



San Pedro Creek
improvements Project
CONNECTING COMMUNITIES

Design and Construction Update



San Pedro Creek
improvements Project
CONNECTING COMMUNITIES
WWW.SPCPROJECT.ORG

Design Development Timeline

Tunnel Inlet to Houston Street

- Feb. 9: Internal review of design to Houston Street
- Feb 28: Balance of design submitted for pricing
 - Landscaping, irrigation and wayfinding
- Apr 27: Price proposal from SDJV for remainder of scope

Design Development Timeline

Phase 1 South of Houston and Phase 2

- May 19: 90% Design Submittal to be submitted for pricing
- Jul 15: Guaranteed Maximum Price (GMP) from SDJV
- Sept 1: Projected start of construction

Construction Activities

- Horizontal Directional Drills (Joint Bores)
 - All bores complete
 - Completing hand holes and restoration on Houston, Commerce and Dolorosa
 - AT&T work ongoing on Houston and Commerce



Construction Activities

- Excavation at Tunnel Inlet
- Tree preservation and removal
- 8" Sewer and Waterline relocations at tunnel inlet

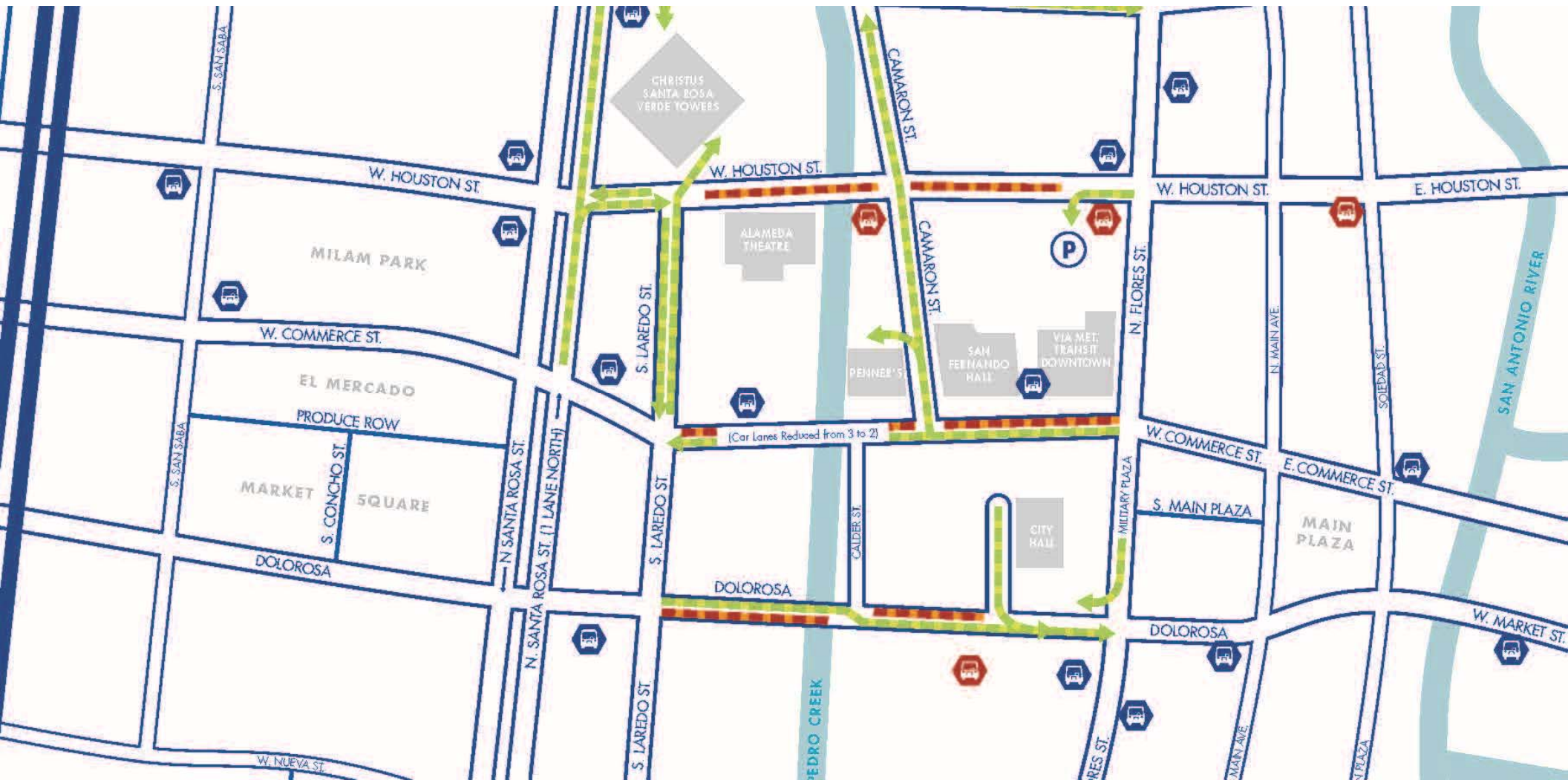


San Pedro Creek
improvements Project
CONNECTING COMMUNITIES
WWW.SPCPROJECT.ORG

Traffic Control Schedule

- Current Closures
 - Phase 1





Traffic Control Schedule

Upcoming Closures

- February 9 - March 3: same as current closures
- March 6 - March 31:
 - Same as current from tunnel inlet to Houston
 - Commerce- working with AT&T and Time Warner Cable to develop schedule
 - Dolorosa Street: all lanes open
 - Nueva Street: Westbound lane closed



Traffic Control Schedule

Projected Closures

- Full closure of Commerce Street:
September/October 2017 for 3 months
 - Houston Street will be fully opened during the full closure of Commerce Street
- Projected closures of other street bridges in Phases 1 & 2 currently under review by CoSA

Upcoming Activities

- Complete hand holes and restoration on Dolorosa and begin work on Nueva
- Excavation from Santa Rosa to Martin
- Begin installation of fountain piping at tunnel inlet
- Begin construction of structures at tunnel inlet



San Pedro Creek
improvements Project
CONNECTING COMMUNITIES
WWW.SPCPROJECT.ORG

Communications Update

Branding

As in some
ancient legend
a city
bubbled forth.

 **San Pedro Creek
improvements Project**
CONNECTING COMMUNITIES
www.spcproject.org



**San Pedro Creek
improvements Project**
CONNECTING COMMUNITIES
WWW.SPCPROJECT.ORG

Promotion Materials

- Fact sheets
- Information packets
- Posters
- Bumper stickers
- Hard hat stickers
- Fiesta medals
- Construction fencing
- Displays



The poster features a watercolor background with a large purple lotus flower and a grey heron in the lower right. The project logo is at the top left, and the mission, limits, and features are listed in the center. The slogan 'Rooted in the past, destined for the future.' is written in a blue script font on the right. Logos for the State of Texas, San Antonio River Authority, and Bexar County are at the bottom.

**San Pedro Creek
improvements Project**
CONNECTING COMMUNITIES

MISSION
Our mission is to create a world-class linear park that represents the cultural identity of our community and inspires the people of Bexar County.

PROJECT LIMITS
The project limits begin at IH-35 at the flood tunnel inlet to the north and end at the confluence of the Alazán and Apache Creeks at IH-35 to the south.

PROJECT FEATURES

- 2 miles of channel
- 4 miles of paseos
- 11 acres of landscaped area
- 30 acres removed from floodplain
- 8 street bridges replaced
- 6 new pedestrian bridges
- 6 existing bridges rehabilitated
- 60,000 linear feet of new walls
- 3 new channel gates
- 1 new amphitheater

*Rooted in the past,
destined for the future.*

THE STATE OF TEXAS
COUNTY OF BEXAR

SAN ANTONIO RIVER AUTHORITY
Leaders in Watershed Solutions

WWW.SPCPROJECT.ORG

Website Revamp



[ABOUT](#) [COMMUNITY INVOLVEMENT](#) [STUDIES & REPORTS](#) [CONSTRUCTION](#) [NEWSROOM](#) [CONTACT US](#) [Q](#)

Rooted
in the past,
destined for the
future.



Phase 1 Construction Now Underway

[Learn More](#)



San Pedro Creek
improvements Project
CONNECTING COMMUNITIES
WWW.SPCPROJECT.ORG

Weekly Emails

- 82 new subscribers from the project website
- 526 total new subscribers since December
- 1,028 total subscribers



Media Coverage

- 63 pieces of media coverage from November 9 – February 7
- 239,000 estimated coverage views

Social Media

Launched on December 13
3,280 social media shares



- 248 likes



- 180 followers



- 87 followers



San Pedro Creek
improvements Project
CONNECTING COMMUNITIES
WWW.SPCPROJECT.ORG

App

- Available on Google Play & Apple Store
- 40 downloads



Property Owner Mixer

- November 30, 2016
- 60 property and business owners in attendance



Community Meeting

- December 14, 2016
- 125 citizens in attendance
- Streamed on Facebook live



Presentations and Tours

- Presentations to community groups, neighborhood associations, partners
- Construction tours: starting the end of March



Presentation Tour

- Public outreach “SPC Tour” is currently being activated
- To date, 38 community organizations and stakeholder groups contacted and interested in presentations

Property & Business Owner Outreach

- Proactive and ongoing one-on-one meetings with property and business owners

Partnerships

- Bexar County and City of San Antonio
- Centro San Antonio
 - Partner in distribution of street closures and traffic detours
 - Met with 60 Centro Ambassadors
 - Provided 2,000 project factsheets for Ambassadors to share with downtown visitors
- DHS and Haven for Hope
 - Outreach for homeless along the creek



San Pedro Creek
improvements Project
CONNECTING COMMUNITIES

SAN PEDRO CREEK CULTURE PARK

SAN ANTONIO, TX

BEXAR COUNTY
COMMISSIONERS COURT
DESIGN BRIEFING 2.7.2017



SAN ANTONIO
RIVER AUTHORITY
Leaders in Watershed Solutions

CULTURE WALLS

THE EPIC STORY OF OUR COMMUNITY & CULTURE

2

RESTORING HARMONY - PEOPLE AND NATURE

The natural quality and beauty of San Pedro Creek was nearly destroyed when it was made into a drainage ditch, but is brought back to natural vitality and harmonious balance with the urban landscape.

1

TREE OF LIFE PLAZA

San Pedro Creek has been a place of natural beauty and human occupation for millennia; the origins of Bexar/San Antonio began in this vicinity with the founding of Mission San Antonio de Valero.

3

CROSSROADS OF FAMILY

San Pedro Creek has been a crossroads between people and families since the earliest periods of San Antonio's history. The population and businesses along the creek since the earliest periods of San Antonio's history have been mixed and interconnected.

4

CENTRO DE BEXAR

San Pedro Creek is central to much of San Antonio's formative but overlooked history. The revitalization of San Pedro Creek includes a re-narrative of San Antonio's neglected history from 1718 through 1968. Houston and Nueva Streets formed the north and south boundaries of the original Villa de San Fernando town site, with San Pedro Creek forming the west boundary and the San Antonio River the east.

5

PLACE OF ACCORD

The progress of respect for human rights and the rule of law are highlighted by the past social and economic struggles of the Mexican-American community in the 20th century. The history of San Pedro Creek as a cultural and social divide was most pronounced in this area where spacious houses lined the east bank and "mexican tenements" lined the west bank.

6

PASSAGES OF ENTERPRISE

San Pedro Creek was dramatically altered from its natural course to a concrete channel by the MKT Railroad and the agricultural landscape by the industries served along the rail line. The industrial urban land patterns are directly derived from the antecedent agricultural landscape.

CESAR CHAVEZ TO GUADALUPE STREET : RAILROAD
San Pedro Creek was buried in a culvert in order to build the Missouri Kansas Texas Station and Rail Yard.

GUADALUPE TO CAMP STREET: INDUSTRIAL AGE
The industrial development of South San Antonio began along the MKT Rail/San Pedro Creek corridor.

7

VIDA DE ARROYO

San Pedro Creek was essential to the 18th century Labores de Abojo, which was the breadbasket of San Antonio, and featured pecan groves that shaped the lives of those who produced, harvested and processed the nuts. Within the cultural landscape, the culture of food influences how people modify and activate the land.

