



Nature-Based (NB) Project Opportunity Pipeline for SARA Self-Investment

EAC
9/16/2022



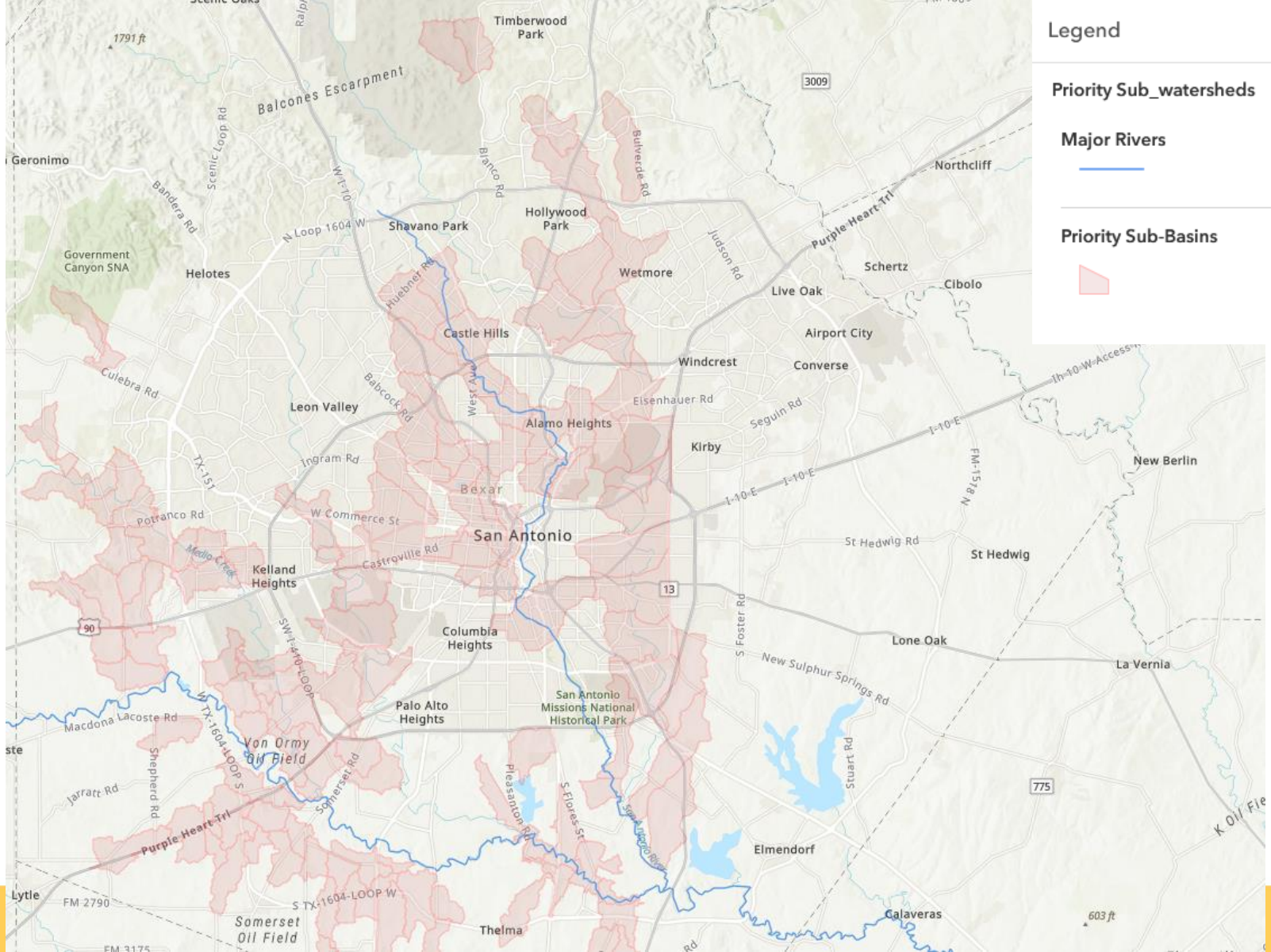
Nature-Based Infrastructure



Overview

- Research opportunities to invest in NB infrastructure:
 - On SARA owned, operated, and maintained property.
 - In known priority areas; water quality, urban flooding, and in-stream.
 - To lead by example and achieve SARA's mission of safe, clean enjoyable creeks and rivers.





