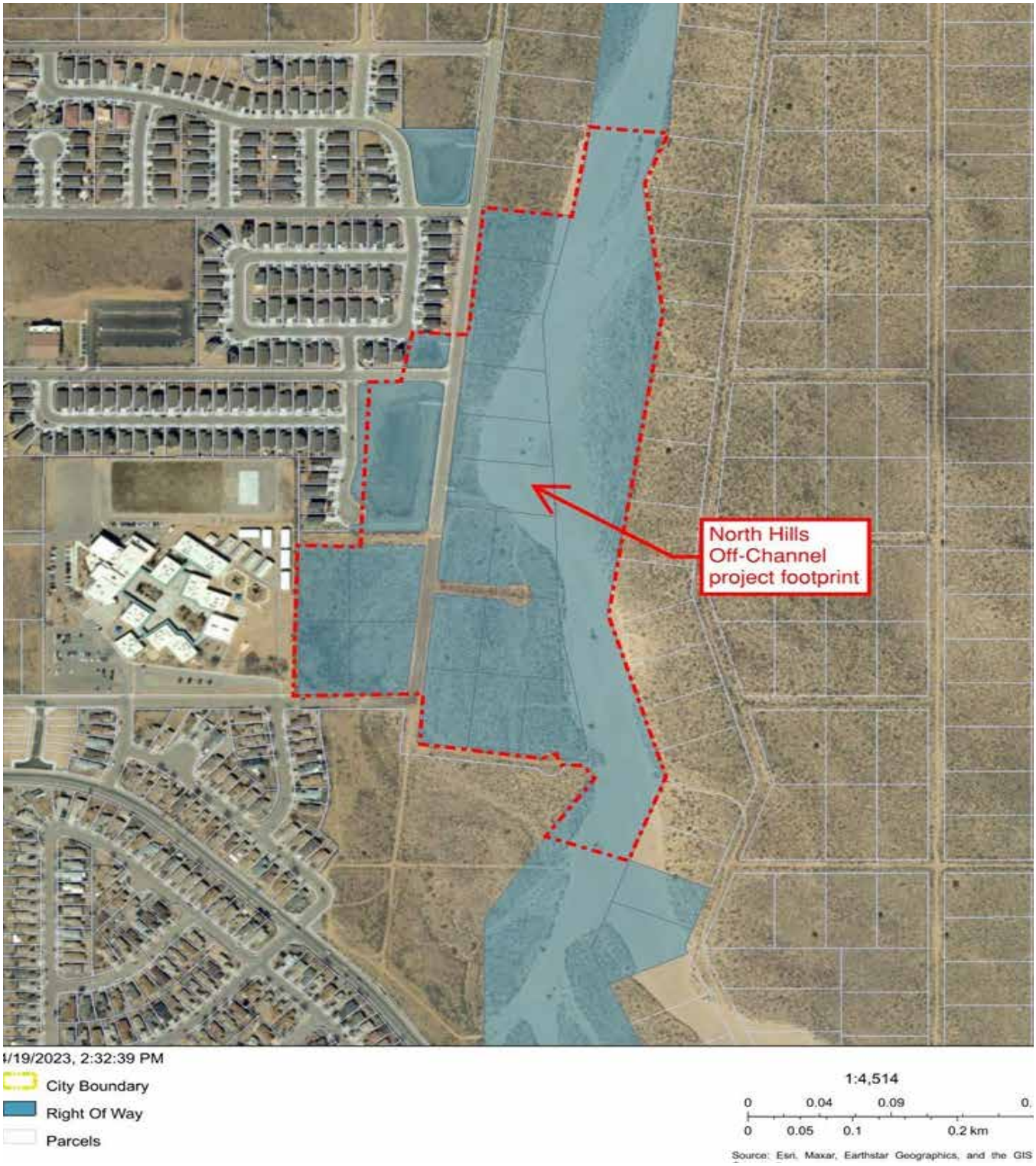
To reduce flooding and erosion impacts; re-align the arroyo, as needed, to contain within public right of way; stabilize the reach both horizontally and vertically while maintaining a natural sandy bottom; and protect existing infrastructure (sewer lines and high-pressure natural gas transmission lines. SSCAFCA desires to leave the natural sandy bottom of the arroyo to promote storm water infiltration and water quality function.

Description:

The subject reach of the Arroyo de los Montoyas (AKA Montoyas Arroyo) is located between Northern Blvd. and Broadmoor Blvd. in Rio Rancho, NM. This reach of arroyo has experienced a significant amount of bank erosion and arroyo bed degradation since the development of the upstream watershed, which contributes and increased amount of sediment-starved storm water runoff. The erosion within this reach has caused the arroyo banks to widen beyond the available public right-of-way, threatening several public properties, two regional high-pressure natural gas lines, and sanitary sewer infrastructure located below the arroyo bottom.