8

PATHS OF CONVERGENCE

I-35 is the successor to the Pan American Highway, the Laredo Road, and the Camino Real de Laredo; a path of transportation and communication that predates European settlement. The movement of people along convergent paths over time and space

**“TO CREATE A WORLD RENOWNED
PLACE OF CULTURE IN THE SPIRIT OF
SOME OF THE MOST ICONIC PUBLIC
SPACES ON EARTH.”**

WORLD CLASS EXAMPLES

PARK GÜELL



UNITY OF DESIGN • CRAFT & DETAIL

PARK GÜELL, BARCELONA

Gaudí's complex iconography referenced political vindication to religious exaltation, passing through mythology, history and philosophy. The symbols found in Park Güell are associated to political and religious signs, with a touch of mystery.



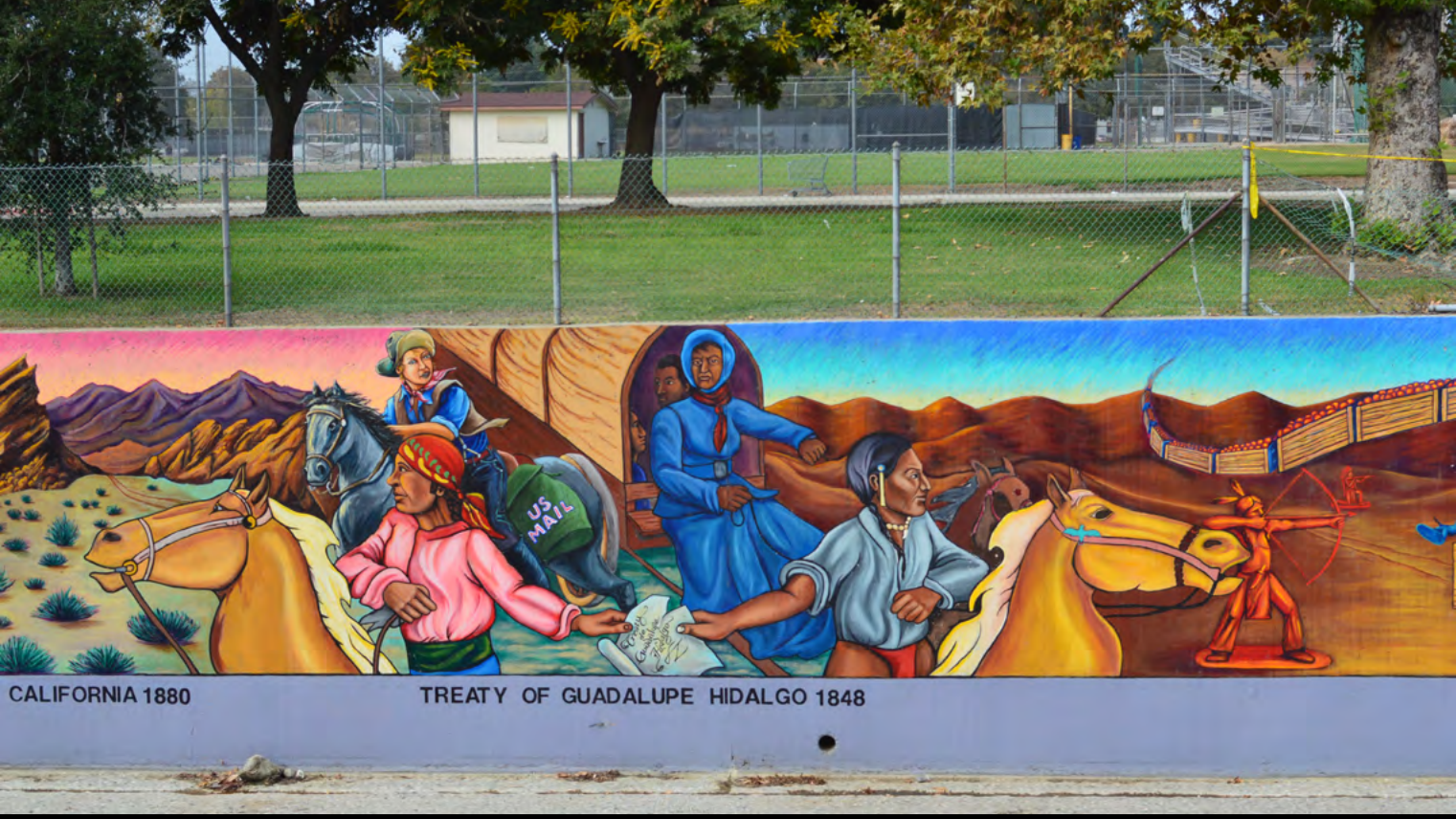
THE GREAT WALL OF LOS ANGELES



PICTORIAL MURALS

JUDY BACA, LOS ANGELES

The Great Wall of Los Angeles is one of Los Angeles' true cultural landmarks and one of the country's most respected and largest monuments to inter-racial harmony. The Great Wall is a landmark pictorial representation of the history of ethnic peoples of California from prehistoric times to the 1950's, conceived by SPARC'S artistic director and founder Judith F. Baca. Begun in 1974 and completed over five summers, the Great Wall employed over 400 youth and their families from diverse social and economic backgrounds working with artists, oral historians, ethnologists, scholars, and hundreds of community members.



EDUARDO KOBRA
BRAZIL



MOINHO FLUMINENSE S.A.
SILLO - 113

#KOBRA

Brasil
Olimpíadas

MONUMENTALITY

EDUARDO KOBRA, BRAZIL

For the 2016 Rio Olympics, Brazilian graffiti artist, Eduardo Kobra created the world's largest street mural, titled Las Etnias (the Ethnicities), in Rio's Port District. It features five faces from five different continents that represent both the five Olympic rings and the cultural diversity of the games.





DIEGO RIVERA



...HASTA LA HISTORIA DE LA LUCHA DE CLASES...
...PARA NOSOTROS, NO SE TRATA DE ADELANTAR EL TIEMPO, SINO DE ADELANTAR EL TIEMPO DE LA HISTORIA...
...LA SOCIEDAD ACTUAL...
...UNA NUEVA...
...CARLOS MARX...

HUELGA

...LABORAL...
...COMUNISTA...
...AGRARISTA...



STORYTELLING

DIEGO RIVERA, THE NATIONAL PALACE, MEXICO CITY

The History of Mexico mural in the stairwell of the National Palace in Mexico City was executed between 1929 and 1935 by Diego Rivera. The subject of the mural is Mexico's history from ancient times to the present. They depict the many struggles of the common Mexican people to fight against the Spanish, the French, and the dictators that controlled the country at different points in its history. Rivera was hired by the government to portray Indians in a better light, and to criticize the Spaniards. They did this to celebrate the Mexican Revolution, the overthrow of the Porfirio Diaz dictatorship, and the new government.





**THE EPIC STORY OF SAN ANTONIO
FROM FOUNDING TO PRESENT.**

**OVER 300 YEARS
AND 2 MILES OF CANVAS.**

PICTURES, WORDS, COLORS, PATTERNS, HISTORY & CULTURE
WOVEN INTO ONE MONUMENTAL STORY.

MONUMENTALITY
UNITY OF DESIGN
COLOR PALETTE
MOSAIC TILE
STONE
POETIC WORDS
METAL WORK
NARRATIVE

“WALK IN THE FOOTSTEPS OF OUR ANCESTORS.”

**“LIKE THE PAGES OF A BOOK, THESE WALLS
TELL THE EPIC STORIES OF OUR PEOPLE.”**

**“SOME WOULD BUILD WALLS TO SEPARATE
PEOPLE, THESE WALLS WERE DESIGNED
TO BRING PEOPLE TOGETHER & CREATE
CULTURAL UNDERSTANDING.”**



CULTURE WALLS PROJECT
EAST BANK ELEVATION AT SPANISH GOVERNOR'S PALACE

JESSE TREVIÑO

THE FIRST LATINO ARTIST COLLECTED BY THE SMITHSONIAN INSTITUTION.

BELOVED SAN ANTONIO ARTIST.

SPENT HIS ENTIRE CAREER TELLING THE STORY OF SAN ANTONIO.

**SANTA ROSA HOSPITAL
[TREVIÑO'S LAST COMMISSION]**

Treviño is internationally lauded for his realist paintings and his public artworks representing the history and cultural institutions of Mexican Americans.

Born in Monterrey, Mexico, Treviño moved to San Antonio in 1948 and studied the craft on scholarship at the Art Students League in New York. It was there that he received his draft notice for Vietnam, and while enlisted, he was injured in a booby trap blast and shot by a sniper.

As he lay on the battlefield, injected with morphine, Treviño has told people that he thought about home. "I was thinking about my mother, my brothers, the barrio where I grew up in San Antonio and all those images," he's told reporters. "That's what I was thinking: 'If there's any way I can come out of this alive, I'm going to paint those places and those people.' "

Treviño lost his painting arm in the blast but taught himself to use his left arm and has since been prolific: in addition to the Casa Navarro piece, he is known for his "Spirit of Healing" mural on the Christus Santa Rosa Hospital and the three-dimensional candle, "La Veladora of our Lady of Guadalupe," at the Guadalupe Cultural Art Center, among others. Treviño's La Ofrenda, is a 130-foot-tall, steel-and-epoxy veterans' monument commissioned by the City of San Antonio, which will be installed at Elmendorf Lake at Our Lady of the Lake University. Two of his works are a part of the Smithsonian's American Art Museum's permanent collection in Washington, D.C.



MICHAEL MENCHACA



EDUCATION:

2015 Rhode Island School Of Design, Providence, RI, M.F.A. Printmaking.
2011 Skowhegan School of Painting & Sculpture, Skowhegan, ME.
2011 Texas State University, San Marcos, TX
- B.F.A. Printmaking.
2007 San Antonio College, San Antonio, TX, Associates in Graphic Design.

AWARDS, GRANTS, AND HONORS:

Fine Arts Work Center Fellowship 1st Year (2015)
Peter St. Onge Memorial Travel Grant, Sri Lanka, Rhode Island School of Design (2013)
- Graduate Fellowship, RISD ('13-'14)

USA Projects, Grant Recipient (2012)
Artist Foundation of San Antonio, Grant Recipient (2011)
Skowhegan School of Painting & Sculpture, Residency (2011)
Texas State University Travel Grant (2011)
TX State University, Juror's Merit Award for Printmaking ('11)
FASA Spring, Best in Show (2011)
Family, Audience Choice Award (2010)
FASA Spring, Best in Show (2010)
TX State University Dean's List (2010)
Southwest School of Art, Scholarship (2009)
ADDY Awards, Judges Award, Gold, Silver (2007)
Beverly Coiner Scholarship (2007)

SOLO EXHIBITIONS & PROJECTS:

2016 Temporary Union, Fine Arts Work Center, Hudson D. Walker Gallery, Provincetown, MA
2015 Luminous, Yet Devoid of Chroma, Art League Houston, Houston, TX (Curated by Jen Ash)
Territorium Insula, Dirt Palace Window Installation, Olneyville, RI
2013 Autos Sacramentales, Artpace, Window Works Exhibition, San Antonio, TX
2012 New Works: Michael Menchaca, Austin Museum Of Art/Arthouse Laguna Gloria
- (Curated by Andrea Mellard), Austin, TX
Sacred Dance of the Migratos, Luminaria 2012, Performance, San Antonio, TX
Of Migratus, Red Space Gallery
- (Curated by Caitlin McCollom) Austin, TX
2011 Crooked American Borders: The Beaner Express, Transit Cooperative, San Antonio, TX

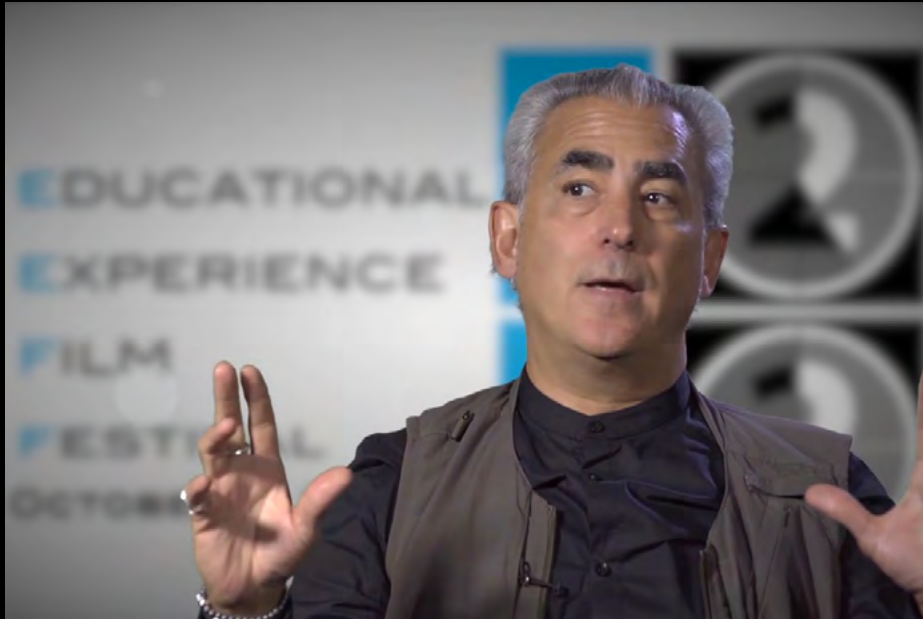
ARTIST RESIDENCIES:

2016 The Wassaic Project, Wassaic, NY
2015 Fine Arts Work Center, Provincetown, MA
2014 Roger Williams National Memorial, Providence, RI
2013 Vermont Studio Center, Johnson, VT
2012 Serie Project XIX at Coronado Studios, Austin, TX
2011 Transit Cooperative, San Antonio, TX
2011 Skowhegan School of Painting & Sculpture, Skowhegan, ME

COLLECTIONS:

Artpace, San Antonio, TX
Artspace, New York, NY
Austin Museum Of Art/Arthouse, Austin, TX
Coronado Studios, Austin, TX
Crystal Bridges Museum of American Art, Bentonville, AR
Harriet and Ricardo Romo, San Antonio, TX
Gilbert Cardenas, University of Notre Dame, IN
Joe A. Diaz, San Antonio, TX
McNay Art Museum, San Antonio, TX
Mexic-Arte Museum, Austin, TX
National Museum of Mexican Art, Chicago, IL
San Antonio Museum of Art, San Antonio, TX

JOHN PHILLIP SANTOS



FORMER MEMBER OF THE PRESIDENT'S ADVISORY COMMISSION ON EDUCATIONAL EXCELLENCE FOR HISPANIC AMERICANS.