Legend

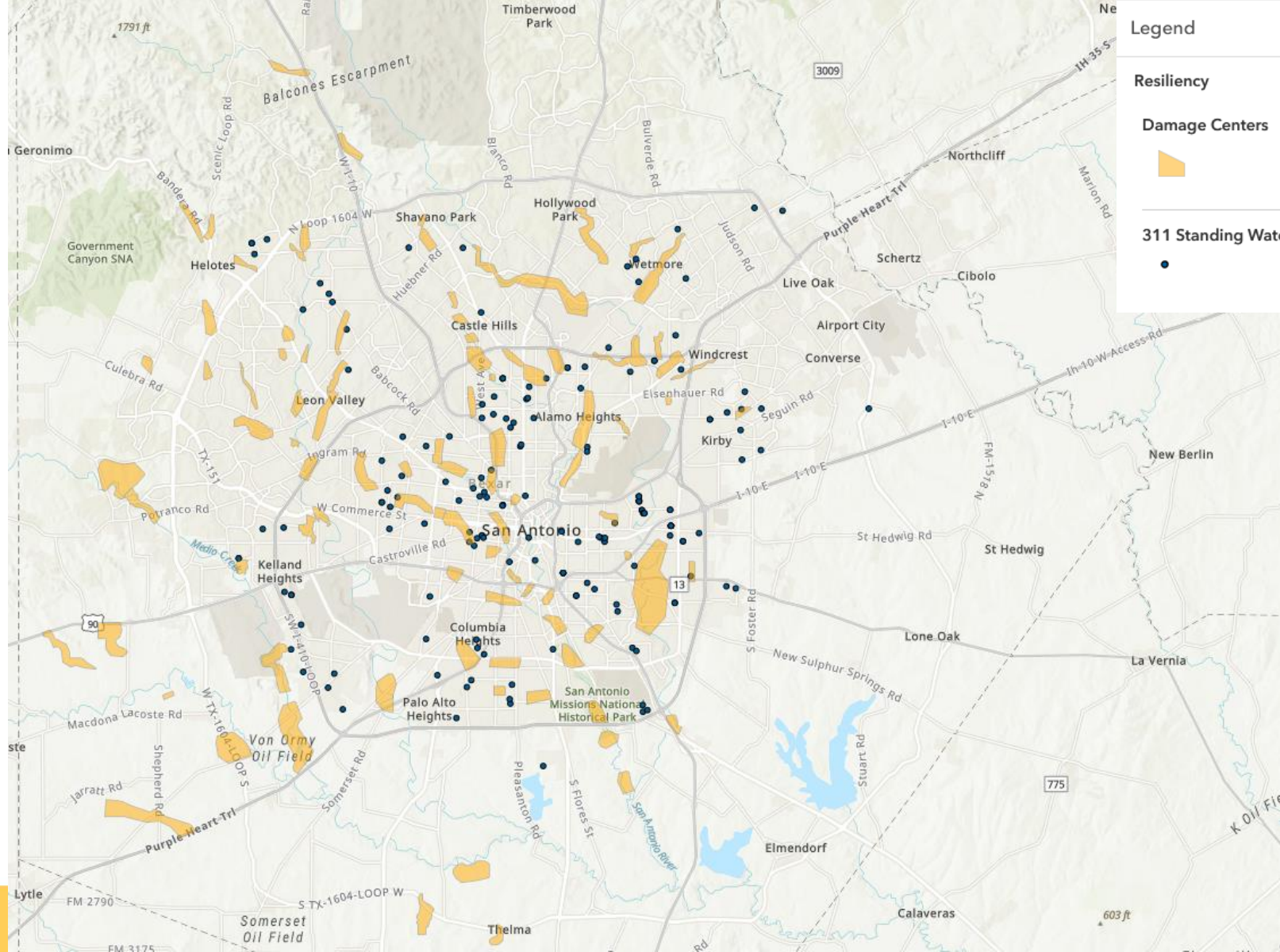
Priority Sub_watersheds

Major Rivers



Priority Sub-Basins





Legend

Resiliency

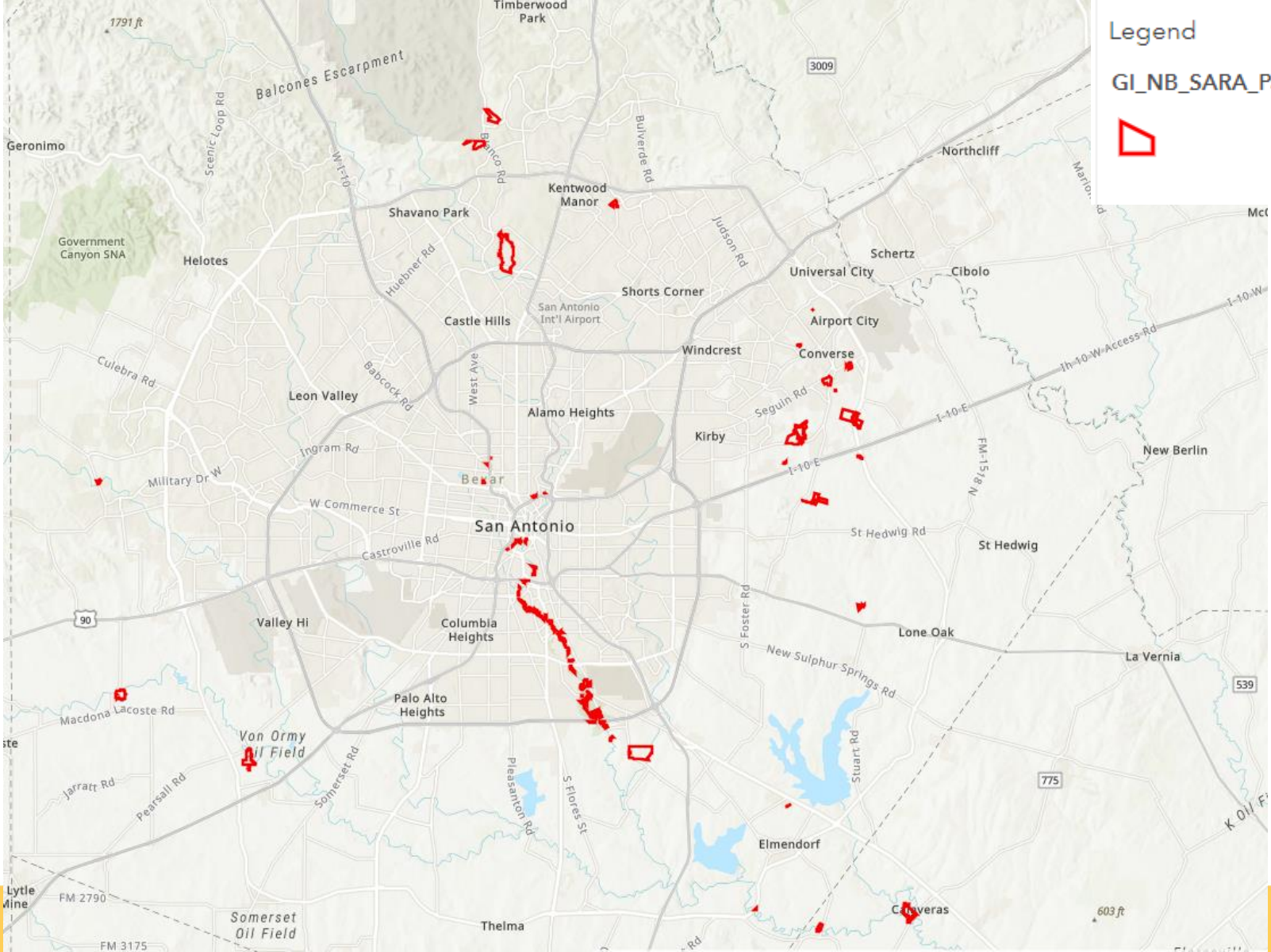
Damage Centers



311 Standing Water (2020)



GI_NB_SARA_Parcels_2022



SARA Self-Investment GI/NB Opportunities

Legend

GI_NB_SARA_Parcels_2022



SARA RE Parcels that intersect with COSA Linear Creekways



SARA_Facilities - Facilities



Parks_Master_Plan_Georeference (DEV) -
Park_Boundaries



Highlights: GI/NB Opp. Pipeline



Riverside Dr. & Roosevelt Ave.



Straus Medina - Hendrick Arnold Park



Mann's Crossing, Von Ormy (Catfish Farm)



Truehart Ranch, Otilla Dam



Cassin Lake



Site Summary

Project ideas categories: <input type="checkbox"/>	Owned <input type="checkbox"/>	SARA Owned (partial, future) <input type="checkbox"/>	Cost estimate: <input type="checkbox"/> Cost (\$)	Construction readiness: <input type="checkbox"/> Details <input type="checkbox"/>	Construction ready in 6 months? (4 months design + bidding) <input type="checkbox"/>	Ready to construct within 1 year <input type="checkbox"/>	Ready to construct in 2 year <input type="checkbox"/>	Ready to construct 3 years or more <input type="checkbox"/>	Damage Center (#) <input type="checkbox"/> WMP-project (#) <input type="checkbox"/>	Priority Subbasin (No.) (Aug 2019) <input type="checkbox"/>	Priority Subbasin downstream (No.) <input type="checkbox"/>	Stream Restoration Potential (No., Classification) <input type="checkbox"/>	Grant Partner <input type="checkbox"/>	Potential Grant Funding (\$) <input type="checkbox"/>	O&M level (WPO-PW) <input type="checkbox"/>
6	Yes	Yes	Straus Medina [RE ID: 4107]	Idea Phase	Parks Work Group: Hendrick Arnold Park							ID: 640 Restoration			
9	Yes	Yes	Von Ormy (SAWS-Catfish Farm - Mann's Crossing) [RE ID: 3183]	Idea Phase	Parks work Group: Mann's Crossing					313		ID: 1613 & 1728 Rehabilitation			
21	Yes	Yes	Cassin Lake [RE ID: 4429, land title survey, closed June 29th.	Idea Phase	EE site visit identified potential for stream restoration of main spillway and surrounding waterways.					560		ID: 504, 540, 563, & 577 Preservation, Pond, Restoration, & Preservation			
29	Yes	Yes	Truehart Ranch (Otilla Dam?)		Parks work Group: Truehart Ranch Park										
30	Yes	Yes	Riverside Dr. & Roosevelt Rd.	Idea Phase	Need to discussion with WPO since they also use this area. If we like, we could approach COSA to consider for the LID Bond Match.			Treat stormwater runoff on SARA property, where City, SARA, investments are happening (ROAD, LID, and Ped Bridge projects.)	40	460			COSA, EPA, TCEQ	COSA LID Bond Match, 319 Grant, others?	

