



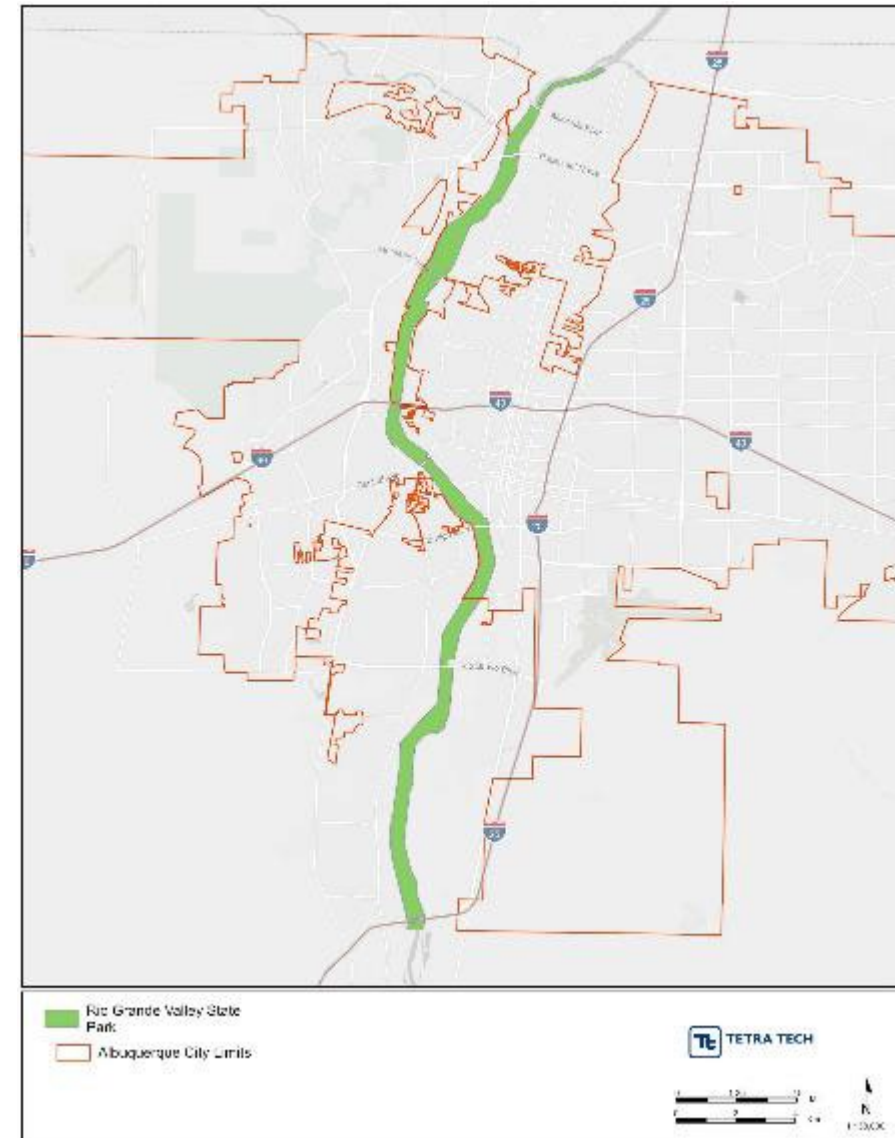
BOSQUE ASSESSMENT AND UPDATE PRIORITIZATION



December 14, 2022

Section 1 – Project Background

- Project area
 - Rio Grande Valley State Park (RGVSP) – 4300 acres
- Purpose
 - RGVSP Management Plan (1987)
 - Bosque Action Plan (1993)
- Stakeholder coordination – E-Team
- Goals
 - Protect & Enhance
 - Fire Prevention
 - Public Use

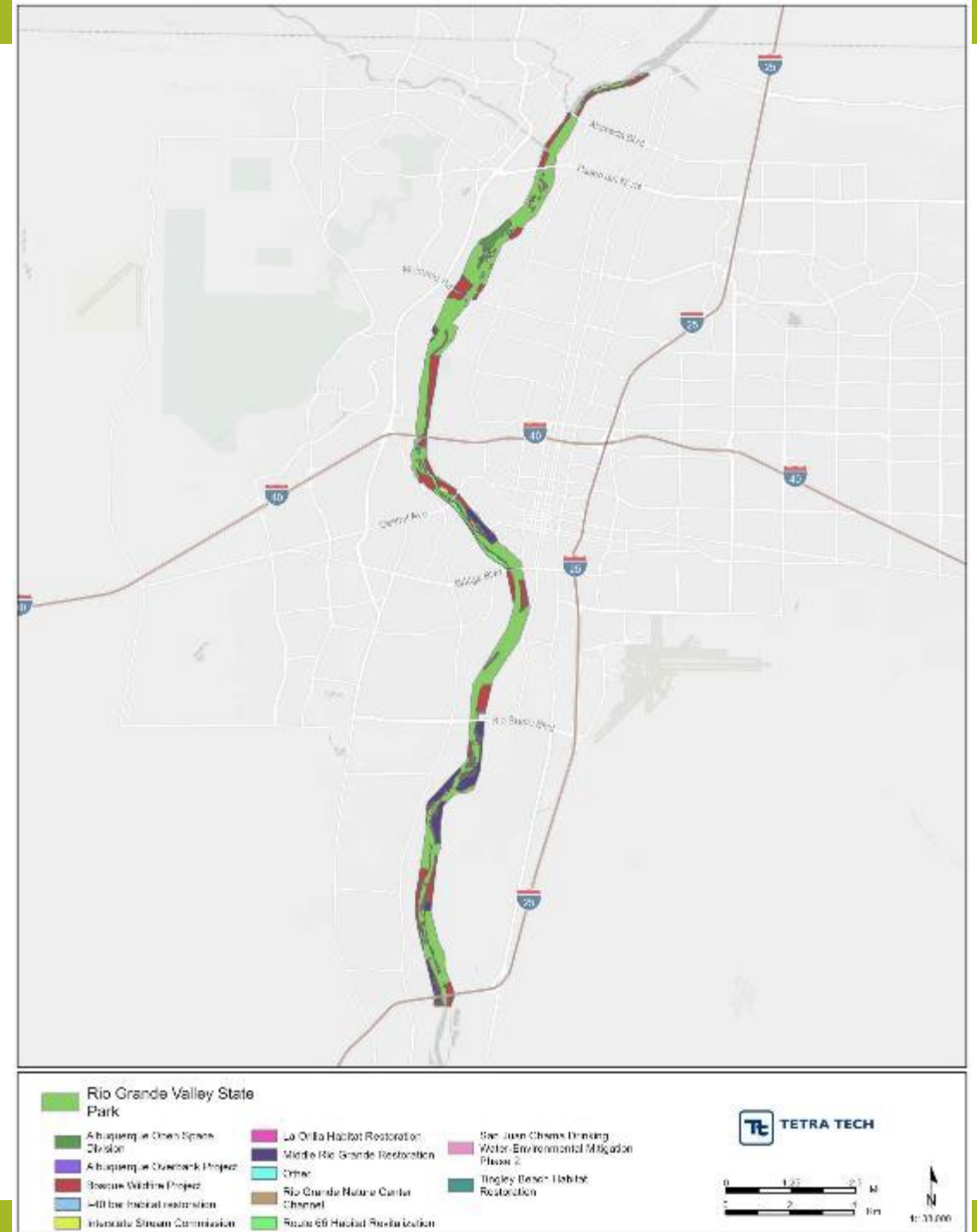


Section 1 (cont'd)