THE FIRST MEXICAN-AMERICAN RHODES SCHOLAR.

BORN AND RAISED IN SAN ANTONIO, TEXAS.

EDUCATION:

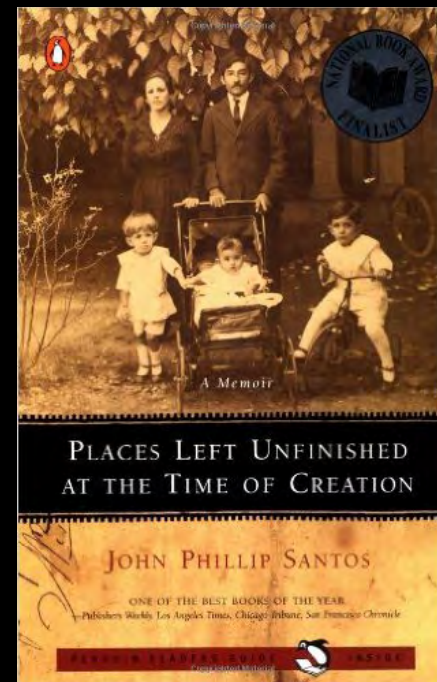
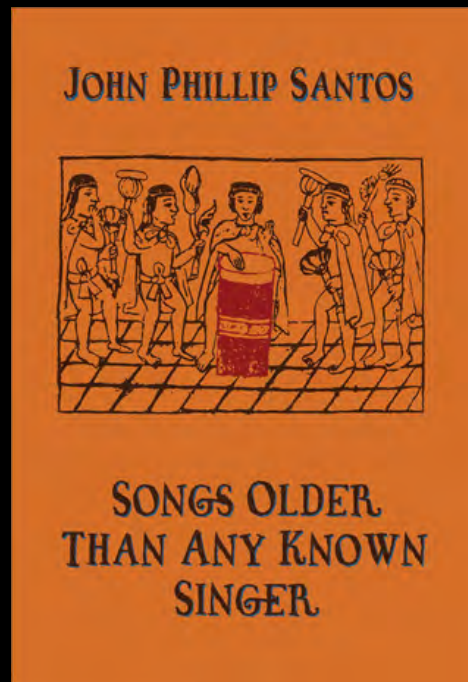
MA English Literature and Language
- St. Catherine's College at Oxford University
BA in Philosophy and Literature - University of Notre Dame

AWARDS:

Academy of American Poets' Prize at Notre Dame, the Oxford Prize for fiction, and the Berlin Prize Fellow at the American Academy in Berlin. His family memoir, *Places Left Unfinished at the Time of Creation* was a finalist for the National Book Award.

1988 Emmy nominee for *From the AIDS Experience: Part I, Our Spirits to Heal/ Part II, Our Humanity to Heal*, and in 1985 for *Exiles Who Never Leave Home*.

John Phillip Santos, born and raised in San Antonio, Texas, is the first Mexican American Rhodes Scholar whose awards include the Academy of American Poets' Prize at Notre Dame and the Oxford Prize for fiction. His articles on Latino culture have appeared in the *Los Angeles Times*, *The New York Times*, and the *San Antonio Express-News*. Writer and producer of more than forty television documentaries for CBS-TV and PBS-TV, two of them Emmy nominees, he lives in New York City.



As our city prepares for its 300th anniversary, it's clear how profoundly San Antonio's long history testifies to a unique mingling of cultures and heritages in the borderlands of the United States. Our history is a unique testimonio to the way encounters between peoples shape a new kind of humanity. We are older than the Republic, but we are also an emerging capital of America's undeniably mestizo future. The San Pedro Creek linear park will offer visitors a pathway into deep currents of San Antonio's history and memory.

John Phillip Santos

2

RESTORING HARMONY - PEOPLE AND NATURE

The natural quality and beauty of San Pedro Creek was nearly destroyed when it was made into a drainage ditch, but is brought back to natural vitality and harmonious balance with the urban landscape.

1

TREE OF LIFE PLAZA

San Pedro Creek has been a place of natural beauty and human occupation for millennia; the origins of Bexar/San Antonio began in this vicinity with the founding of Mission San Antonio de Valero.

3

CROSSROADS OF FAMILY

San Pedro Creek has been a crossroads between people and families since the earliest periods of San Antonio's history. The population and businesses along the creek since the earliest periods of San Antonio's history have been mixed and interconnected.

4

CENTRO DE BEXAR

San Pedro Creek is central to much of San Antonio's formative but overlooked history. The revitalization of San Pedro Creek includes a re-narrative of San Antonio's neglected history from 1718 through 1968. Houston and Nueva Streets formed the north and south boundaries of the original Villa de San Fernando town site, with San Pedro Creek forming the west boundary and the San Antonio River the east.

5

PLACE OF ACCORD

The progress of respect for human rights and the rule of law are highlighted by the past social and economic struggles of the Mexican-American community in the 20th century. The history of San Pedro Creek as a cultural and social divide was most pronounced in this area where spacious houses lined the east bank and "mexican tenements" lined the west bank.

6

PASSAGES OF ENTERPRISE

San Pedro Creek was dramatically altered from its natural course to a concrete channel by the MKT Railroad and the agricultural landscape by the industries served along the rail line. The industrial urban land patterns are directly derived from the antecedent agricultural landscape.

CESAR CHAVEZ TO GUADALUPE STREET : RAILROAD
San Pedro Creek was buried in a culvert in order to build the Missouri Kansas Texas Station and Rail Yard.

GUADALUPE TO CAMP STREET: INDUSTRIAL AGE
The industrial development of South San Antonio began along the MKT Rail/San Pedro Creek corridor.

7

VIDA DE ARROYO

San Pedro Creek was essential to the 18th century Labores de Abojo, which was the breadbasket of San Antonio, and featured pecan groves that shaped the lives of those who produced, harvested and processed the nuts. Within the cultural landscape, the culture of food influences how people modify and activate the land.

8

PATHS OF CONVERGENCE

I-35 is the successor to the Pan American Highway, the Laredo Road, and the Camino Real de Laredo; a path of transportation and communication that predates European settlement. The movement of people along convergent paths over time and space