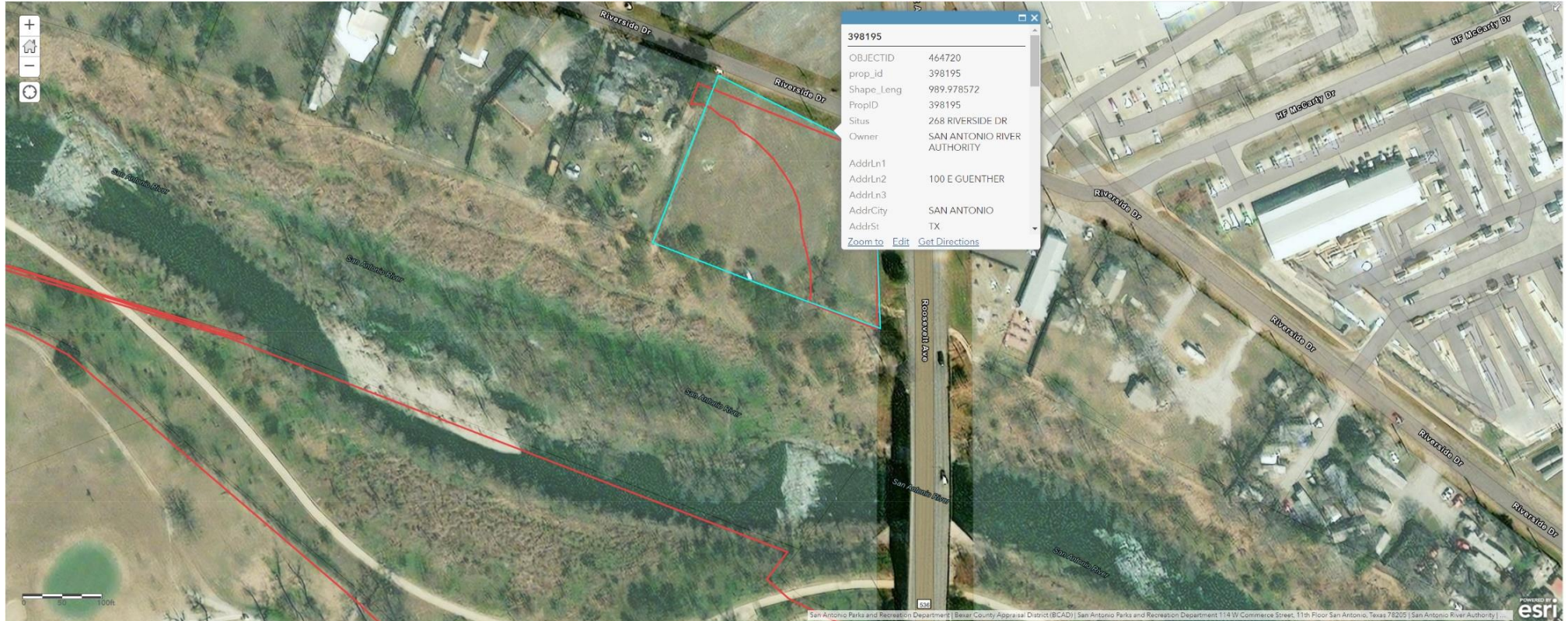


Project Readiness

Project	Priority	Name	Construction readiness:	Details	Verify Site should be considered (WPO, RE, etc)	Develop Idea/ Site Visit	Idea developed, ready for design, Preliminary Engineer Review (PER) complete	Design Phase	Design complete + ready for bid	Partners and/or Grant/Outside Funding Identified	Agreement/ Contract Signed	Construction Phase	Post Construction Inspection	Operation & Maintenance
6	Yes	Straus Medina (Hendrick Arnold)	Idea Phase	Parks Work Group										
9	Yes	Von Ormy (SAWS-Catfish Farm - Mann's Crossing)	Idea Phase	Parks work Group										
21	Yes	Cassin Lake [RE ID: 4429, land title survey, close June 29th.	Idea Phase	Ideation										
29	Yes	Truehart Ranch (Otilla Dam?)		Parks Work Group										
30	Yes	Riverside Dr. & Roosevelt Ave.	Idea Phase	SARA Property at (COSA Bond LID & Ped Bridge projects)						City, SARA, investments are happening (ROAD, LID, and Ped Bridge projects.)				

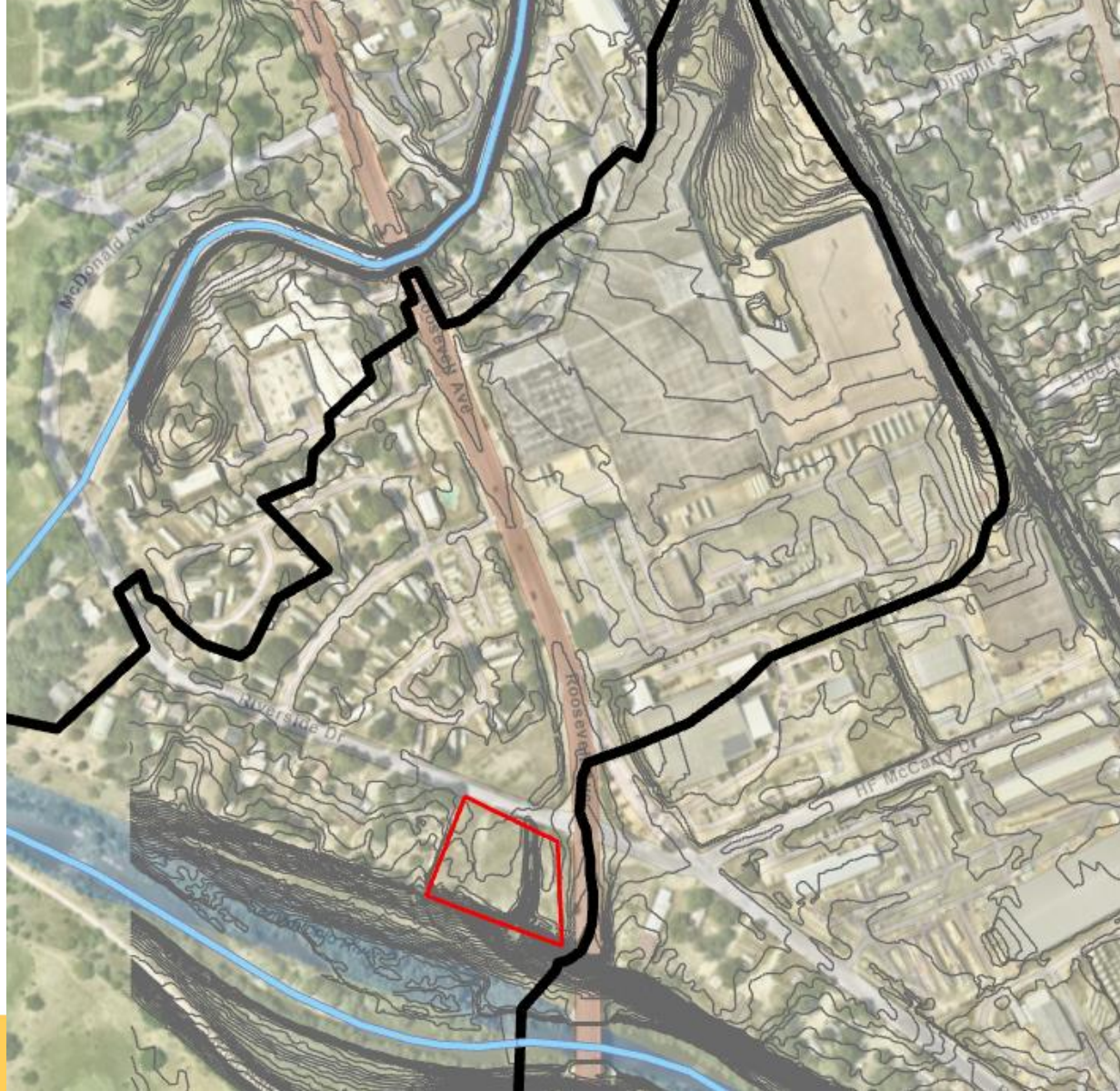


Riverside Dr. & Roosevelt Ave.