- Applicable Plans
 - RGVSP Mgmt. Plan, Bosque Action Plan
 - MPOS Facility Plan, COA Comprehensive Plan, COA Climate Action Plan, MRG Conservation Action Plan (CAP)
 - Candelaria Nature Preserve Mgmt. Plan, RGNC Mgmt. Plan, San Antonio Oxbow Mgmt. Plan
- Previous work in the Planning Area
 - BAP project status (of 22 original planning areas) – Table 1

| No. | Project Area | Proposed (1993) | Current Status |
|-----|-----------------------|---|--|
| 1 | Alameda Bridge NE | Parking, Trails, Picnic area, Signs, Planting | Parking moved to Alameda SE due to bridge construction; all other components implemented |
| 2 | Alameda Bridge SE | Parking, Trails, Picnic area, Signs, Planting | These items were implemented along with additional amenities such as: ADA access, restrooms, equestrian parking, habitat improvements (Alameda Wetland) |
| 3 | Alameda Bridge SW | Trail, Signage, Environmental Education Area | These amenities have been implemented though the Environmental Education Area has not been formalized (a BEMP site exists). |
| 4 | Calabacillas Arroyo | Parking, Trails, Signs | These amenities have been implemented as well as picnic table installation, interpretive kiosk and planting. |
| 5 | La Orilla Road Access | Parking, Trails, Gated Access, Riverside Drain bridge | These amenities have been implemented in coordination with other landowner and agency projects (e.g. parking at the Sagebrush Church; gated access with AMAFCA), and access across the Corrales Main Canal (though not a formal bridge). |
| 6 | Candelaria Farms | Wildlife observation blind, interpretive signage, Ranger residence, Interpretive Center, Riverside Drain bridge | These amenities, and others, have been implemented at the Candelaria Nature Preserve (CNP) and at or in coordination with the RGNCSP. |
| 7 | Campbell Road Access | Sidewalk for ADA access, Trailhead, Signage | A formal access points exists though there is not separate designated ADA access. |
| 8 | Atrisco NW Access | Trailhead parking, Atrisco Drive access, Trails | These amenities have been implemented. |
| 9 | Central Bridge NW | Trailhead parking, Atrisco Drive access, Trails, Osage-LaMedia wetlands | While access exists, more formal access and other amenities being planned through the Atrisco Acequia Madre project. |
| 10 | Central Bridge NE | Parking, Trails, ADA access, Picnic area, Signs, Planting, Interpretive Signage, Wetland | All recreational amenities have been implemented; plantings and jetty jack removal have occurred; wetland enhancements are provided to the south along Tingley. |

- Previous work in the Planning Area
 - Completed restoration projects: MRGESCP & partners, USCE, other federal and state (Figure 2)