1
INLET STRUCTURE
METAL SCREEN
"RAIN FROM THE HEAVENS"

3
PROTECTING THE CITY
SIGNAGE

4
TILE PATTERN
BENCHES

6
WORD ART
FIRST PEOPLES "NATIVE SIGNS"
WORD ART ON STONE WALL

8
THE DIVERSE CULTURES OF
UPPER SAN PEDRO CREEK
SIGNAGE

2
RAIN FROM
THE HEAVENS
SIGNAGE

5
TILE PATTERN
BENCH

7
WORD ART
AGUIRRE EXPEDITION 1709
WORD ART ON STONE WALL

9
BIRTH OF A CITY
SIGNAGE: WALL MOUNTED

11
WORD ART
SAN ANTONIO DE BEXAR 300
WORD ART ON STONE WALL

10
GENERATIONS
(12) MOSAIC TILE BENCHES

15
NATURE PATTERNS
IN CONCRETE PASEO

14
ART RAILING

12
CELEBRATING THE TRICENTENNIAL
OF SAN ANTONIO DE BEXAR
SIGNAGE

13
CELEBRATING
THE TRI-CENTENNIAL
OF SAN ANTONIO DE BEXAR
PUBLIC ART: PLETHORA TRI-CENTENNIAL
SCULPTURE

16
THE CHANNELIZATION
OF SAN PEDRO CREEK
SIGNAGE

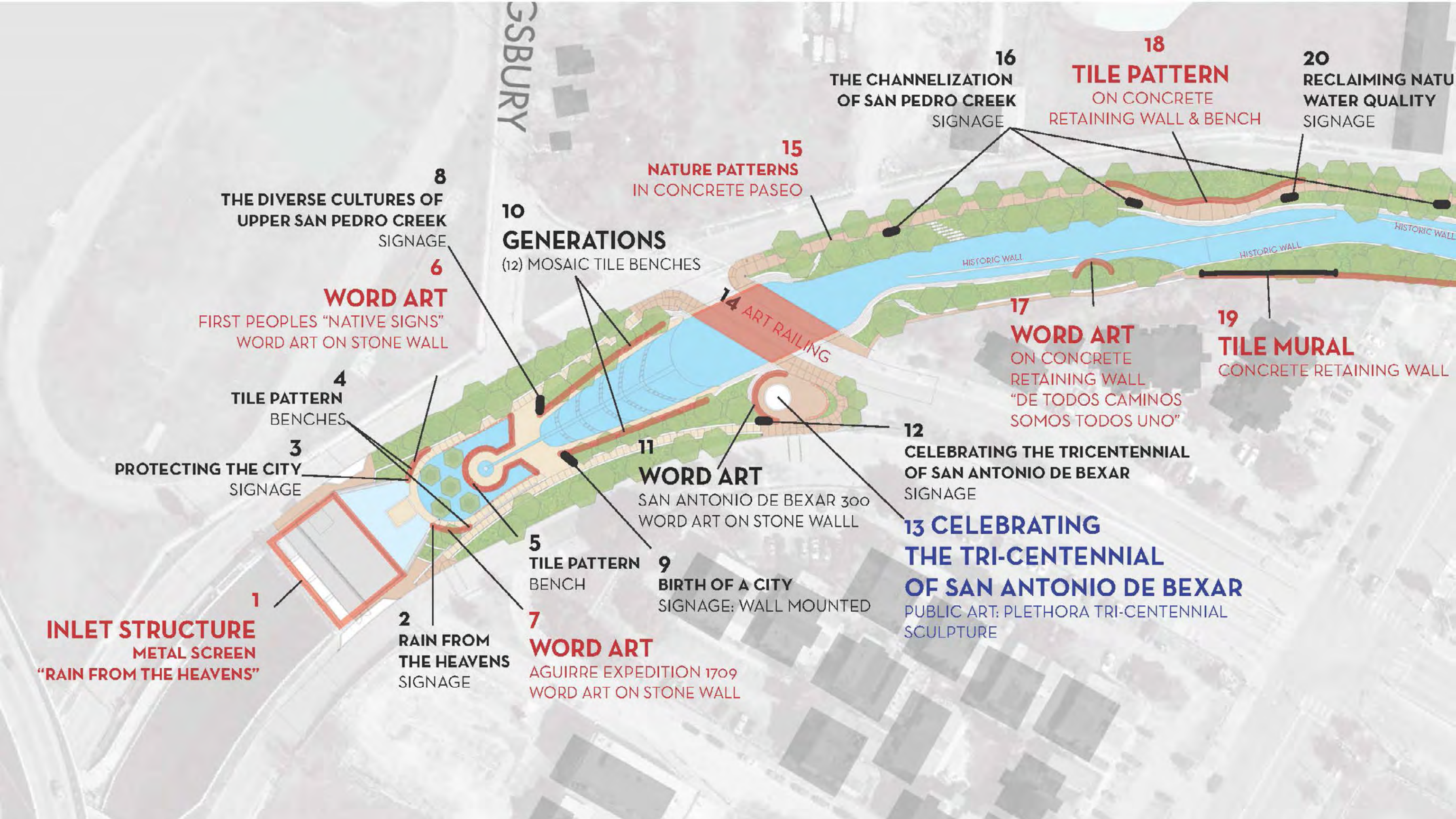
18
TILE PATTERN
ON CONCRETE
RETAINING WALL & BENCH

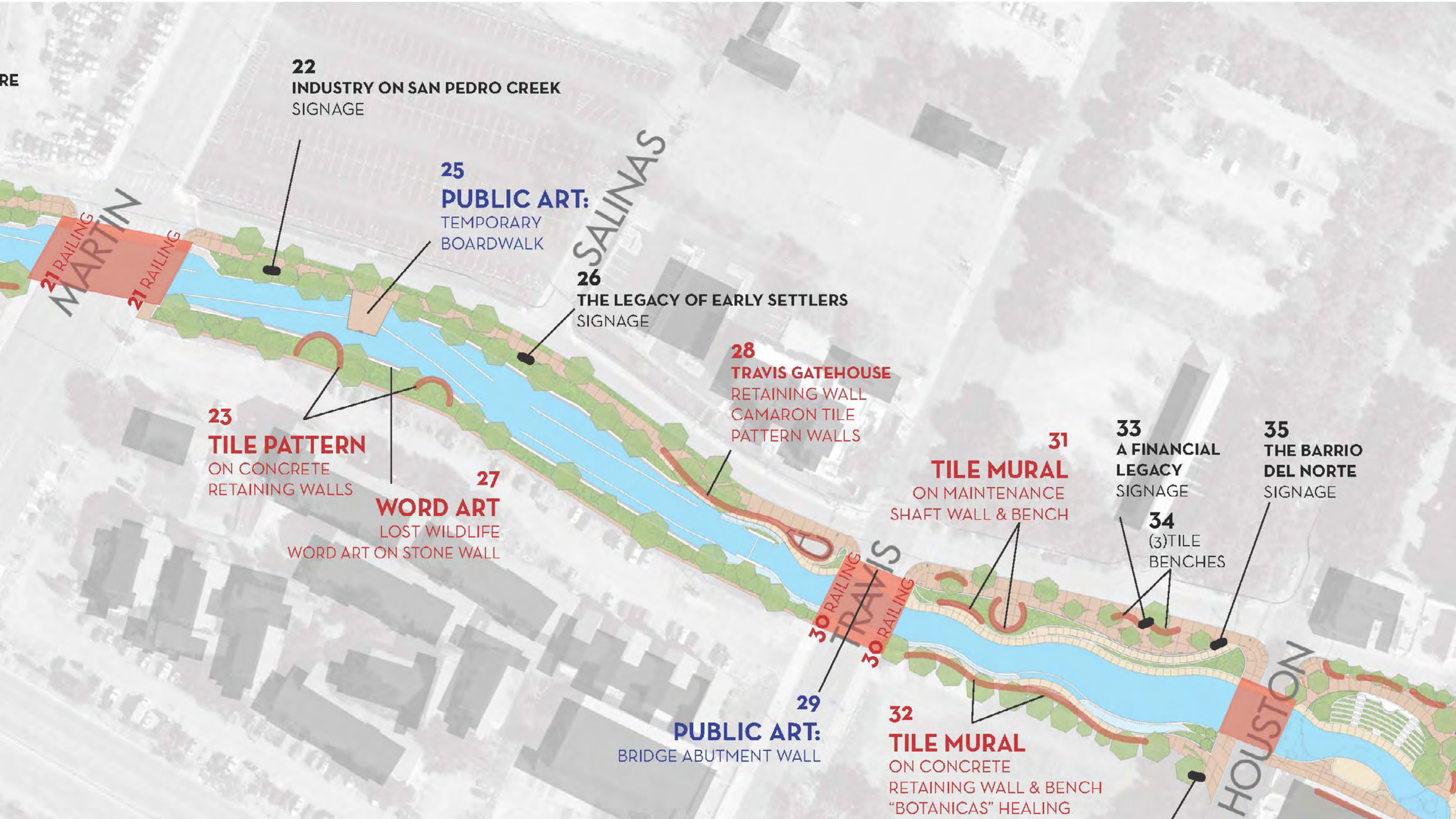
20
RECLAIMING NATU
WATER QUALITY
SIGNAGE