GI NB SARA Parcels 2022 (Features: 118, Selected: 0)													
RE_ID_Text	RE_ID_Num	Name	RE_Type	RE_Status	RE_GIS_Status	created_user	Created_date	last_edited_user	Last_edited_date	GIS_Shape_Size	Area_sqft	Area_acre	Longitude
2162	2162.000000		Owned Property	ST001	PUBLISHED	RSEGURA	12/22/2021, 11:49 AM	garthvader	3/1/2022, 4:40 PM		27405.225695	0.630974	
													Address
													268 Riverside Dr, San Antonio, TX 78210, USA







PLAN VIEW LEGEND

A1

LID DRAINAGE AREA

DRAINAGE AREA BOUNDARY

1' EXIST CONTOURS

FLOW DIRECTION

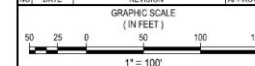
BIOSWALE FOOTPRINT



NOTES:

- EXTERNAL DRAINAGE AREA BOUNDARIES DELINEATED TO ROOSEVELT AVE. BASED OFF 2017 LIDAR 1' CONTOURS.
- BIOSWALE FOOTPRINTS SHOWN REFLECTS BOTTOM STONE LAYER LIMITS OR LAYER BENEATH SOIL MEDIA.
- BIOSWALE ARE DESIGNED TO ALLOW PONDING FOR UP TO 6-INCHES.

NO.	DATE	REVISION	APPROVED



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MAESTAS

CEC

1550 IH 10 WEST, SUITE 306
SAN ANTONIO, TEXAS 78238-1537
TEL: (210) 641-9999 FAX: (210) 641-6440
CIVIL ENGINEERING CONSULTANTS
P&H CONSULTING, INC.
TYPE REGISTRATION NO. F-2214
TYPE REGISTRATION NO. 1284506

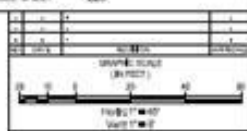
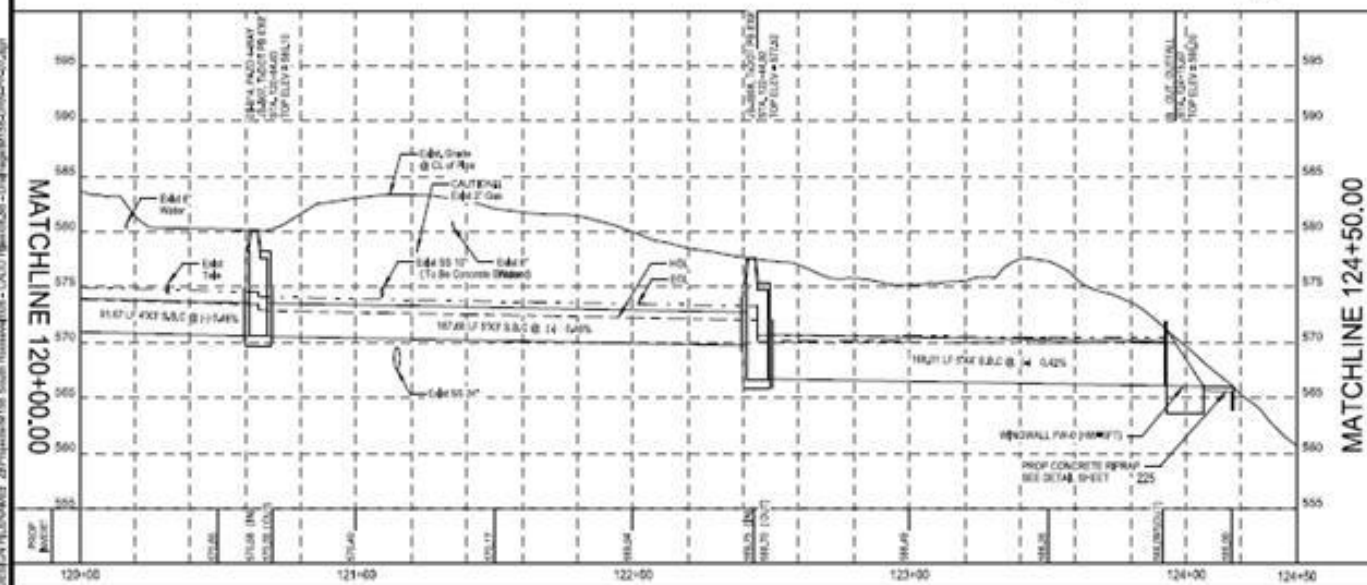
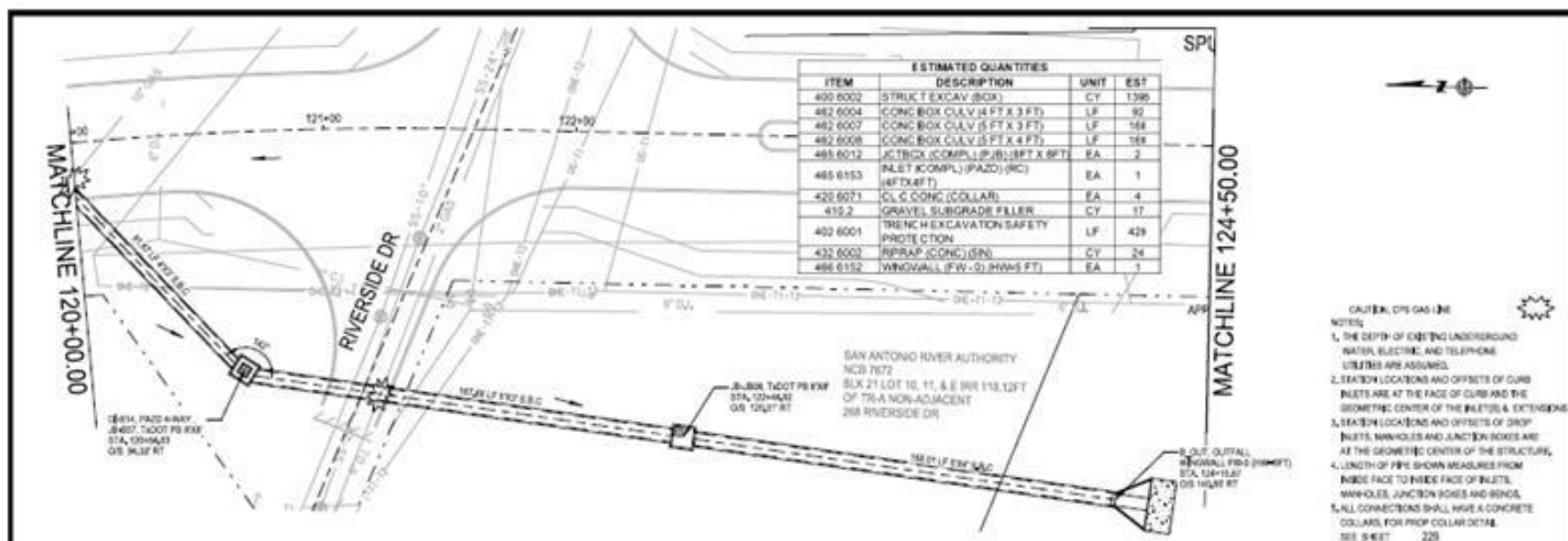
ROOSEVELT AVE

LID DRAINAGE AREA MAP

SHEET 1 OF 1

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FED. PROJ. NO.	FEDERAL AID PROJECT NO.	PLAN SHEET
6	23-01606	222
STATE	DIST.	COUNTY
TEXAS	SAT	BEXAR
CONTRACT	SECTION	JOB
0253	06	039
		HIGHWAY / STREET
		ROOSEVELT



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MAESTAS

CEC

MAESTAS CONSULTING ENGINEERS, P.C.