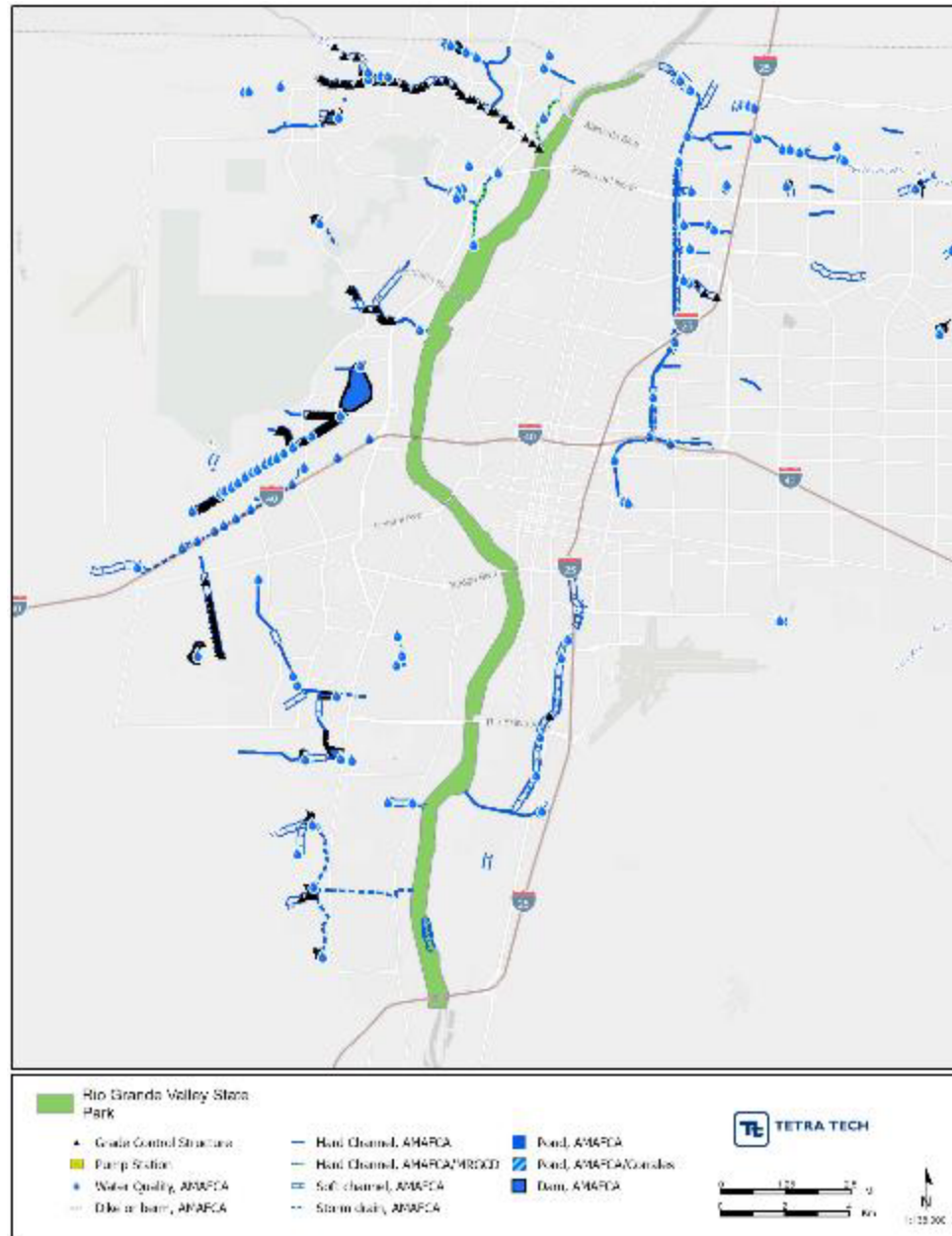


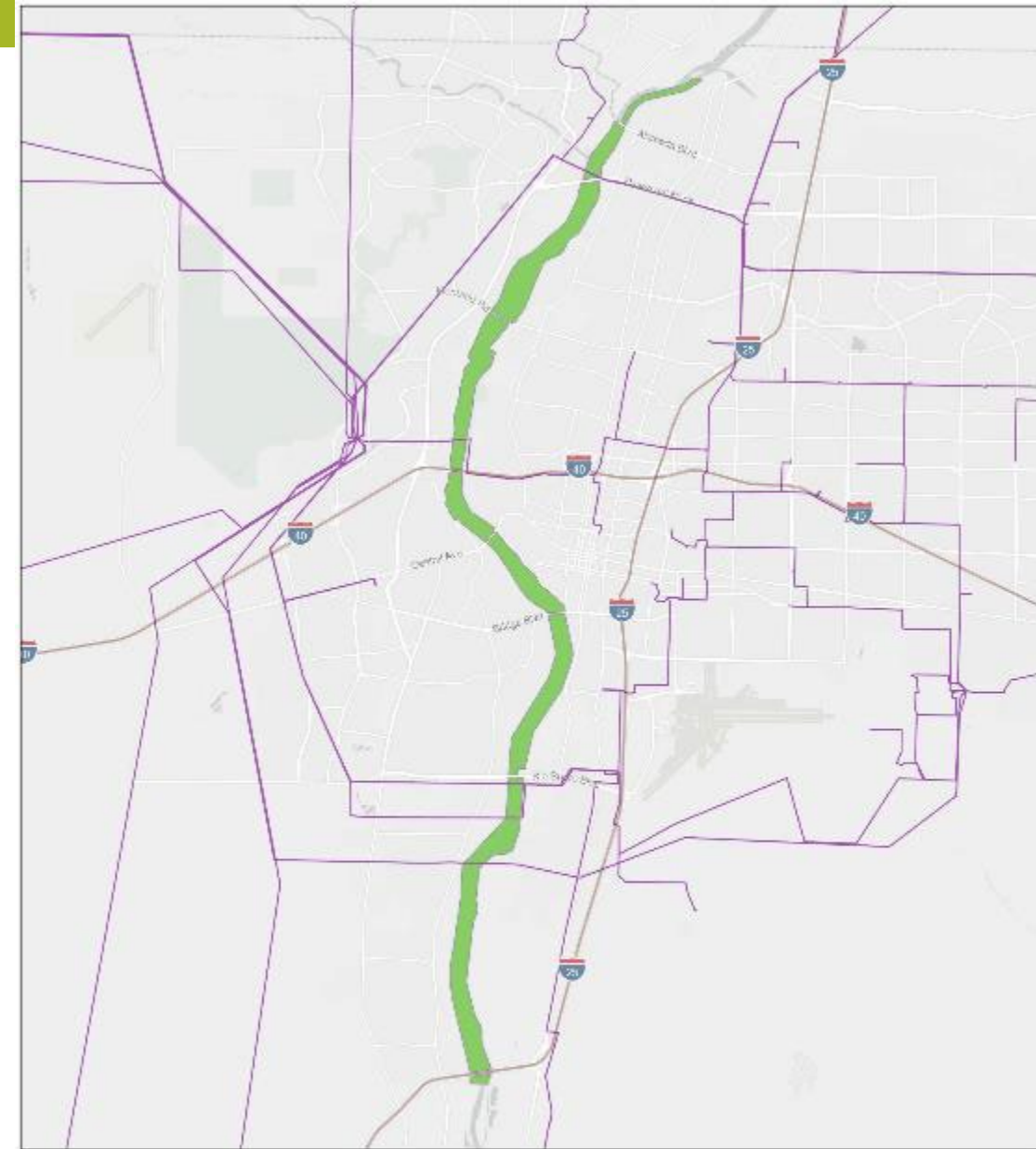
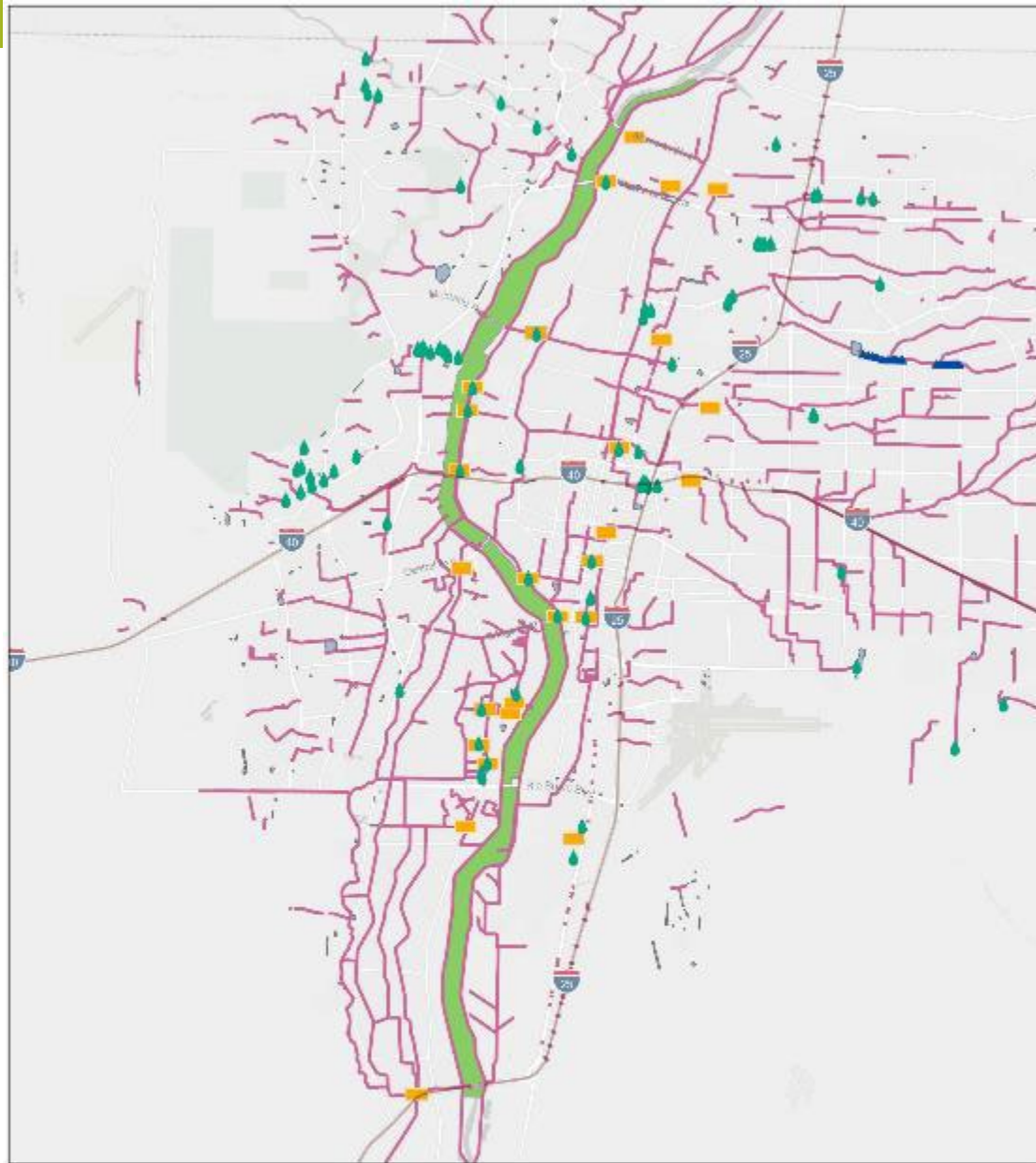
Section 2 – Resource Conditions