17
WORD ART
ON CONCRETE
RETAINING WALL
"DE TODOS CAMINOS
SOMOS TODOS UNO"

19
TILE MURAL
CONCRETE RETAINING WALL

OSBURY





22
INDUSTRY ON SAN PEDRO CREEK
SIGNAGE

25
PUBLIC ART:
TEMPORARY
BOARDWALK

26
THE LEGACY OF EARLY SETTLERS
SIGNAGE

23
TILE PATTERN
ON CONCRETE
RETAINING WALLS

27
WORD ART
LOST WILDLIFE
WORD ART ON STONE WALL

28
TRAVIS GATEHOUSE
RETAINING WALL
CAMARON TILE
PATTERN WALLS

31
TILE MURAL
ON MAINTENANCE
SHAFT WALL & BENCH

33
A FINANCIAL
LEGACY
SIGNAGE

35
THE BARRIO
DEL NORTE
SIGNAGE

34
(3) TILE
BENCHES

29

PUBLIC ART:
BRIDGE ABUTMENT WALL

30
RAILING
TRAVIS
RAILING

32
TILE MURAL
ON CONCRETE
RETAINING WALL & BENCH
"BOTANICAS" HEALING

HOUSTON

SALINAS

MARTIN

21
RAILING

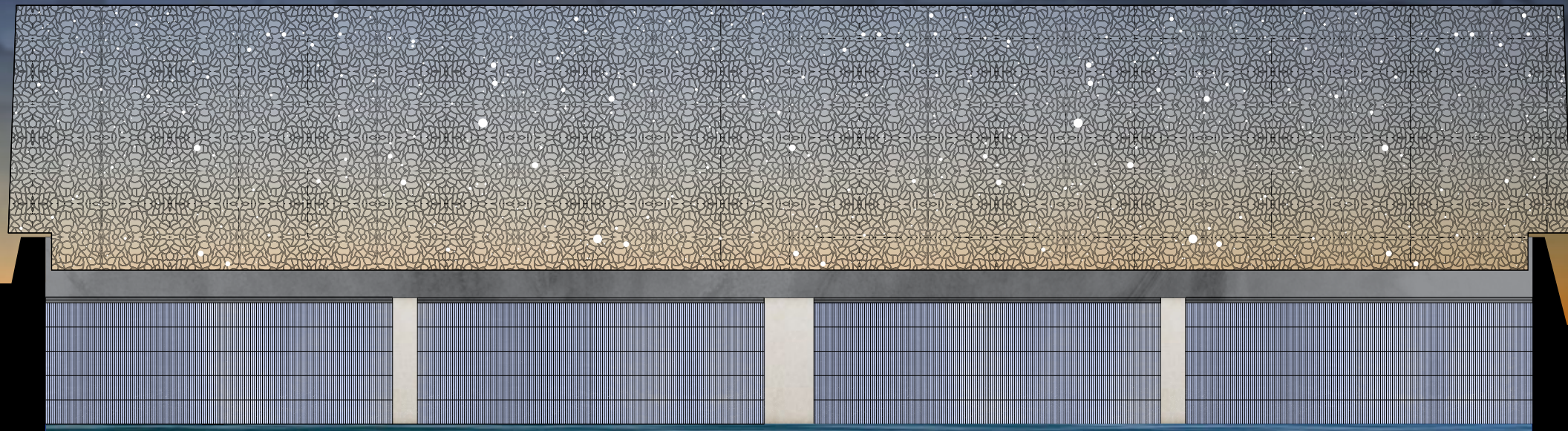
21
RAILING

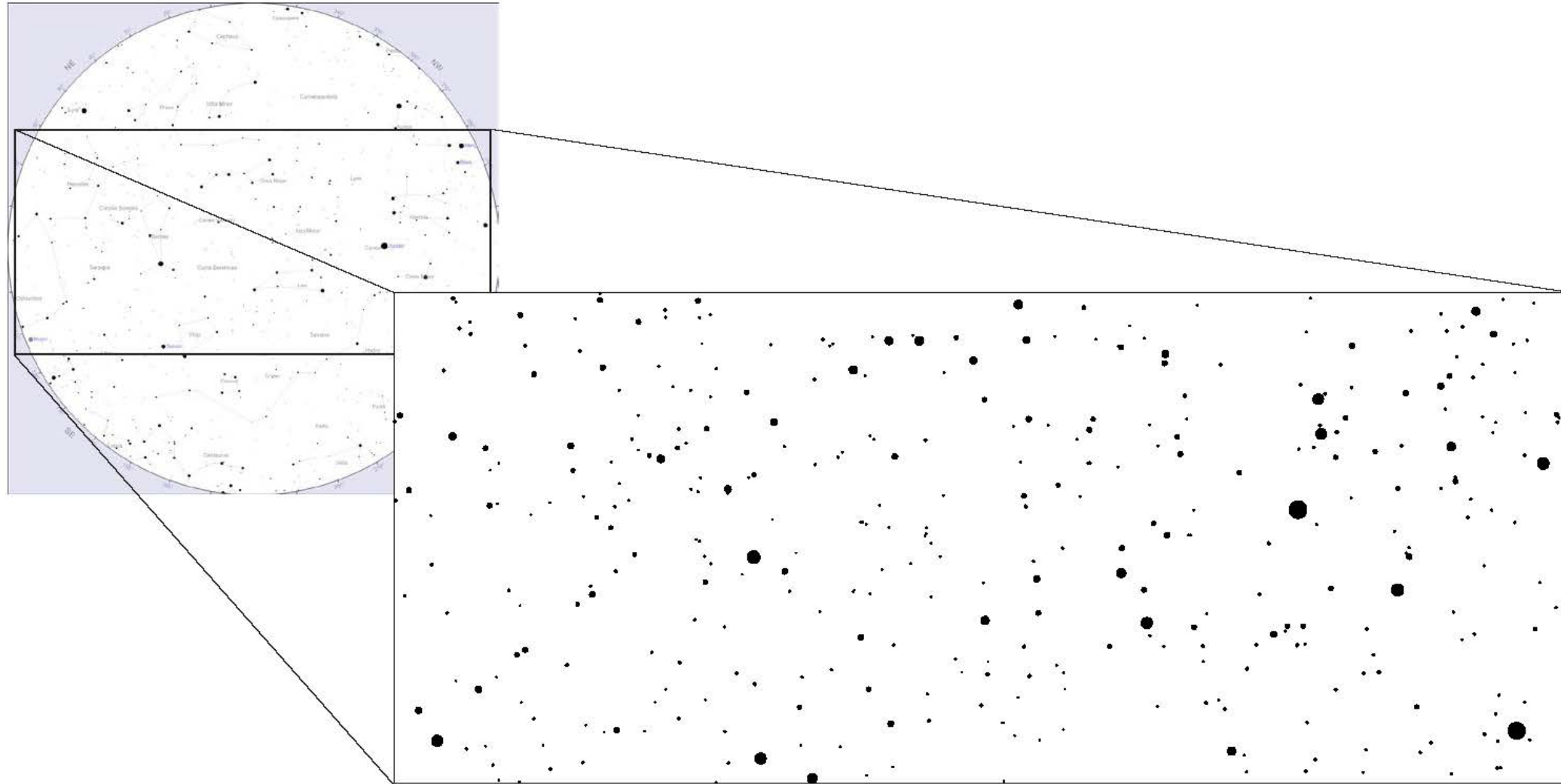
30
RAILING

30
RAILING

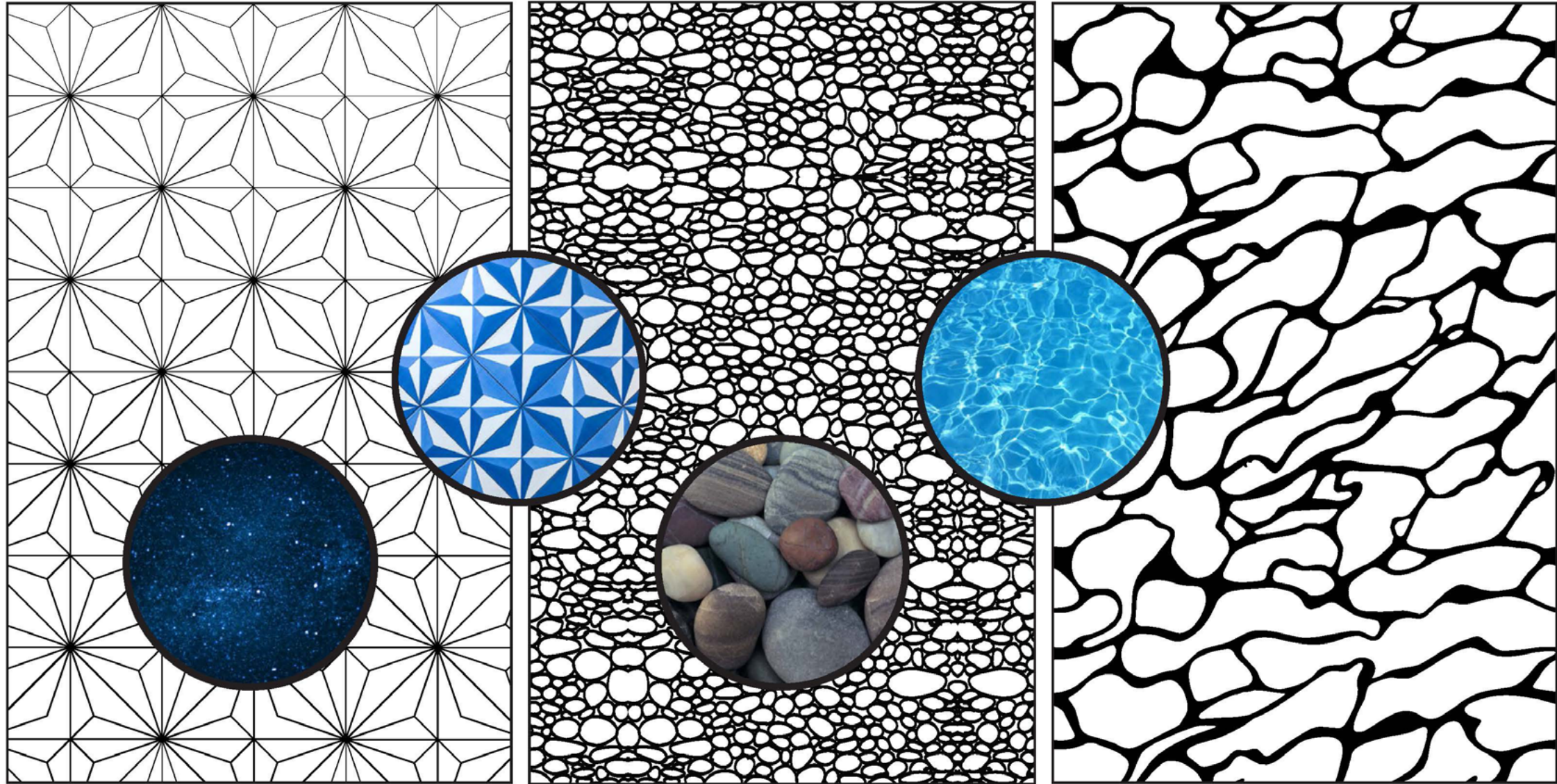
DESIGN ENHANCEMENTS

P 1. TUNNEL INLET STRUCTURE





STAR CHART STUDY SCOBEE PLANETARIUM, SAN ANTONIO COLLEGE

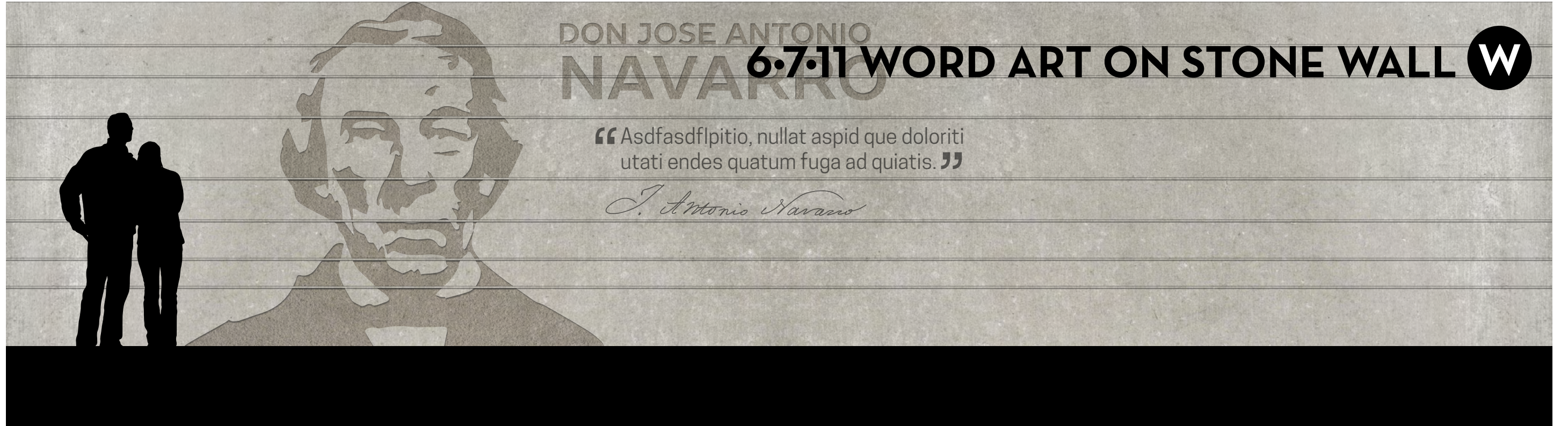


STARS

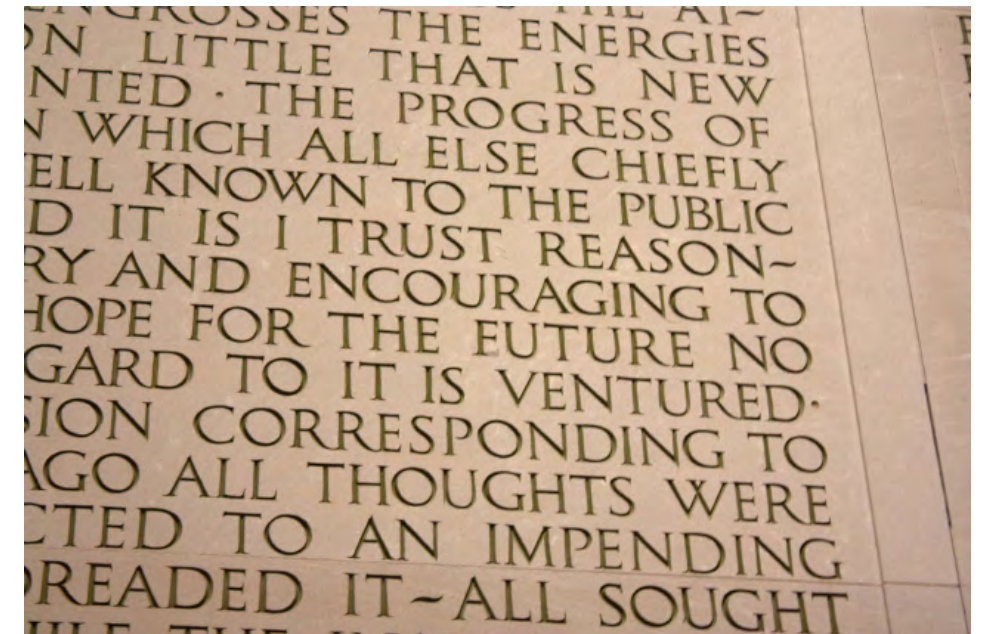
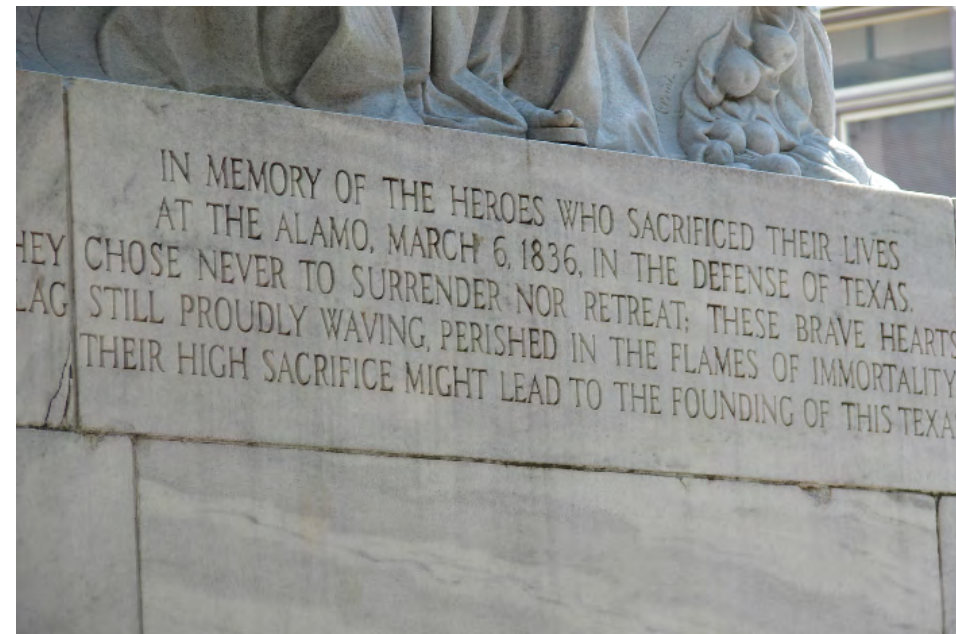
RIVER ROCKS

WATER

PATTERN STUDY



etched stone info graphic



6.7.11 WORD ART ON STONE WALL 

“WE CAME FROM FAR BELOW,
OUT FROM ANCIENT EARTH
WITH THESE BLESSED COOLING
WATERS, PECANS, FRUIT & FISH.”