10000 WEST 10TH STREET, SUITE 200

IRVING, TEXAS 75039-2000

TEL: 972.440.1000 FAX: 972.440.1001

WWW.MAESTASCEC.COM

ROOSEVELT AVE

DRAINAGE

PLAN AND PROFILE

STORM SYSTEM "B"

STA. 120+00.00 TO STA. 124+50.00

SHEET 7 OF 16

DESIGNED BY: [Signature]

CHECKED BY: [Signature]

APPROVED BY: [Signature]

DATE: 01/20/2016

PROJECT: [Project Name]

CLIENT: [Client Name]

LOCATION: [Location]

SCALE: [Scale]

DATE: 01/20/2016

PROJECT: [Project Name]

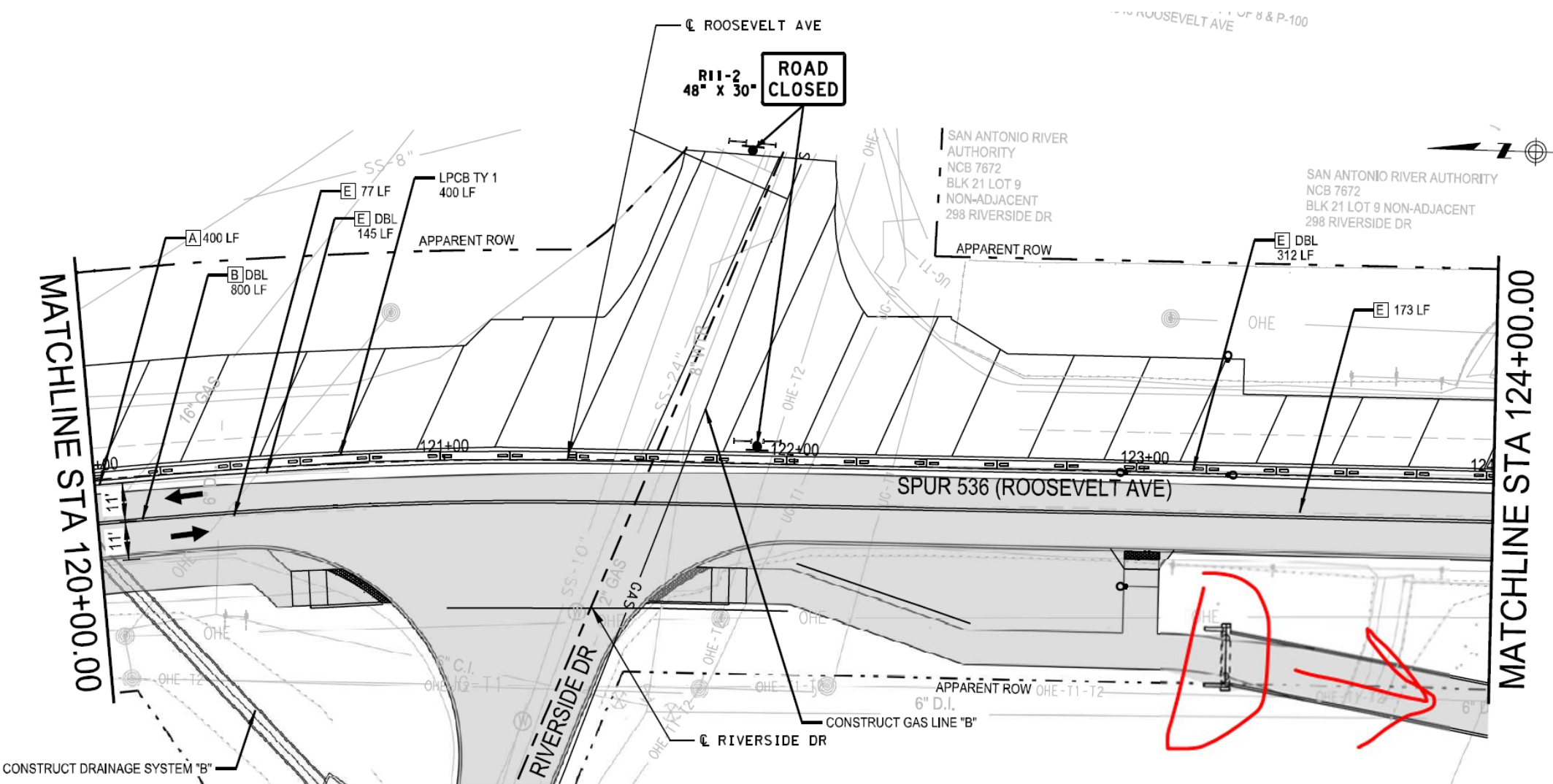
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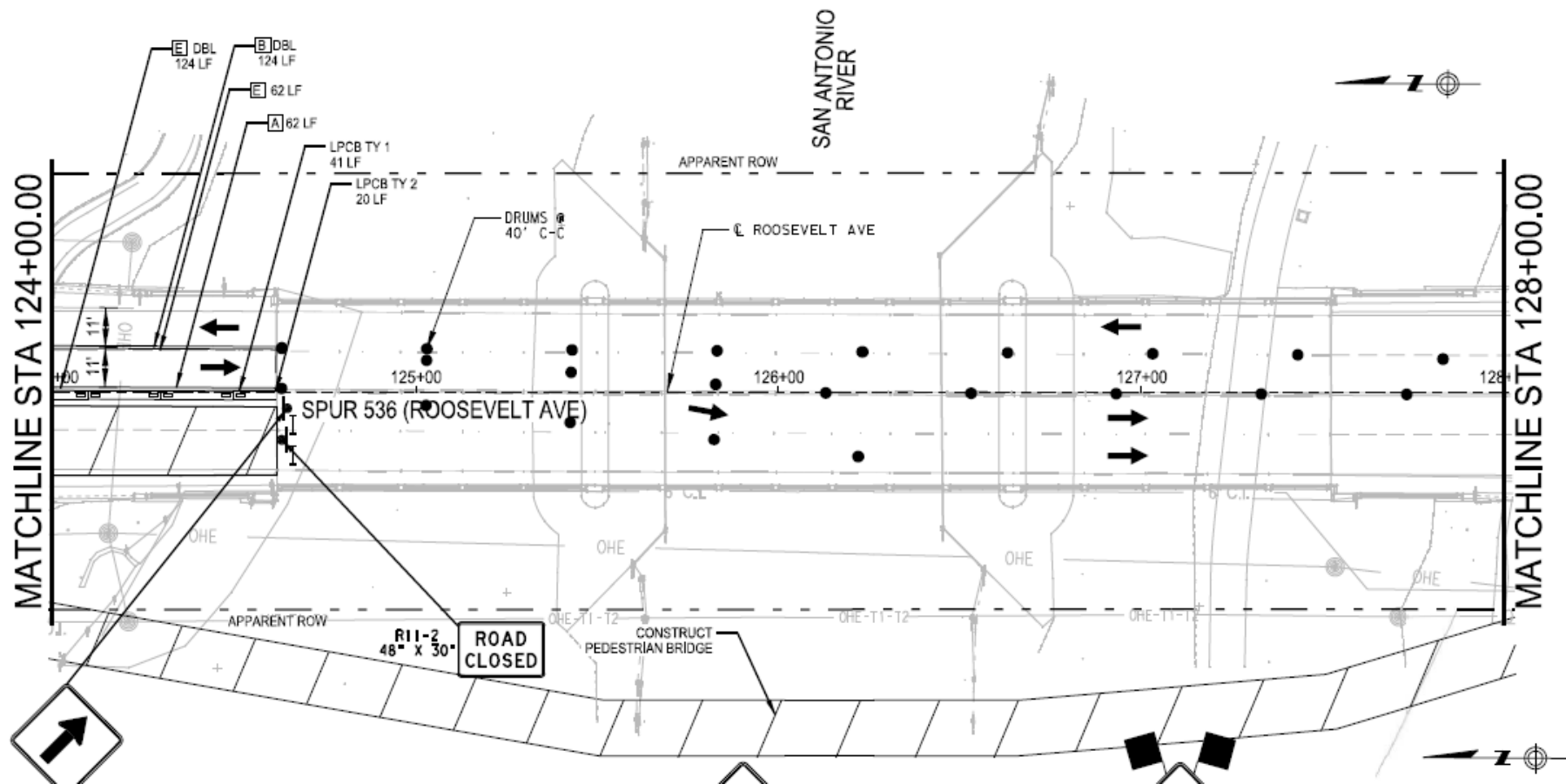
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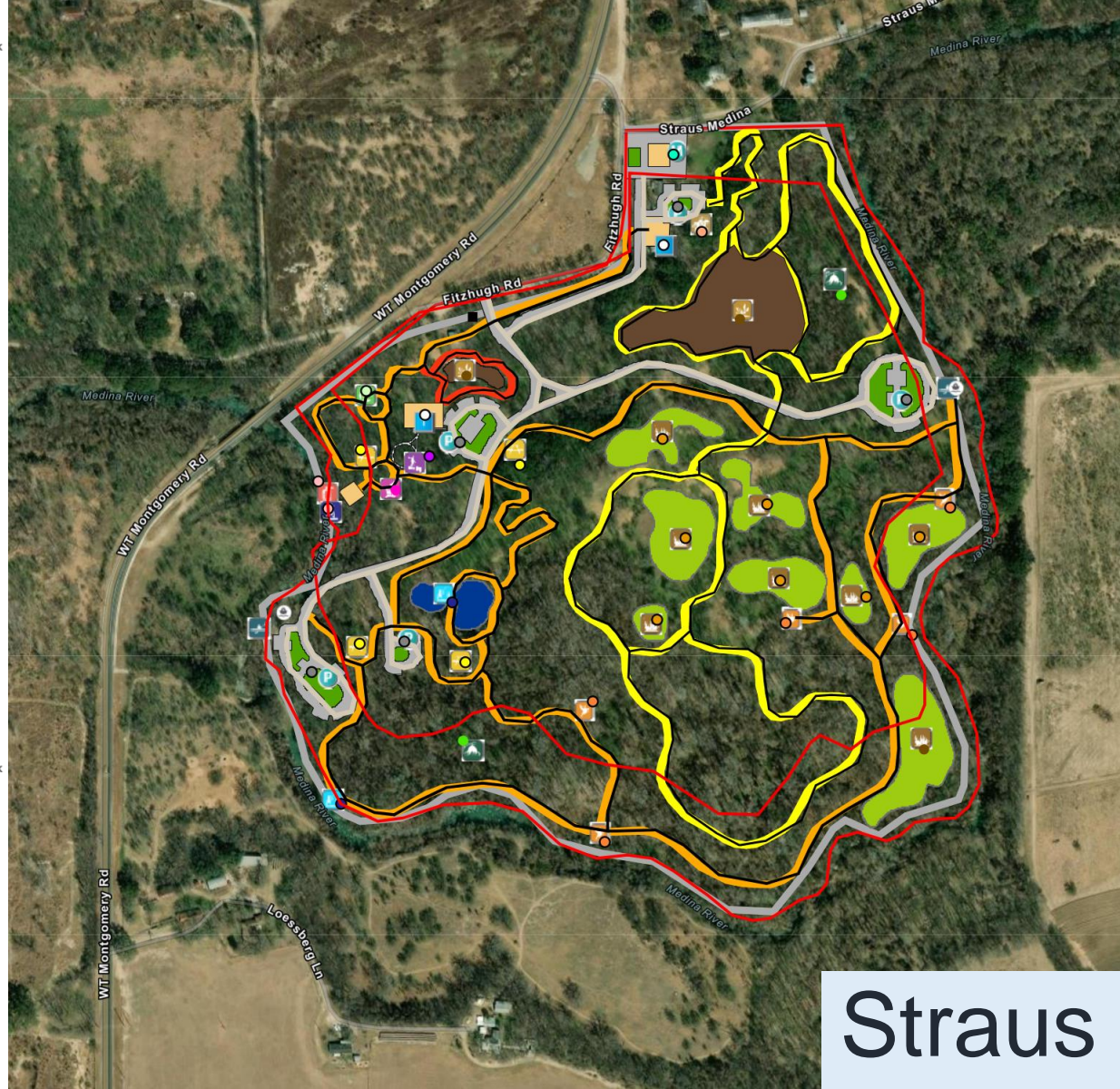