- Policy 3: The Rio Grande Valley State Park shall be managed to preserve and enhance its ecological diversity.
- Policy 6: All submittals for development located in the RGVSP shall include complete extraordinary facilities form to be submitted to the Open Space Advisory Board for their action.
- Policy 7: Any disturbance within the Rio Grande Valley State Park not approved by Open Space Division shall be mitigated by the party responsible for the disturbance.
- Policy 8: Improvements shall be located in non-sensitive areas that area appropriate for such developed, considering the ecological sensitivity as well as user satisfaction.
- Policy 20: Construction methods and materials used shall be compatible with the preservation of the natural character of the Rio Grande Valley State Park.
- Policy 21: Construction methods and materials used shall preserve the cultural character of the park.
- Policy 23: The principal use of the area within the Rio Grande levee roads shall be recognized for conveyance of water for beneficial uses, and as a floodway and storm water outlet.

Section 2.1 – Water Resources Management & Infrastructure

- Water Resources Mgmt. & Infrastructure
 - History – flood control projects (reservoirs, levees, jetty jacks)
 - Infrastructure – AMAFCA, ABCWUA, other water mgmt. – outfalls, pump stations, etc.
 - Other infrastructure – electric transmission lines





Rio Grande Valley State Park

Water Quality

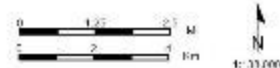
Grade Control Structure

Pump Station

Other Agency Drainage Lines

Other Agency Drainage Polygons

TETRA TECH



Rio Grande Valley State Park

Electric Transmission Lines

TETRA TECH



Section 2.1 – Water Resources Management & Infrastructure

- Hydrology & Water Mgmt.
 - Hydrology & geomorph changes over the past 20 years based upon infrastructure – flows, geomorph, sediment transport, etc.
- Channel width changes

| Year | 1918 | 1972 | 1992 | 2001 | 2011 | 2014 | 2018 |
|--------------|------|------|------|------|------|------|------|
| Width (feet) | 1338 | 577 | 519 | 506 | 465 | 349 | 267 |

(values combined from MEI 2002 and USBR 2018)

OSD Management Considerations (@ end of each section)

- Work with the USACE and Albuquerque Fire Department to further assess and remove Jetty Jacks throughout the RGVSP.
- Continue to maintain swales and construct new swales when feasible to better access groundwater that is lowering for cottonwood and willow plantings.
- Maintaining bridges and other infrastructure (identify what is OSD's responsibility and reference in O&M plan).
- Work with the City's Department of Municipal Development and Bernalillo County Public works to assess and improve storm drain outfalls.

Section 2.2 – Recreation & Education

- Policy 9: Access points shall be developed in appropriate areas.
- Policy 11: An ecologically compatible, multi-use trail system shall be enhanced.
- Policy 13: Appropriate fishing areas shall be developed.
- Policy 14: Non-motorized boating areas shall be developed.
- Policy 15: Special use permits shall be required for all organized events.
- Policy 16: Trails shall be re-routed in areas where emergency vehicles cannot access the levee roads.
- Policy 17: Educational opportunities and improvements shall be identified in appropriate areas.
- Policy 18: Educational programs and materials shall be developed and implemented.
- Policy 19: Use of Environmental Education Areas shall be coordinated with Open Space Division prior to their use.
- Policy 24: A volunteer patrol shall be formed and coordinated by the Open Space Division to provide a safe environment for the park users and protection of the natural resources.

Section 2.2 – Recreation & Education

- BAP related policies
- Trails and Recreational Facilities
 - Access locations – parking, trailheads

| Trail/Access Site Name | Description |
|----------------------------|--|
| Paseo del Bosque Trail | A 16-mile multi-use paved trail that runs south from Alameda Blvd. on the north end to the AMAFCA Diversion Channel south of Rio Grande Blvd on the Eastern Levee. |
| Rio del Norte Trail | An unpaved multi-use trail that winds through the bosque on the east side of the Rio Grande from Montano Rd. to Central Ave. |
| Alameda | A parking and picnic area off of Alameda Blvd. that provides access to the Paseo del Bosque trail and an unpaved trail that runs on the east side of the Rio Grande from Alameda Blvd. to Sandia Pueblo. |
| Calabacillas Arroyo | A parking area and trailhead located at the Calabacillas Arroyo that provides access to the northern extent of an unpaved trail network from Alameda Blvd. to the San Antonio Oxbow on the west side of the Rio Grande. |
| Shining River | A parking area adjacent to Paseo Del Norte that provides access to the Paseo del Bosque Trail and a network of unpaved trails that run parallel to it. |
| Alamo Farm | An open space and parking area that provides access to an unpaved trail network on the west side of the Rio Grande from Alameda Blvd. to the San Antonio Oxbow. |
| Open Space Visitors Center | A parking and picnic area that provides access to an unpaved trail network on the west side of the Rio Grande from Alameda Blvd. to the San Antonio Oxbow. |
| Pueblo Montano | A multi-use recreation facility, parking area, and picnic area that provides access to an unpaved trail network on the west side of the Rio Grande from Alameda Blvd. to the San Antonio Oxbow. |
| San Antonio Oxbow | A parking area that provides access to an unpaved trail network on the west side of the Rio Grande from Alameda Blvd. to the San Antonio Oxbow. |
| Rio Grande Nature Center | A state park and paid parking area that provides access to the Paseo del Bosque Trail, the Rio del Norte Trail, and an unpaved network of trails on the west side of the Rio Grande. |
| Gabaldon | A parking area that provides access to the Paseo del Bosque Trail and the Rio del Norte Trail. |
| Rio del Norte | A parking and picnic area on Central Ave. that provides access to the Paseo del Bosque Trail and the Rio del Norte Trail. |
| Tingley Beach | A parking and picnic area that provides access to the Paseo del Bosque Trail and a network of unpaved multi-use trails on the east side of the Rio Grande. |
| Valle del Bosque | A parking area that provides access to an unpaved trail network on the west side of the Rio Grande, south of Central Ave. |
| Marquez | Parking areas that provide access to the Paseo del Bosque Trail and a network of unpaved trails on the east and west sides of the Rio Grande off of Bridge Blvd. |
| Poco Loco | A set of parking areas that provide access to an unpaved network of trails on the east and west sides of the Rio Grande and to the Paseo del Bosque Trail. A picnic area is also located on the east side of the Rio Grande off of Rio Bravo Blvd. |
| Durand | A parking and picnic area that provides access to an unpaved trail network on the west side of the Rio Grande south of Rio Bravo Blvd. |

Section 2.2 – Recreation & Education

- Education and Outreach
 - Equitable Access to the Outdoors
 - Volunteer Programs
 - Wayfinding & Regulatory Signage
 - Interpretive Signage
- Small watercraft
- OSD Management Considerations