P 14. BRIDGE RAILING PATTERN



15. PASEO PAVEMENT PATTERN

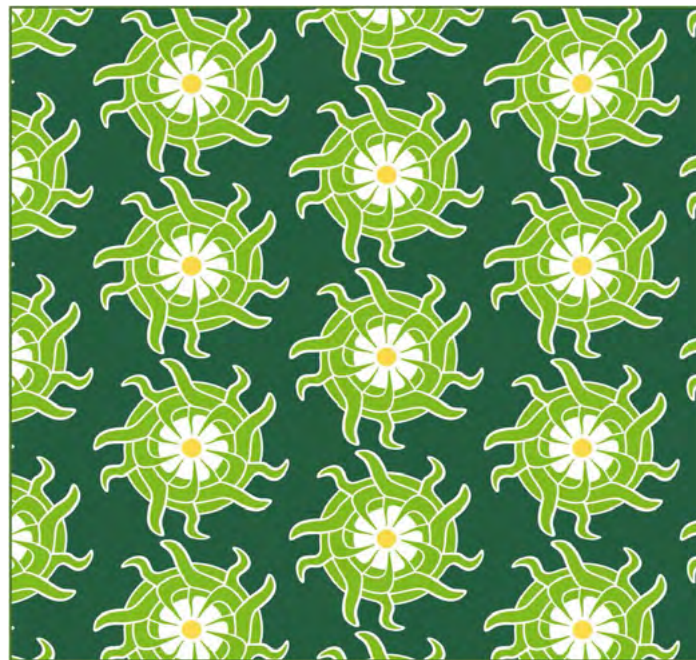
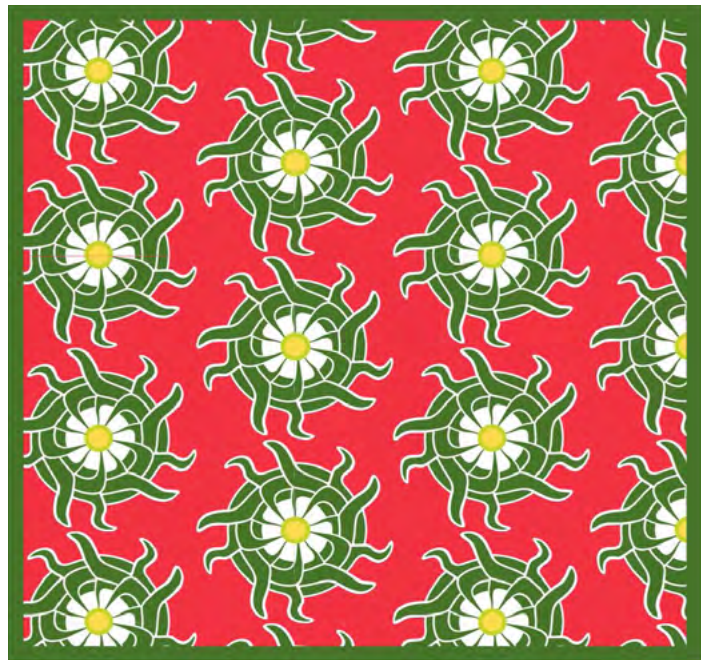
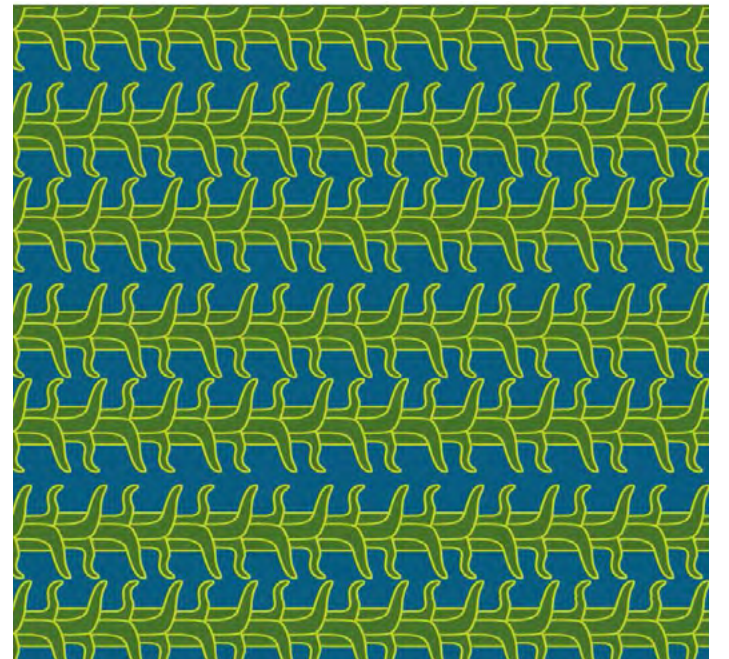
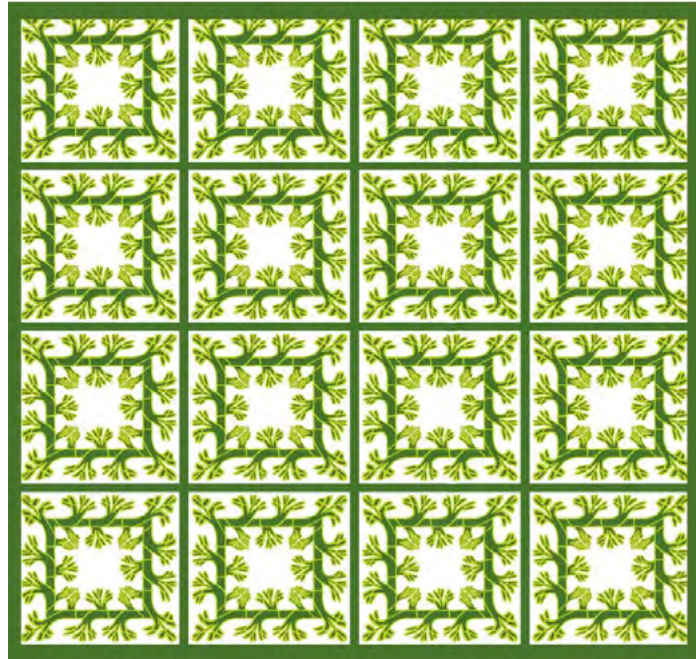
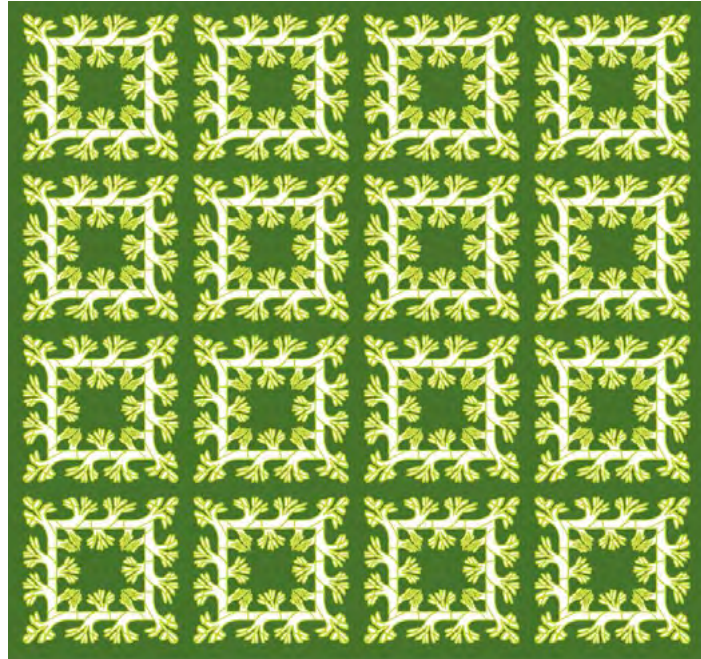
P



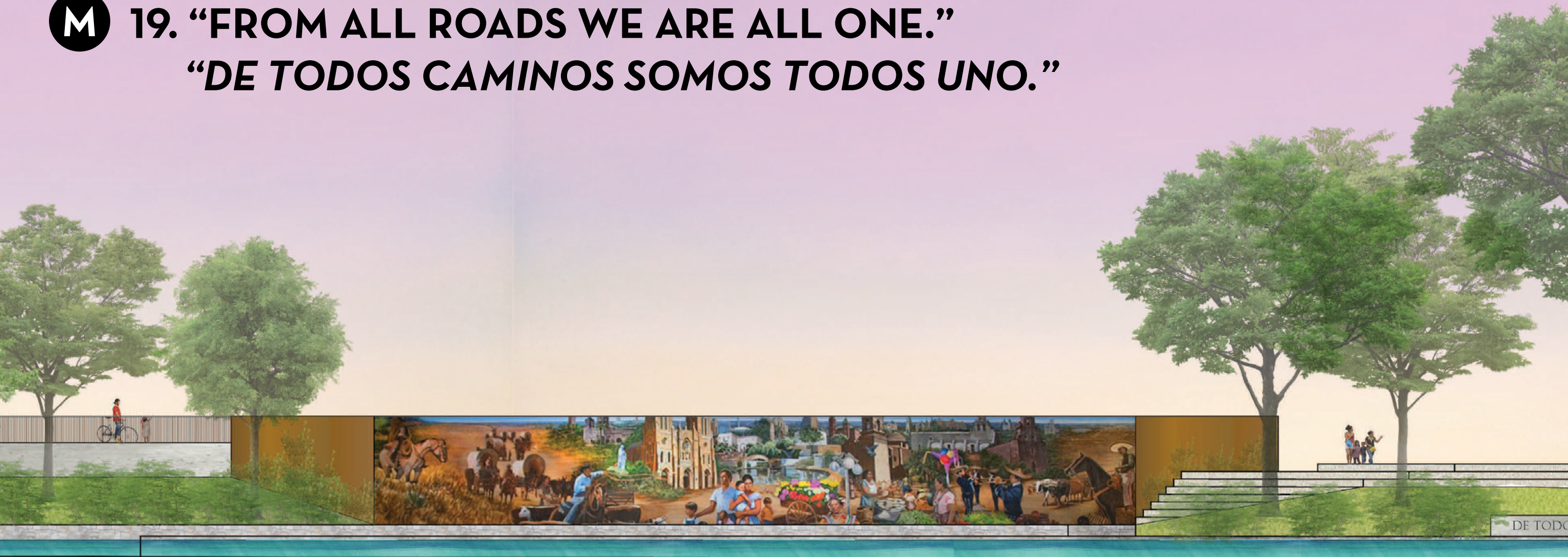
W 17. WORD ART



M 18. TILE ON CONCRETE RETAINING WALL & BENCH



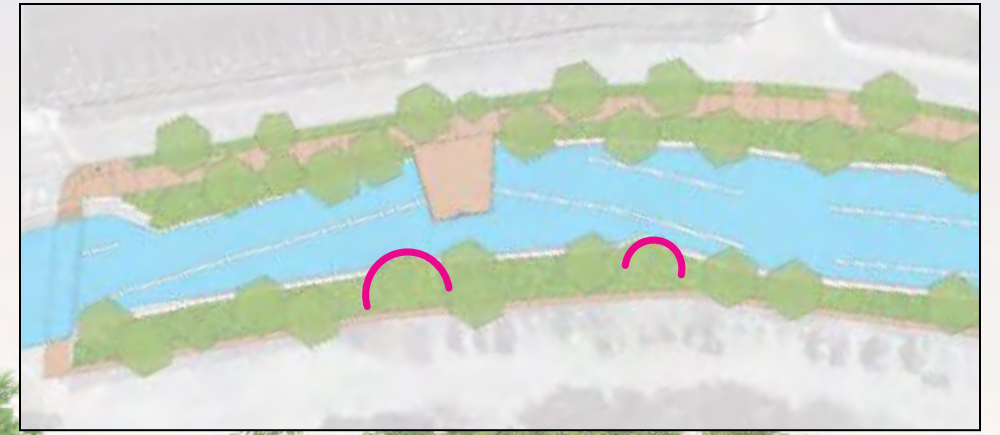
M 19. "FROM ALL ROADS WE ARE ALL ONE."
"DE TODOS CAMINOS SOMOS TODOS UNO."



P 21. BRIDGE RAILING PATTERN



M 23. "LOST WILDLIFE"



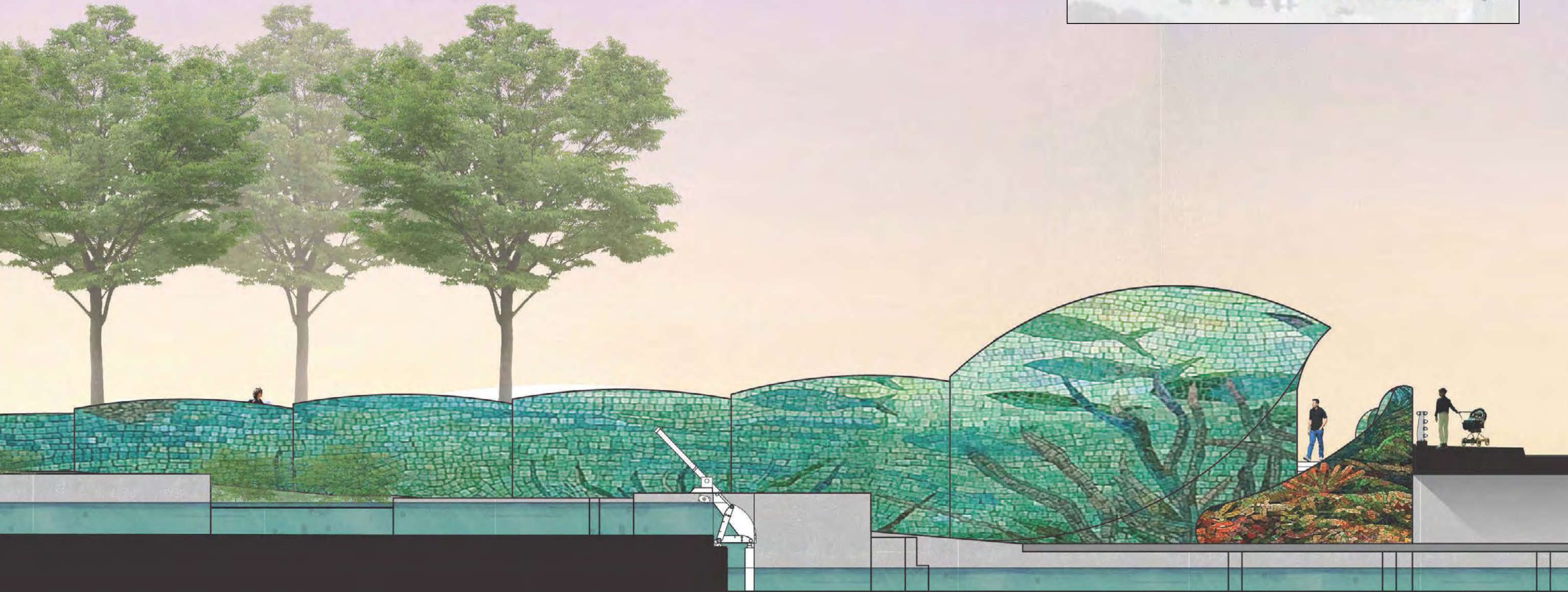
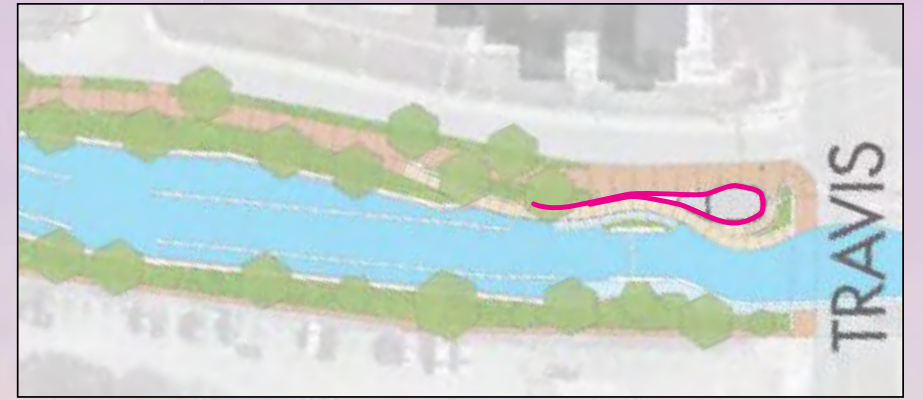
W 27. WORD ART ON STONE