Bank erosion threatening infrasturcture

NORTH HILLS OFF-CHANNEL PROJECT



NORTH HILLS OFF-CHANNEL PROJECT

Introduction:

SSCAFCA is proposing to improve stormwater quality and reduce the flooding impact of the 100-year storm by:

• Evaluating the hydrologic and hydraulic parameters for the site.
• Designing an off-channel detention pond (or ponds) to provide water quality and a reduction of the 100-year storm peak discharge and receive and treat stormwater from the adjacent urbanized area.
• Constructing the necessary infrastructure to provide water quality treatment of storm water, protect citizens, land, and infrastructure from flooding and erosion.

Total Cost: $7,800,000

Overhead view of water quality tower at Lomitas Negras facility

Objective:

To improve stormwater quality originating in the North Hills subdivision area of Rio Rancho and provide stormwater quality treatment during high flow events for stormwater originating upstream of the facility. Simultaneously, the proposed facility will reduce stormwater impacts which flow from the City of Rio Rancho into the Rio Grande.

Description:

Currently, the 400-acre North Hills subdivision discharges its storm water to the Arroyo de los Montoyas with no water quality treatment. The North Hills Off-Channel Drainage Improvements Project will remove debris and contaminants from storm flows as well as reduce downstream flow rates in the Arroyo de los Montoyas before being discharged to the Rio Grande.

Example of off-channel facility owned by SSCAFCA. Design of North Hills facility will be similar concept.

APPENDIX

Southern Sandoval County Arroyo Flood Control Authority
1041 Commercial Drive SE • Rio Rancho, NM 87124
Ph (505) 892-RAIN (7246) • Fax (505) 892-7241

RESOLUTION 2022-06

RESOLUTION OF SUPPORT FOR LEGISLATIVE AND CAPITAL FUNDING PRIORITIES FOR FEDERAL PROGRAMS IN FEDERAL FISCAL YEAR 23 (FFY 23)

WHEREAS, SSCAFCA is empowered and directed to acquire, equip, maintain, and operate a flood control system for the benefit of the authority and the inhabitants thereof, pursuant to Section 72-19-1 through 72- 19-103 NMSA 1978; and

WHEREAS, SSCAFCA is empowered to protect from such floods or storm waters the water courses, watersheds, public highways, life and property in the authority, pursuant to Section 72-19-1 through 72-19-103 NMSA 1978; and

WHEREAS, the Municipalities within SSCAFCA's jurisdiction contain significant residential, commercial and industrial development completed prior to the existence of SSCAFCA which is at risk of flooding and damage; and

WHEREAS, SSCAFCA has insufficient bonding capacity to complete needed critical flood mitigation and drainage improvement projects in a timely fashion; and

WHEREAS, SSCAFCA has adopted an Infrastructure Capital Improvement Plan by Resolution 2020-16 that identifies the most significant capital projects for funding and completion; and

WHEREAS, multiple Federal Agencies operate funding programs that provide resources for flood mitigation and drainage improvements to local entities such as SSCAFCA; and

WHEREAS, SSCAFCA desires technical and fiscal support from certain Federal Agencies to complete specific capital improvement priorities and objectives.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF DIRECTORS OF THE SOUTHERNSANDOVAL COUNTY ARROYOFLOODCONTROL AUTHORITY THAT:

1. SSCAFCA is seeking funding support from the Land and Water Conservation Fund (LWCF) for the construction of dependable access routes adjacent to our major arroyos that may also be used as recreational trails to support the health and wellbeing of our residents.

2. SSCAFCA is seeking reauthorization of funding for Section 593, Central New Mexico, originally authorized by the Water Resources Development Act of 1999 (P.L. 106-53). Section 593 provides authorization to fund water- related environmental infrastructure and resource protection and

development projects in Sandoval, Bernalillo and Valencia Counties, including projects for wastewater treatment and related facilities, water supply, conservation, and related facilities, stormwater retention and remediation, environmental restoration, and surface water resource protection and development and water reuse.

3. SSCAFCA is seeking funding support from USCACE Section 593 or Section 595 -Western Rural Water of the Water Resources Development Act (WRDA) to support environmental infrastructure that will capture and remove trash, debris, and excessive sediment from storm flows in the Barrancas Arroyo and reduce environmental degradation of the Rio Grande.

4. SSCAFCA is seeking funding support from USACE Section 593 or Section 595 -Western Rural Water of the Water Resources Development Act (WRDA) to support erosion protection and sediment reduction in the Lisbon Channel – Phase 3 project from Southern Boulevard to Tarpon Road in the Black Arroyo watershed and reduce environmental degradation of the Rio Grande.