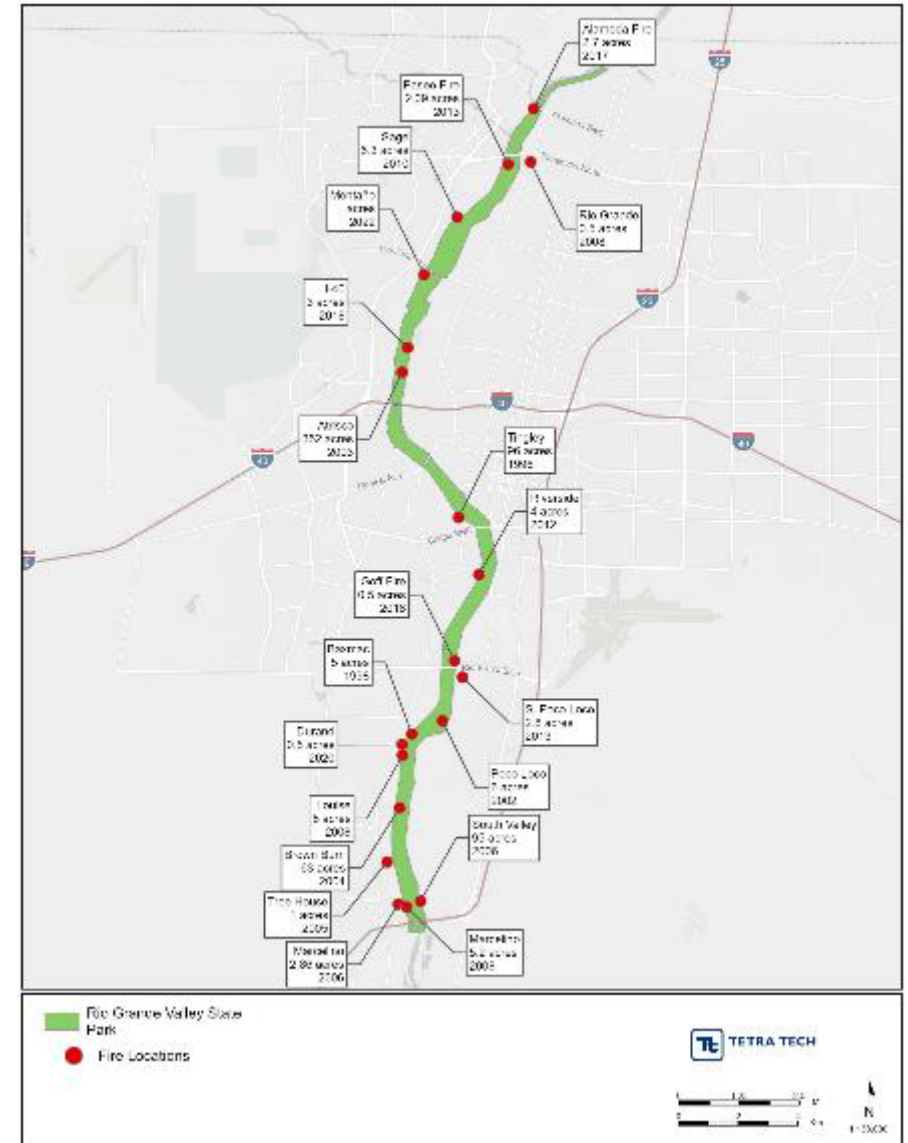


Section 2.3 – Ecological Resources

- Policy 1: Land use decisions shall be compatible with the ecological opportunities and constraints characteristics of the identified biophysical land units.
- Policy 2: Comprehensive programs shall be established for monitoring environmental ecological systems.
- Policy 3: The Rio Grande Valley State Park shall be managed to preserve and enhance its ecological diversity.
- Policy 4: Regeneration of cottonwood trees shall be emphasized to perpetuate their existence.
- Policy 5: Habitat for rare and endangered plant and animal species shall be protected.
- Policy 7: Any disturbance within the Rio Grande Valley State Park not approved by the Open Space Division shall be mitigated by the party responsible for the disturbance.
- Policy 8: Improvement shall be located in non-sensitive areas that are appropriate for such developments, considering ecological sensitivity as well as user satisfaction.
- Policy 25: Fire suppression shall utilize wildland fire techniques.

Section 2.3 – Ecological Resources

- Ecological Resources
 - Soils
 - County soils data
 - Salinity measurements from MRG Bosque Restoration
 - Fire History
 - 2003-2022