PLACE OF HERONS

M 28. "CAMARON"

P 30. BRIDGE RAILING PATTERN

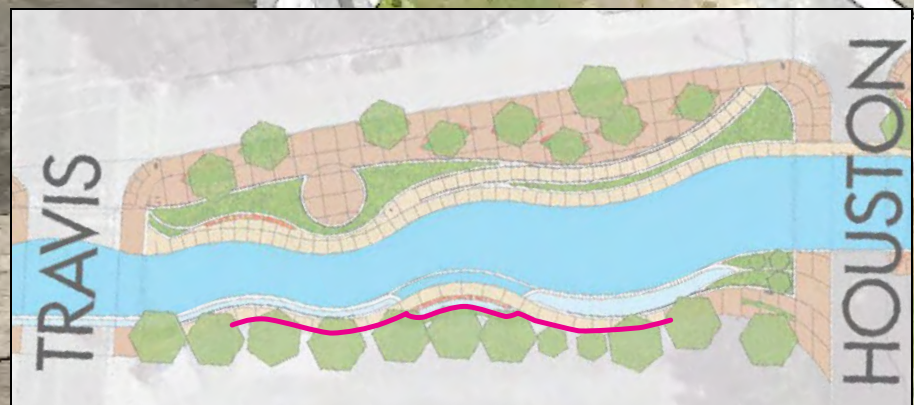


31. TILE ON CONCRETE MAINTENANCE SHAFT





32. "BOTANICAS"



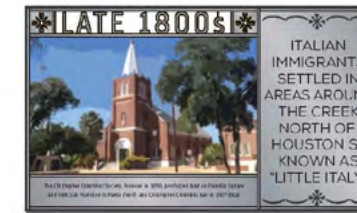
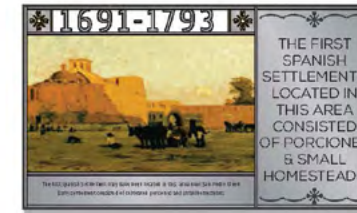
PROJECT SCOPE

S 2.3 WALL SIGNAGE

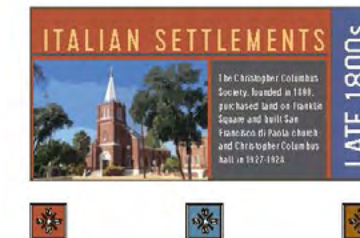
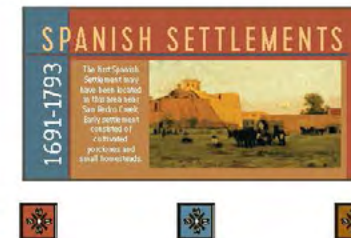
INTERPRETIVE TOPICS

“Rain from the Heavens”

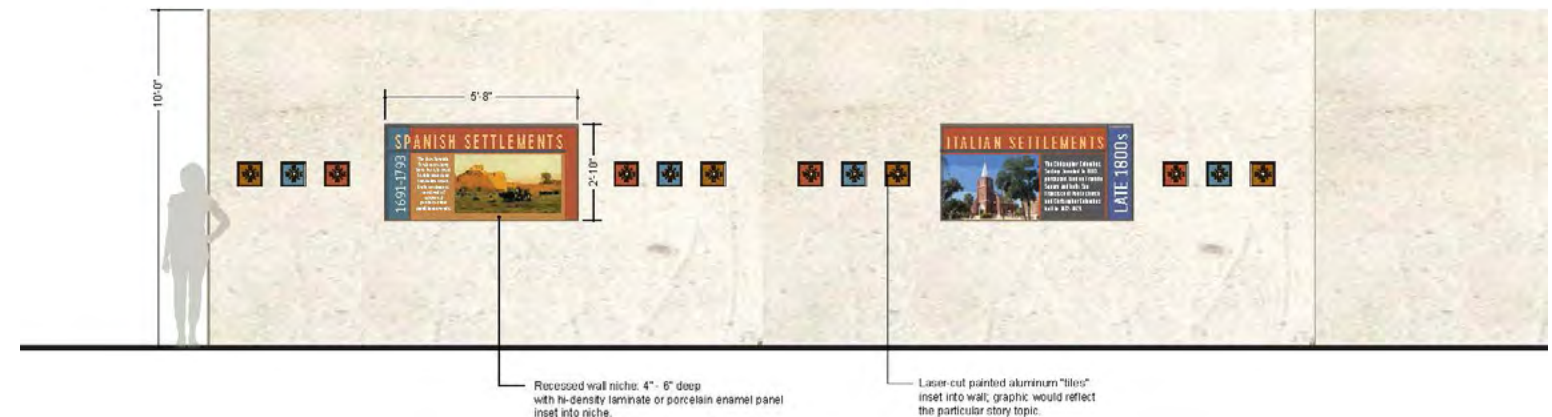
“Protecting the City”



NICHE INTERPRETIVE TREATMENT
Etched and punched metal panels characteristic of the traditional Mexican aluminum shrines. Graphics panels would be porcelain enamel; numbers would be cut out of metal. Entire unit would be recessed into wall niche.



NICHE INTERPRETIVE TREATMENT
Hi-density laminate or porcelain enamel graphics panels are mounted to the back wall of niches. Ornamental "tiles" could be laser cut painted aluminum inset into wall with graphic that reflects the particular story topic.

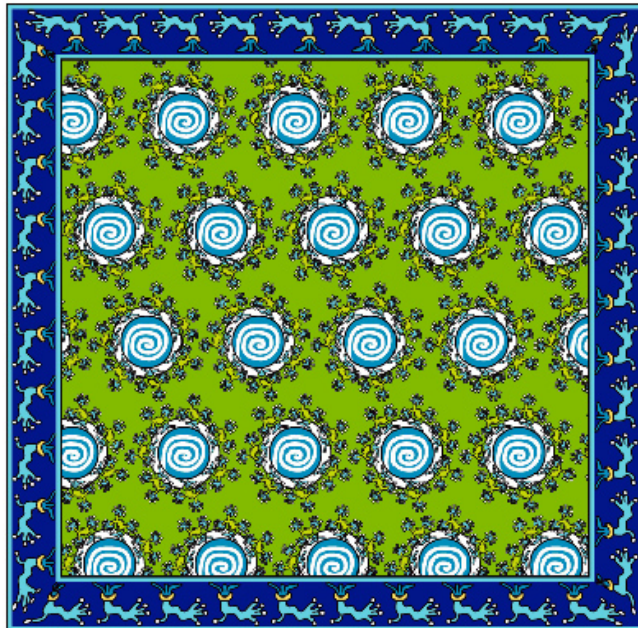
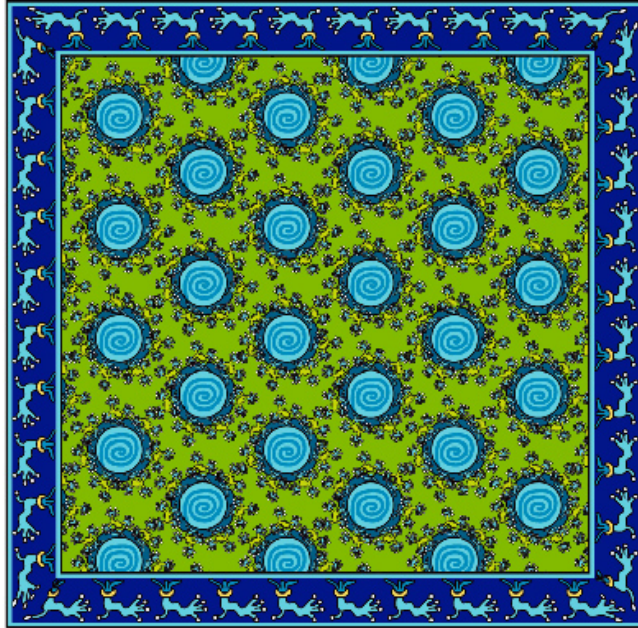




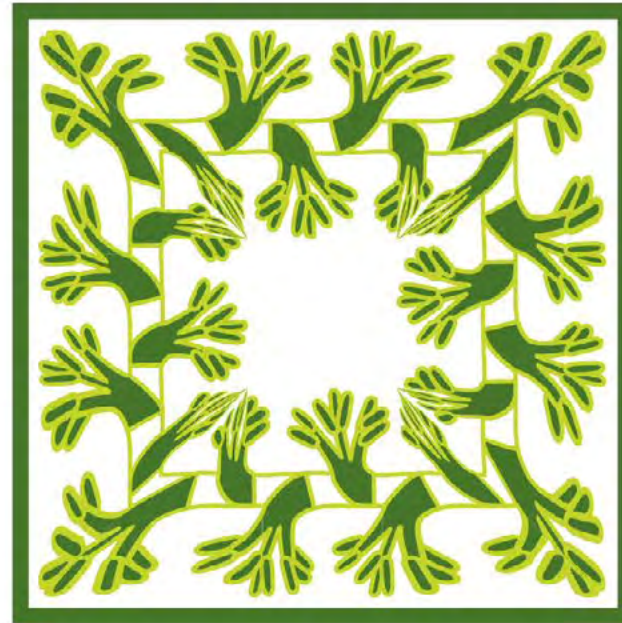
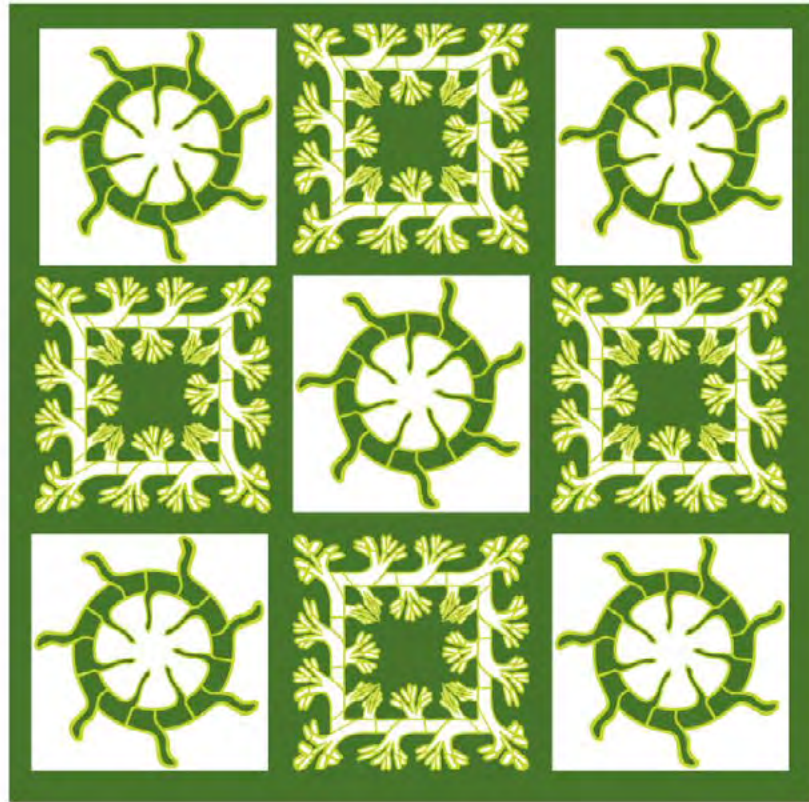
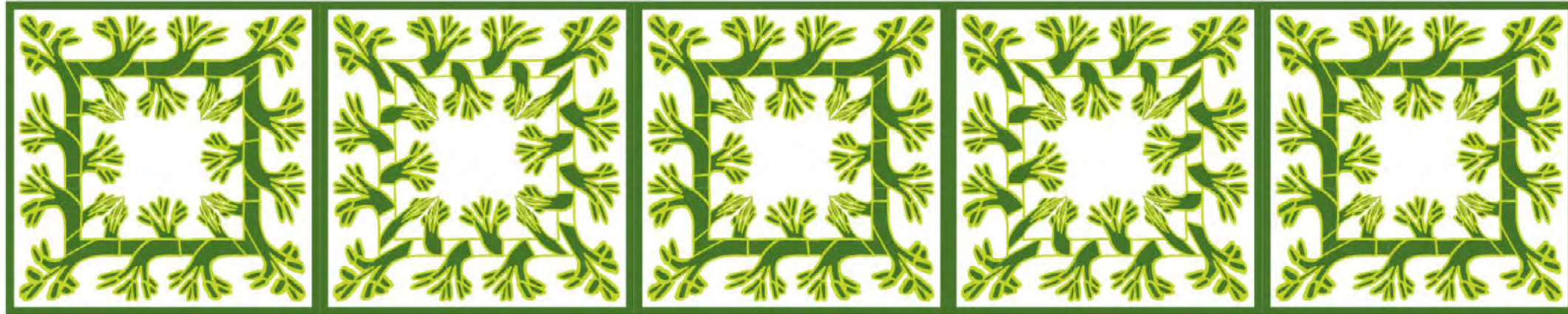
4 • 5. MOSAIC TILE BENCH