Parks Master Plan: Trueheart Ranch Park, Manns Crossing Park, Hendrick Arnold Park (DEV) - gisParkPOI - Trueheart Ranch

-  Acequia Interpretive Station
-  Amenity Campground
-  Bird Watching Station
-  Blackland Prairie Restoration
-  Butterfly Garden
-  Compost Restroom
-  Cultural Historical Interpretation
-  Equestrian Area
-  Fishing Area
-  Maintenance Facility
-  Nature Themed Playground
-  Observation Tower
-  Off-Road Skills Development Course
-  Outdoor Classroom
-  Parking with Raingardens
-  Passive Bio Swale
-  Pecan Orchard
-  Picnic & Open Play
-  Prairie Grass Restoration
-  Primitive Campground
-  RV Campground
-  Reforestation
-  River Access
-  Scenic View
-  Trail Head & Restrooms
-  Trail Head & Restrooms with Cyclist Amenities
-  Trueheart Ranch Campus
-  Wetlands Conservation
-  Wilderness Campground






























Parks Master Plan: Trueheart Ranch Park, Manns Crossing Park, Hendrick Arnold Park (DEV) - gisParkAOI - Trueheart Ranch

-  Facility
-  Fishing Area
-  Gateway
-  Prairie Grass Restoration
-  Rain Garden Area
-  Roadway
-  Seating Block
-  Walk
-  Walkway
-  Wetlands Conservation