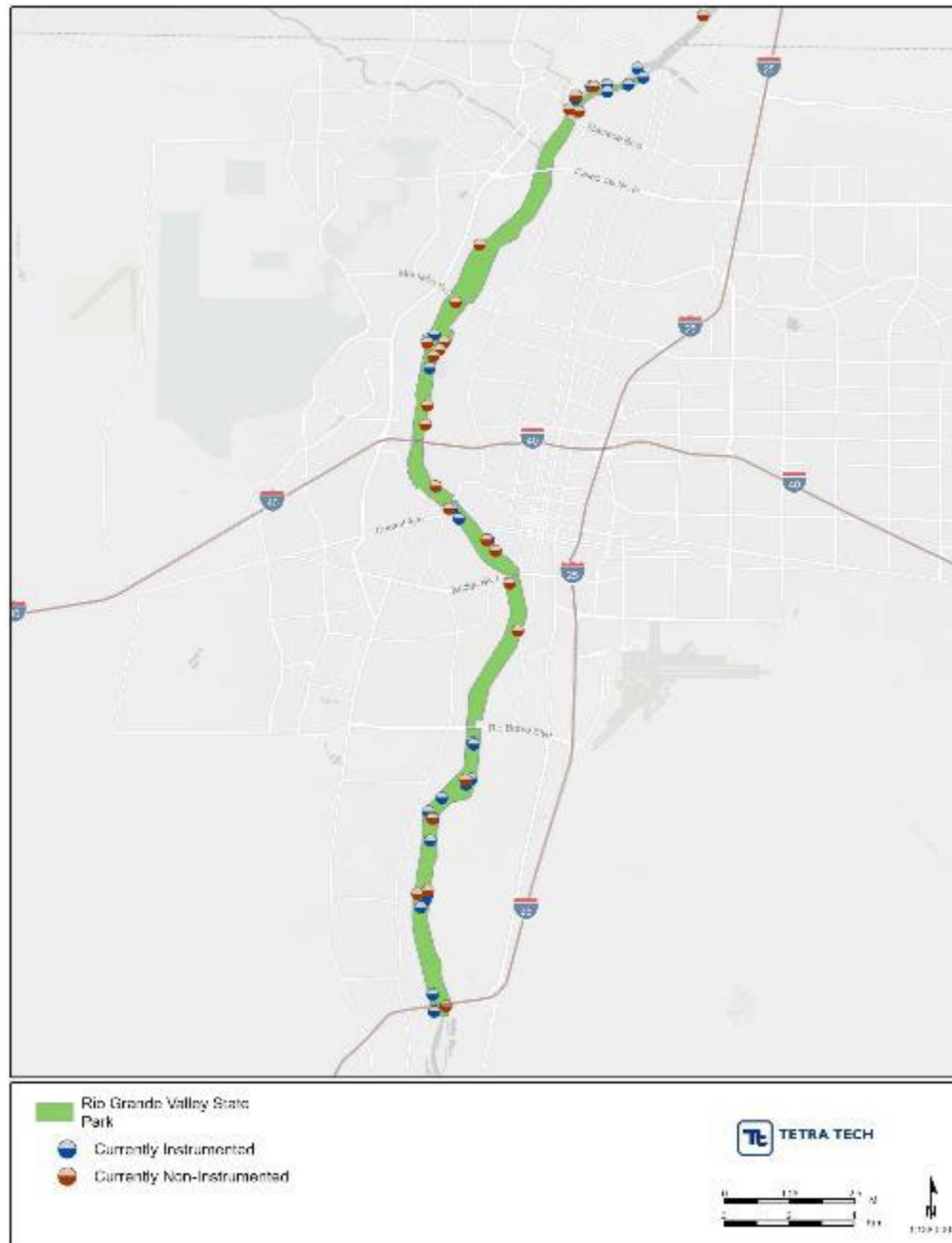
Section 2.3 – Ecological Resources

| Dominant Species | 2005 Acres | 2021 Acres | Change (acres) | Change (%) |
|-----------------------|------------|------------|----------------|------------|
| Coyote Willow | 251.2 | 486 | +234.8 | +93.5 |
| Rio Grande Cottonwood | 2048.7 | 2123.8 | +75.2 | +3.7 |
| Tree Willow | 212.5 | 30.9 | -181.6 | -85.5 |
| Four-winged Saltbush | 3.2 | 76.5 | +73.3 | +2260.8 |
| Sand Sagebrush | 6.5 | 17.8 | +11.3 | +173.2 |
| Salt Cedar | 409.7 | 348.9 | -60.8 | -14.9 |
| Russian Olive | 435.2 | 396.9 | -38.3 | -8.8 |
| Siberian Elm | 254.7 | 522.9 | +268.3 | +105.3 |
| Tree of Heaven | 40.2 | 34.6 | -5.6 | -13.9 |
| Wet Meadow | 37.4 | 39.1 | +1.7 | +4.6 |
| Open Area | 180.7 | 84.6 | -96.1 | -53.2 |

- Ecological Resources
 - Vegetation
 - H&O 2021 update – map book appendix
 - Change in dominant species (Table)
 - MRG-CAP Habitat Targets
 - Sensitive Species
 - State and Federal
 - RGSM, SWFL, YBCU
 - Summary of recent survey data

Section 2- Groundwater

- Groundwater
 - BEMP
 - MRG Restoration Project database
 - Average Depth to Groundwater 2017-2021
 - Alameda NE
 - Alameda SE
 - Calabacillas
 - Montano SW
 - Oxbow
 - Central NE
 - Central SW
 - Central SE
 - Bridge SE
- OSD Management Considerations



Section 3 – Measure and Alternative Development

- Stakeholder Input and Coordination
- Goals and Objectives
 - More detail re: discussion
- Proposed Priority Projects
 - Updated list of RGVSP locations
 - To include locations not previously listed
 - Alternative Development
 - Restoration, Recreation, Education
 - ~ 15 projects for evaluation; top 9

| Protect & Enhance | Fire Prevention | Public Use |
|---|--|-------------------------------------|
| Protection of natural and cultural resources | Reduce hazardous fuel loads including invasives species | Education and stewardship |
| Enhance natural resources and ecological health | Work with other entities on fire preparedness | Interpretive and wayfinding signage |
| Erosion control and stabilization along bluffs | Deter and remove encampments | Address safety issues and access |
| Invasive and non-native species management coupled with planting native and climate ready trees | Work with AFR on education outreach efforts including Fire Watch program | Accessible river access and signage |

Evaluation Criteria Development

| Goals/Evaluation Criteria | Definition/Points | Max points/ category |
|--|---|-------------------------|
| TOTAL CATEGORY RANKING FOR PROJECTS | | 50 |
| PUBLIC USE | | |
| Desired Level of Use at Location | 1 - requires initial management to achieve desired level of use | 1 |
| | 1 - requires O&M for level of use | 1 |
| Level of Use | 1 - least use | 5 |
| | 2 - medium use | |
| | 3 - heavily trafficked | |
| | 3 - wildlife preserve | |
| Education & Outreach | 0 - no | 3 |
| | 1 - informational signs | |
| | 2 - interpretive area | |
| Recreational infrastructure (trails, picnic areas, etc.) | 1 - improve/add infrastructure where desired/needed | 1 |
| | 2 - O&M of existing | 2 |
| | Total Public Use Ranking | 13 |

| PROTECT & ENHANCE | Highest ranked category | |
|--|---|----|
| Restoration Project (new, existing) | 0 - no | 0 |
| | 1 - new | 1 |
| | 2 - meet existing restoration project O&M obligations | 2 |
| Protect existing Wildlife Preserve Area | 0 - no | 1 |
| | 1 - yes | |
| Benefits threatened, endangered or sensitive species | 0 - no | 2 |
| | 1 - possibly | |
| | 2 - yes | |
| Protect habitat (not currently preserve, but good habitat) | 0 - no | 0 |
| | 1 - high avian use OR multiple species habitat | 1 |
| | 1 - predominately native species in H&O code | 1 |
| | 1 - increases mosaic dynamic OR fuel break | 1 |
| Acres-max/min | 0 - no | 0 |
| | 1 - adjacent to existing restoration project | 1 |
| Water Quality (protects or enhances stormwater quality) | 0 - no | 0 |
| | 1 - includes trash/debris catchment OR opportunities to disconnect from impervious surfaces | 1 |
| | 1 - includes pollutant control | 1 |
| Sediment Management | 0 - no | 0 |
| | 1 - project removes sediment with pollutant issues | 1 |
| | 1 - project improves sediment quantity to river | 1 |
| | 2 - reduces erosion | 2 |
| Total Protect & Enhance Ranking | | 16 |

| FIRE PREVENTION | | |
|--|--|---|
| Fuels/Exotic management | 0 - no | 0 |
| | 1 - protects adjacent habitat or residential area | 1 |
| | 1 - protects bosque habitat | 1 |
| | 1 - protects critical infrastructure | 1 |
| Fire Risk | 0 - no | 0 |
| | 1 - reduces risk in high risk areas | 1 |
| | 1 - reduces risk in areas with repeated fires | 1 |
| | 1 - treatment of increased weeds/exotics; hazardous trees that could be safety issue | 1 |
| Fire Mgmt Plan to be implemented within next 5 years | 0 - no | 0 |
| | 1 - yes | 1 |
| Total Fire Prevention Ranking | | 7 |

| | | |
|-------------------------------------|---|----------|
| | | |
| EXISTING FUNDING AND/OR RESOURCES | 0 - no | 0 |
| | 1 - community engagement | 1 |
| | 2 - multiple partners | 2 |
| | 2 - partner support | 2 |
| | 3 - funding | 3 |
| | Total Existing Funding and/or Resources Ranking | 8 |
| ENVIRONMENTAL JUSTICE | | |
| can incorporate into project design | 0 - no | 0 |
| | 1 - improve ADA accessibility | 1 |
| | 1 - improves public health (improved air or) | 1 |
| | 2 - improves access to natural green space in underserved areas | 2 |
| | 2 - improves educational and engagement opportunities | 2 |
| | Total Environmental Justice Ranking | 6 |