5. SSCAFCA is seeking funding support from USACE Section 593 or Section 595 -Western Rural Water of the Water Resources Development Act (WRDA) to for the construction of Riparia Pond in order to support removal of trash and debris and excessive sediment from storm flows in the Black Arroyo and reduce environmental degradation of the Rio Grande

6. SSCAFCA is seeking funding support from FEMA Building Resilient Infrastructure and Communities (BRIC) to perform a preliminary engineering report and final construction design for identified flooding issues in the City of Rio Rancho in the Nightglow Avenue vicinity

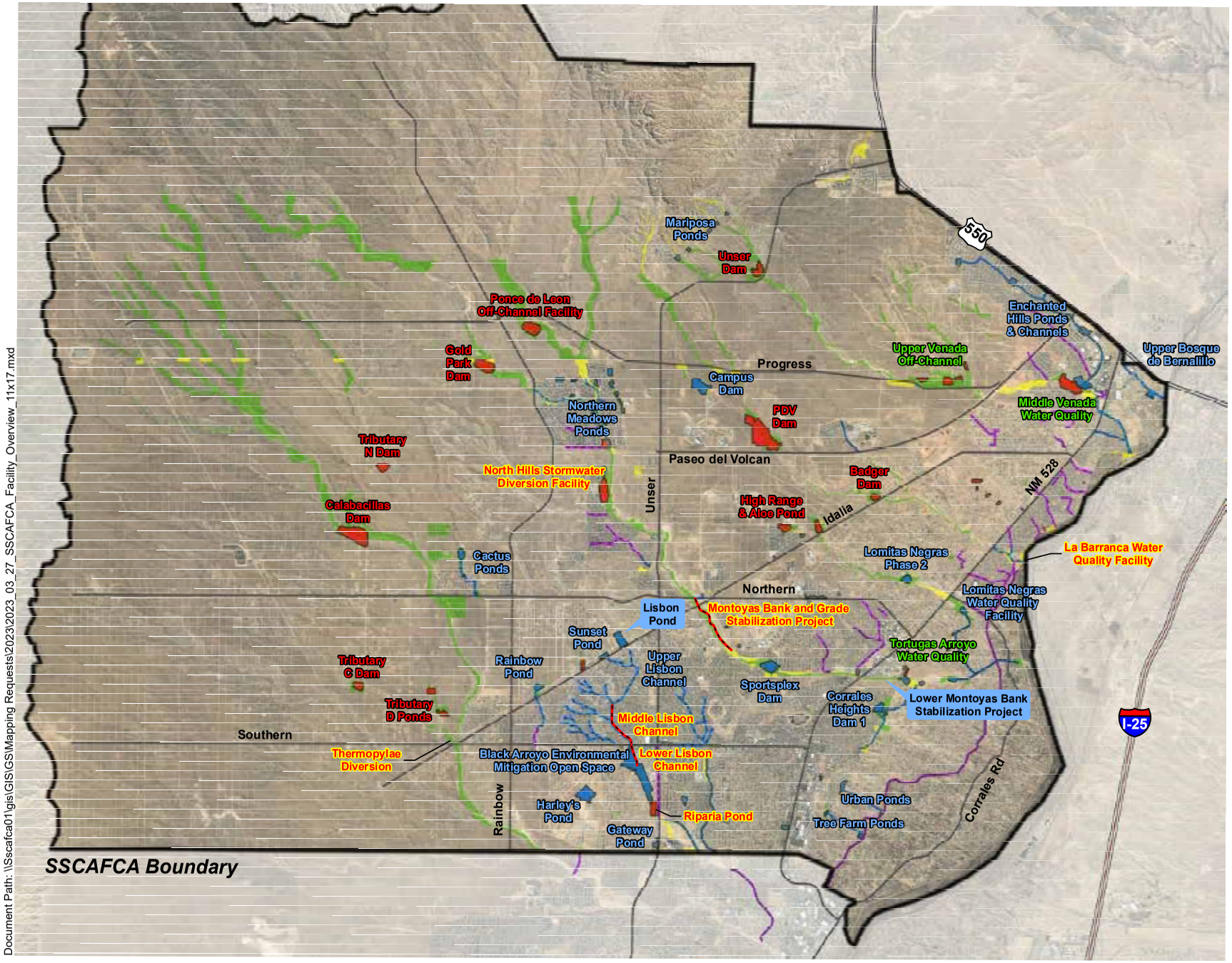
7. SSCAFCA is seeking funding support for the acquisition of real property adjacent to our active arroyos as a method of flood mitigation and conservation of critical habitat.

PASSED, ADOPTED AND SIGNED by the Board of Directors of SSCAFCA this 17TH day of March 2022.

SOUTHERN SANDOVAL COUNTY ARROYO
FLOOD CONTROL AUTHORITY

JAMES F. FAHEY JR. M.D.
Chairman

JOHN CHANEY
Secretary



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Southern Sandoval County Arroyo Flood Control Authority

Drainage ROW

- SSCAFCA Fee Simple
- SSCAFCA Easement
- Arroyo

Hardened Channel

- Other
- SSCAFCA

Soft Channel

- Other
- SSCAFCA

Stormdrain

- Other
- SSCAFCA

Pond/Dam

- SSCAFCA, existing
- SSCAFCA, proposed

Completed in 2022

Project funding requested

Project funded

N

0 0.5 1 Miles

Date: 3/27/2023

Lisbon Pond, 2022