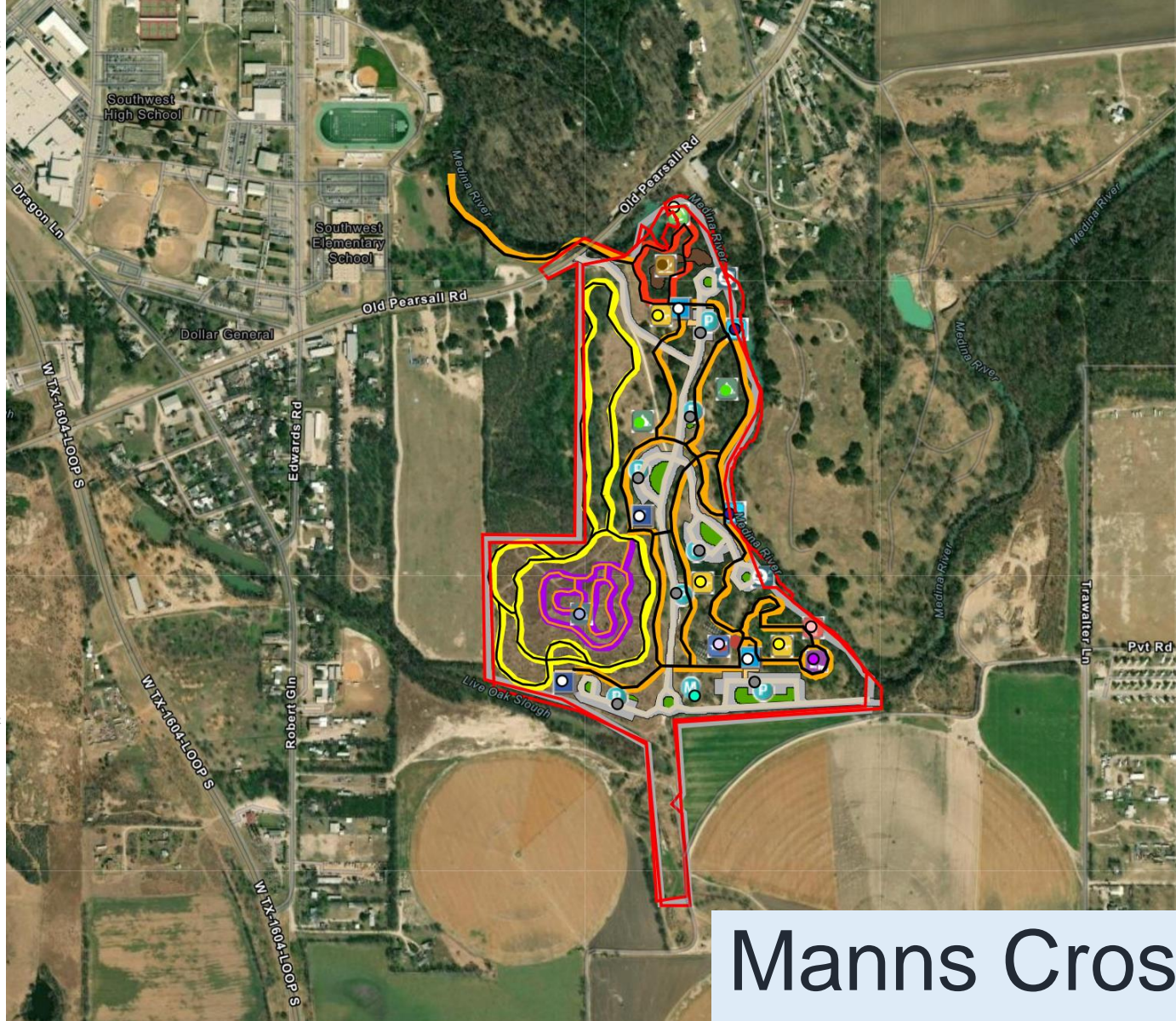
Straus Medina

Parks Master Plan: Trueheart Ranch Park, Manns Crossing Park, Hendrick Arnold Park (DEV) - gisParkPOI - Trueheart Ranch






























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Parks Master Plan: Trueheart Ranch Park, Manns Crossing Park, Hendrick Arnold Park (DEV) - gisParkAOI - Trueheart Ranch











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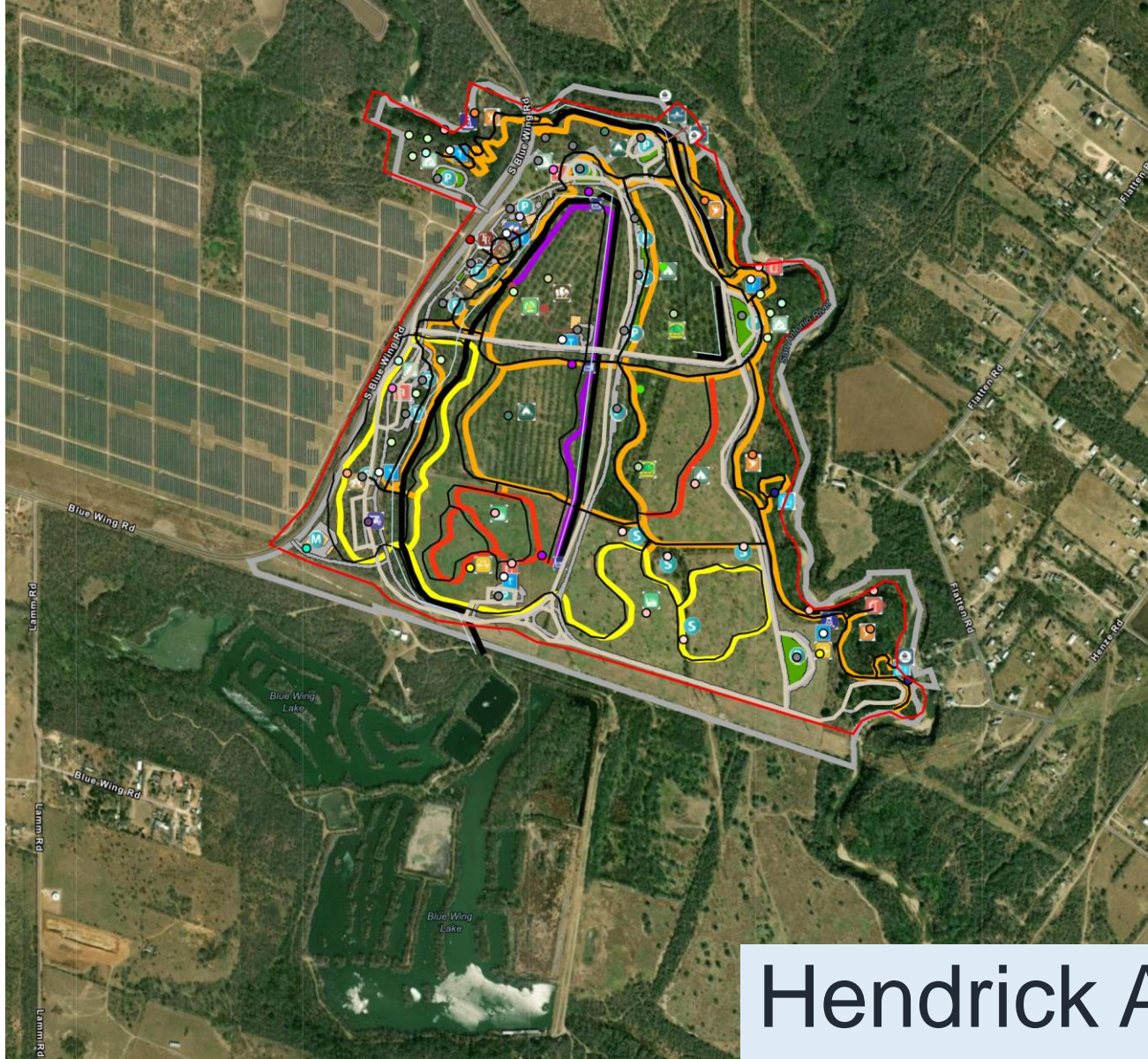