Priority Projects

Project 5: San Antonio Oxbow and Oxbow Bluffs

Project 6: Atrisco Acequia Madre

Project 2: Alameda SE

Project 4: Montano SW (Pueblo Montano/Bosque School)

Project 7: Pat Baca

Project 11: Southside Water Reclamation Plant (SWRP) Outfall Restoration Project Area

Project 12: State Land Office (SLO) Bosque adjacent to Valle de Oro

Project 3: Calabacillas Arroyo (Alameda SW)

Project 11: Rio Bravo/Poco Loco NE

Conceptual Designs

- **Project Descriptions:**
- **Public Use – Recreation components**
- **Protect & Enhance – Restoration components**
- **Existing Funding & Resources**

San Antonio Oxbow and Oxbow Bluffs

- Public Use
 - Namaste Rd.
 - San Antonio Oxbow Overlook
 - Potential connections from Oxbow Bluffs
- Protect & Enhance
 - Invasive species management
 - Wetland management
- Existing Funding & Resources
 - Stakeholder and public interest
 - MRGCD, AMAFCA, Native Plant Society, Saint Pius Catholic High School and Bosque School



Atrisco Acequia Madre



- Public Use
 - Complement sites to the east
 - Provide access to the west side and additional context regarding the historical and cultural importance of this area
 - Connection to Pat Baca Park

Protect & Enhance

- Rio Grande Bosque Wildfire Mitigation Project (FEMA)

Existing Funding & Resources

- Other City Departments
- Bernalillo County, MRGCD, ABCWUA, SVRRA, CESSOS, SHPO

Alameda SE

- Public Use
 - Realignment of the trails to slow and separate bikes from other users, new native plant landscaping, picnic tables with shade, additional interpretive signs including an entry plaza featuring a Smart Solar Flower, and secondary entry plaza with a kiosk.
- Protect & Enhance
 - RGEMP project
 - ABCWUA DWP
 - Bernalillo County outfall
 - Invasive species management
- Existing Funding & Resources
 - Bernalillo County
 - ABCWUA
 - USACE



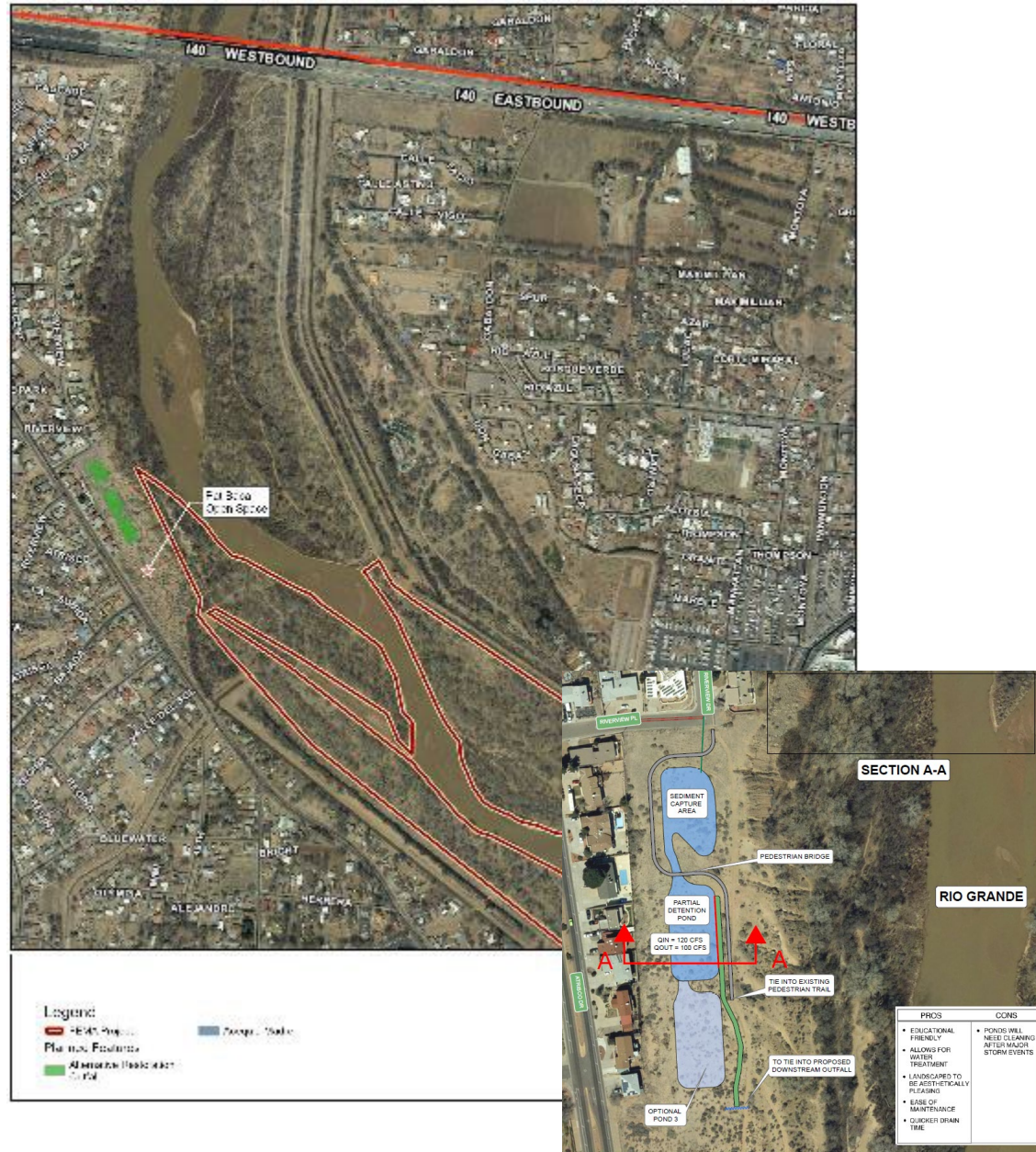


Montano SW

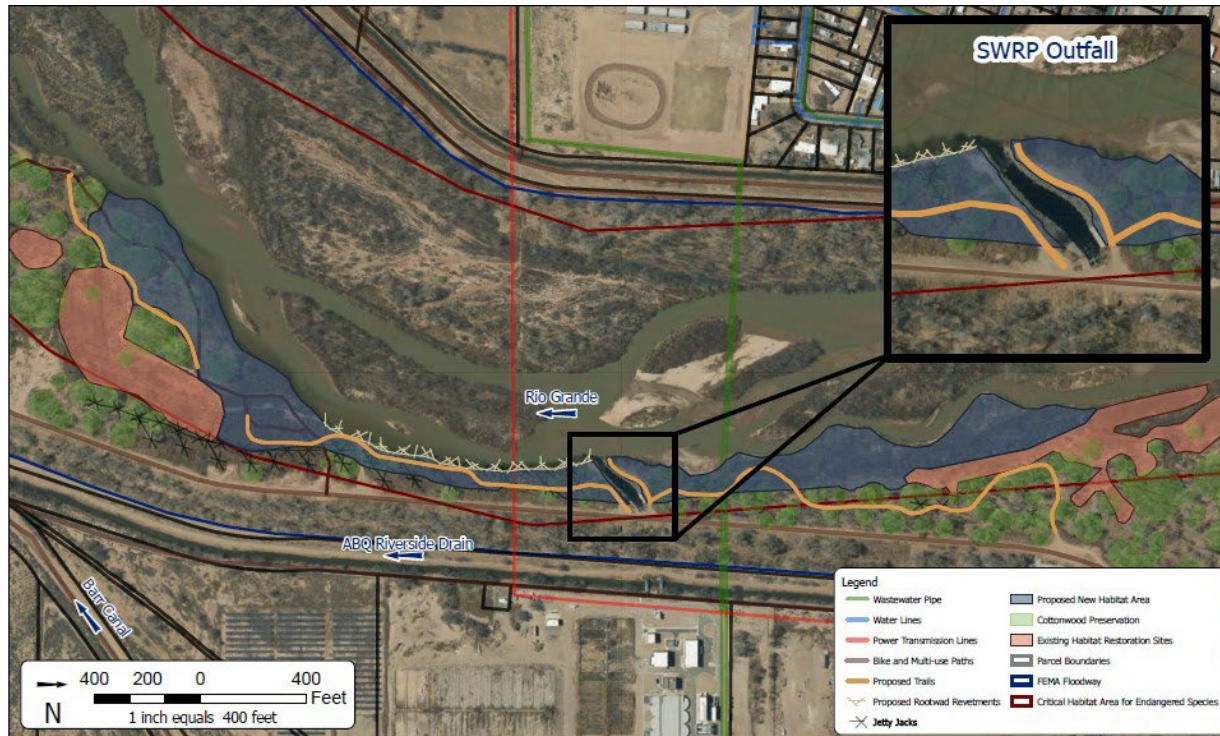
- Public Use
 - Pueblo Montano parking lot
 - Small watercraft access
 - Wayfinding and interpretive signage
- Protect & Enhance
 - Post-fire restoration
 - Invasive species management
- Existing Funding & Resources
 - EMNRD State Forestry
 - BEMP
 - Bosque School

Pat Baca

- Public Use
 - Pat Baca access
 - Trail reroutes (erosion)
 - Wayfinding and interpretive signage
- Protect & Enhance
 - Erosion restoration
 - Detention Pond/Outfall restoration
 - Rio Grande Bosque Wildfire Mitigation (FEMA)
- Existing Funding & Resources
 - City DMD, Reclamation, MRGCD



Southside Reclamation Treatment Plant Outfall Restoration Project Area



- Public Use
 - South Valley Access – formal access and trail
 - Wayfinding and interpretive signage
- Protect & Enhance
 - Improve water quality
 - Habitat enhancement through floodplain reconnection and woody-debris structures
- RGSM & SWFL
- Existing Funding & Resources
 - ABCWUA, ONRT, NMISC, MRGCD, USACE, COA OSD

State Land Office Bosque



- Public Use
 - Adjacent to Valle de Oro
 - Drain crossing
 - Potential boat take out
 - Education & Conservation
- Protect & Enhance
 - Management of SLO restoration
 - Rio Grande Returns project
- Existing Funding & Resources
 - USFWS
 - AMAFCA
 - SLO

Calabacillas Arroyo (Alameda SW)

- Public Use
 - Improve trail connections and access
- Protect & Enhance
 - Invasive species management
 - Ravenna grass
- Existing Funding & Resources
 - AMAFCA
 - EMNRD State Forestry



Rio Bravo/ Poco Loco NE

- Public Use
 - Update parking lot and public use area based upon NMDOT Rio Bravo widening project
- Protect & Enhance
 - Invasive species management
- Existing Funding & Resources
 - Ancestral Lands Conservation Corps (ALCC)



Section 5 – Operations & Maintenance

| Maintenance Item | Description |
|--------------------------------|---|
| Trash | OSD manages 20 locations with trash receptacles at parking areas and trailheads in the RGSP and staff services them on weekly basis M,W,and F. See map for locations |
| Mutt Mitt Stations | OSD manages and services pet waste stations at trail heads and parking areas at Bosque access points. Maintain supply of bags, remove graffiti and ensure stations are in working order. |
| Transient camp clean-up | The City has a protocol (reference doc. Name) for removing encampments that includes coordination with APD and Albuquerque Community Safety (ACS). |
| Mow along trails | The OSD mows xx ft into the trail along Paso del Bosque (add time frame) |
| Wetland irrigation season | The OSD manages XXX of wetlands along with RGVSP. XX number is managed using flood irrigation. Following the surface water availability with MRGCD's schedule, staff will coordinate with ditch rider and open and close gates to ensure water delivery |
| Trail maintenance | Working with volunteers, youth crews etc city maintains trails. This includes National River Day and Dia del Rio. However, it has been identified that more staff support is required to adequately manage trails and the OSD need additional dedicated park attendants. |
| Clean vault toilet | The OSD services vault toilet facilities at Alameda and Pueblo Montano, regular schedule maintenance every 3 months. |
| Signage & parking assessment | Signage assessed on an annual basis. Replacement and repair as needed, due to graffiti, damage due to vandalism or wear and tear due to the elements. Fence repair as needed |
| Assess bridges | The OSD manages removal of vegetation encroaching within 50-100 ft buffer zone under and around major bridge crossings over the river. |
| Hazardous trees assessment | Hazard trees removed as needed along trails and parking areas to maintain clearance for safety of visitors |
| Wetland management | Monitoring for health of wetlands, invasive species, and wildlife. Ensure water delivery |
| Irrigation ditch improvements | Manage and repair gates and turnouts to OS properties, clean out overgrown vegetation, litter or debris to ensure water conveyance. Shore up berms and manage areas of erosion |
| Hazardous fuels/Fuels thinning | Dead and down woody materials processed by mastication or removal offsite |
| Plantings | Pole planting projects in winter with volunteer groups and Riverxchange students. Maintain swales and planting areas to treat and remove invasive vegetation. Plant seed of native grasses, wildflower and forbs and shrubs in priority restoration areas. Follow protocols and best practices for plantings. Gather data and monitor restoration areas |

Remaining Sections

- Required Resources
- Monitoring and Adaptive Management Strategies
- BAUP Implementation Budget Needs
- Implementation Summary
- BAP Policy Updates
 - New: Fire management/fuel reduction; Climate change
- References Cited

- OSD Management Considerations

- Develop an annual report specific to OSD's management of the RGVSP that includes monitoring summary, major projects, plantings and trail projects, unique factors (fires, drought, floods), adaptive management changes, and recommendations for the next year.
- Work with UNM Biology Dept. to assist with ongoing monitoring focused on post fire recovery and remediation efforts as well as invasive species expansion (probably better term).
-