Manns Crossing

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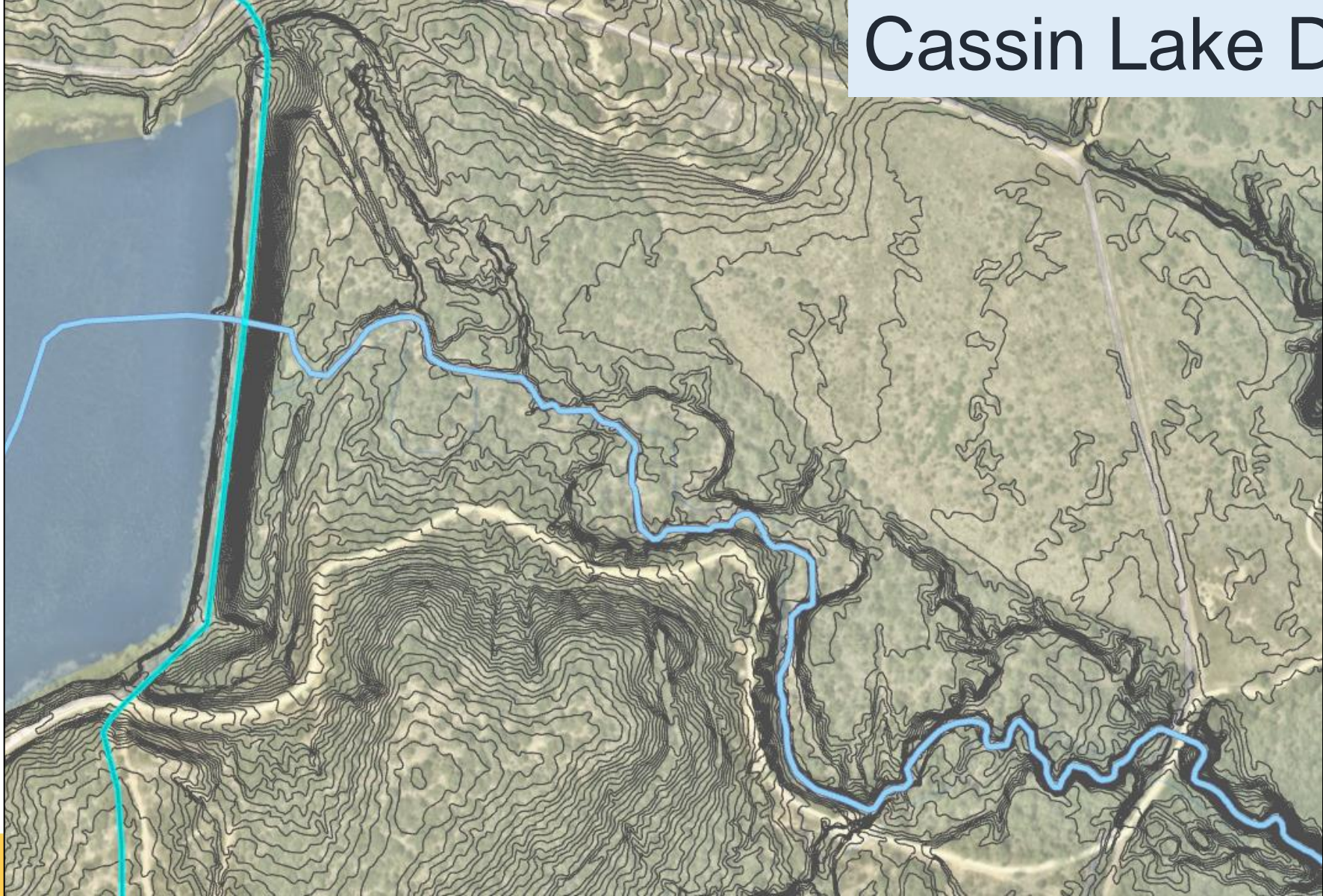
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Arnold Park (DEV) - qisParkAOI - Trueheart Ranch

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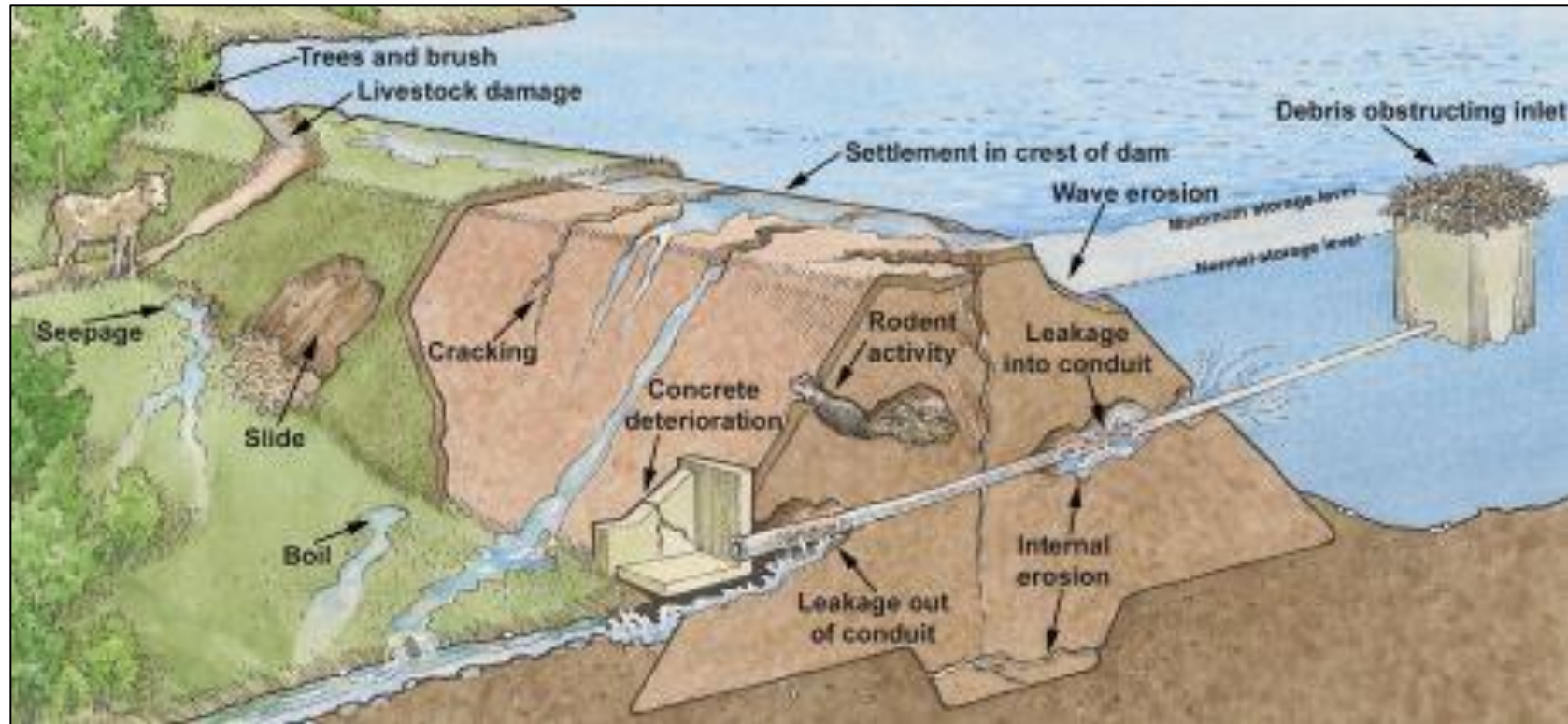


Hendrick Arnold

Cassin Lake Dam



Inspection & Repair



<https://theconstructor.org/water-resources/causes-failures-earthfill-dams/2287/>





Protect Water Quality





Repair Spillway



A photograph of a stream restoration site. In the foreground, a large, tangled pile of dry brush and branches is scattered across the ground. Behind this pile, a steep, exposed bank of light-colored soil or sand rises. The bank shows signs of erosion, with a distinct horizontal layer visible. The top of the bank and the surrounding area are covered with green trees and shrubs, some of which have roots exposed on the bank. The scene is brightly lit, suggesting a sunny day.

Stream Restoration



Halt Land Loss

Minebank Run in Baltimore, Maryland. Before (top) and after (bottom) stream restoration .





Protect Infrastructure

Committed to Safe, Clean, Enjoyable Creeks and Rivers.



Next Steps

- Develop Projects
 - Design
 - Cost
 - Constructability Timeline
- Run Projects Through Scoring Tool
 - In Development
- Continue Searching for Sites with Potential



Draft Scoring Criteria and Goals

Safe	Clean	Enjoyable	Fiscal Stewardship
<ul style="list-style-type: none">• Flooding• Stream stability/Erosion• Population impacted/Equity	<ul style="list-style-type: none">• Water quality priority• Pet, livestock, wildlife waste• Heat island mitigation• Habitat restoration & protection	<ul style="list-style-type: none">• Connectivity• Quality experience• New parks & Trails• Trash reduction	<ul style="list-style-type: none">• Design & construction cost estimates• O&M costs• Project dependencies• Partner funding• Procurement• Reuse materials



Questions?



From downtown San Antonio to the Texas Coast, the San Antonio River Authority is dedicated to nurturing and protecting this amazing ecosystem. That's something we can all be proud of.

GET INVOLVED

SAFE

CLEAN

ENJOYABLE