P 4 • 5. MOSAIC TILE BENCH



P 10.34 BENCHES



Generations/Tree of Life Patterns by Michael Menchaca

S SIGNAGE

8•9•12•16•20•22•26•33•35•36

INTERPRETIVE TOPICS

The Diverse Cultures of Upper San Pedro Creek

Birth of A City

Celebrating the Tri-Centennial
of San Antonio de Bexar

The channelization of San Pedro Creek

Reclaiming nature, water quality

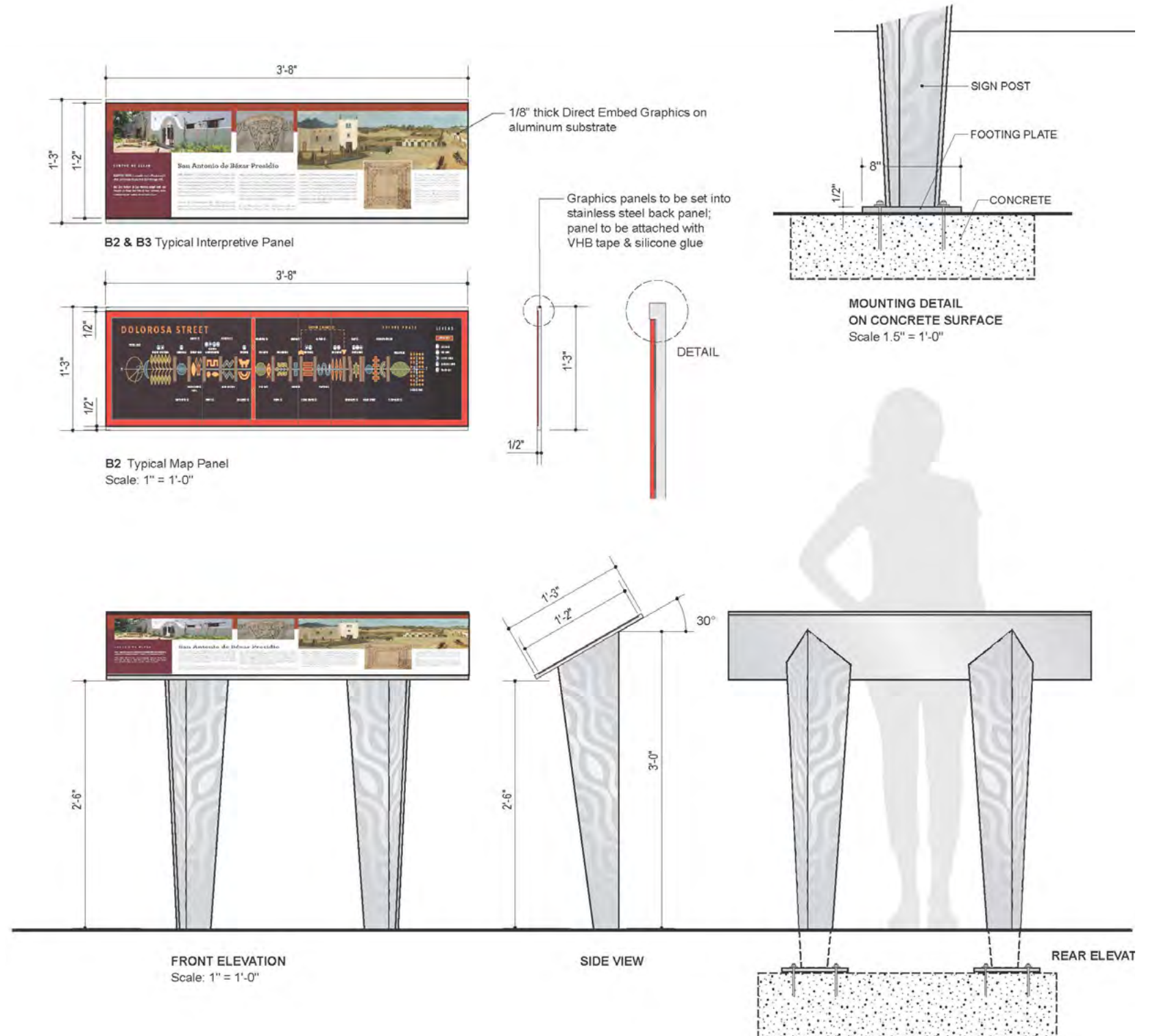
Industry on San Pedro Creek

“The Legacy of Early Settlers”

A Financial Legacy

The Barrio del Norte

Health Care West of the Creek



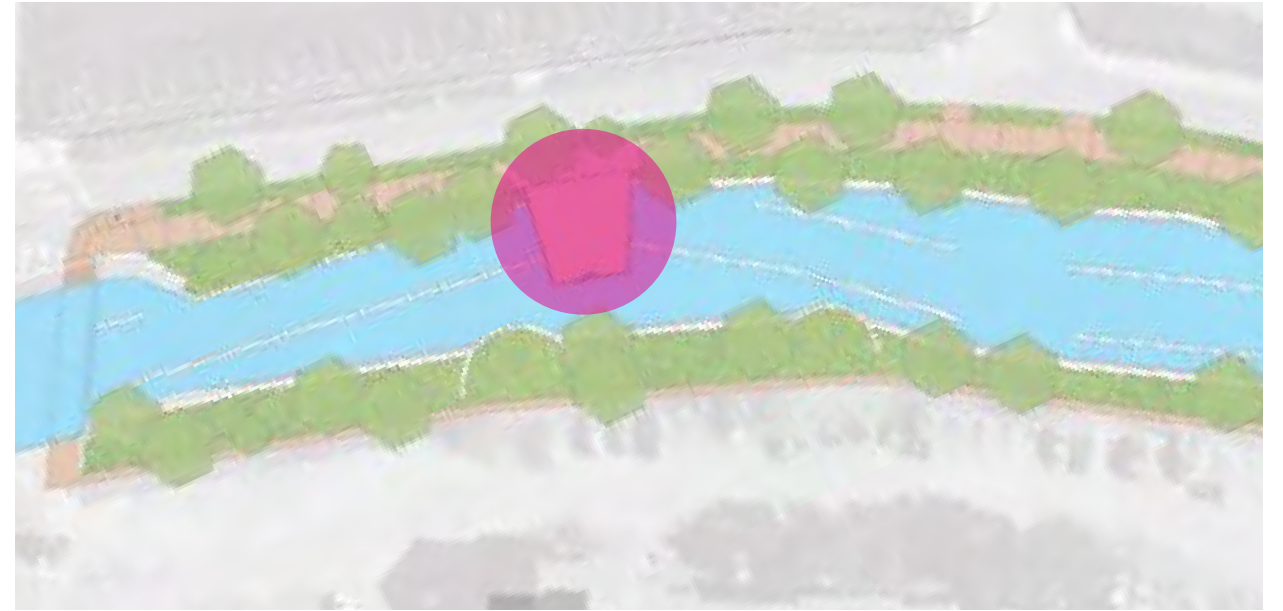
PUBLIC ART

13. PUBLIC ART

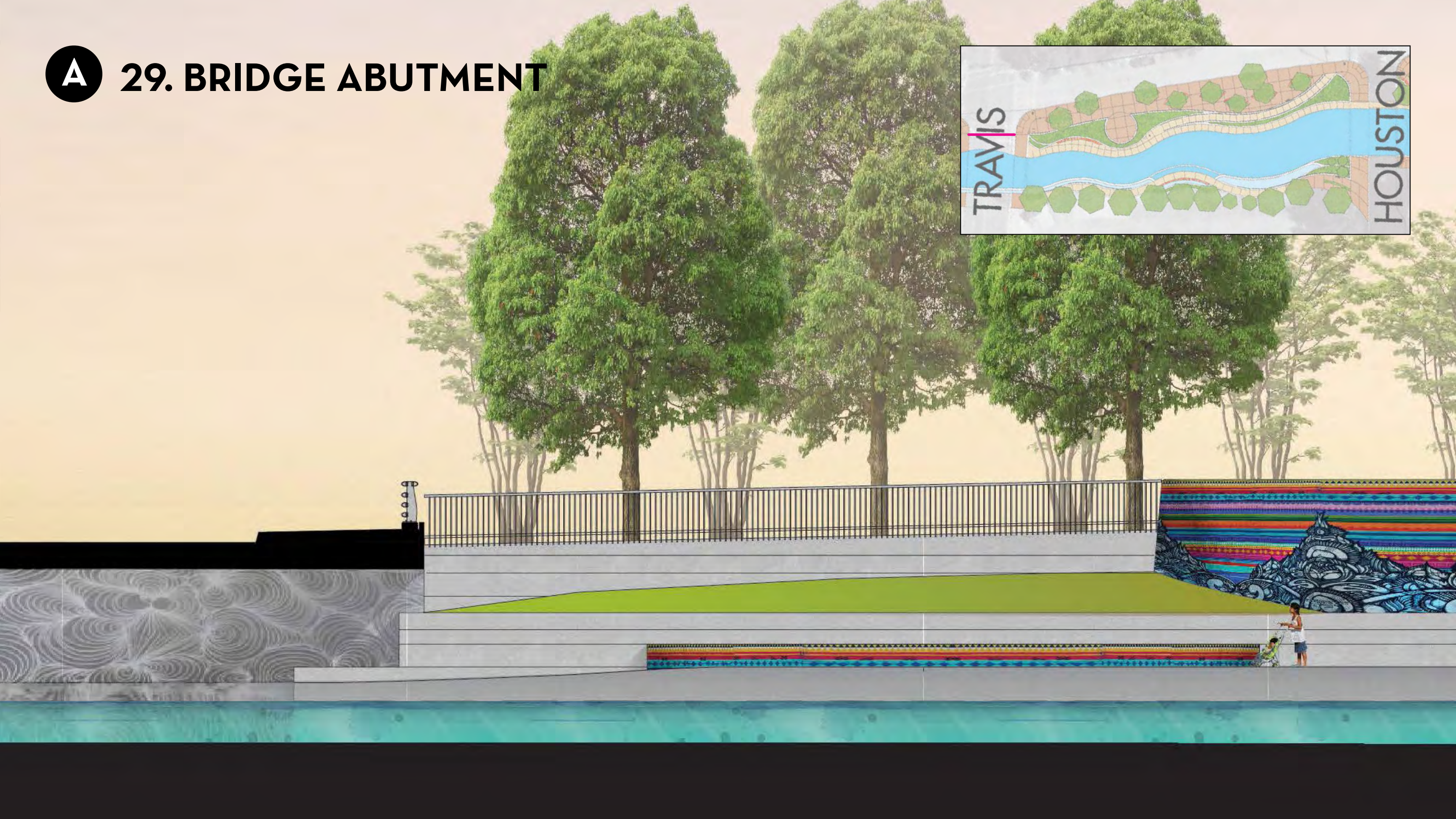


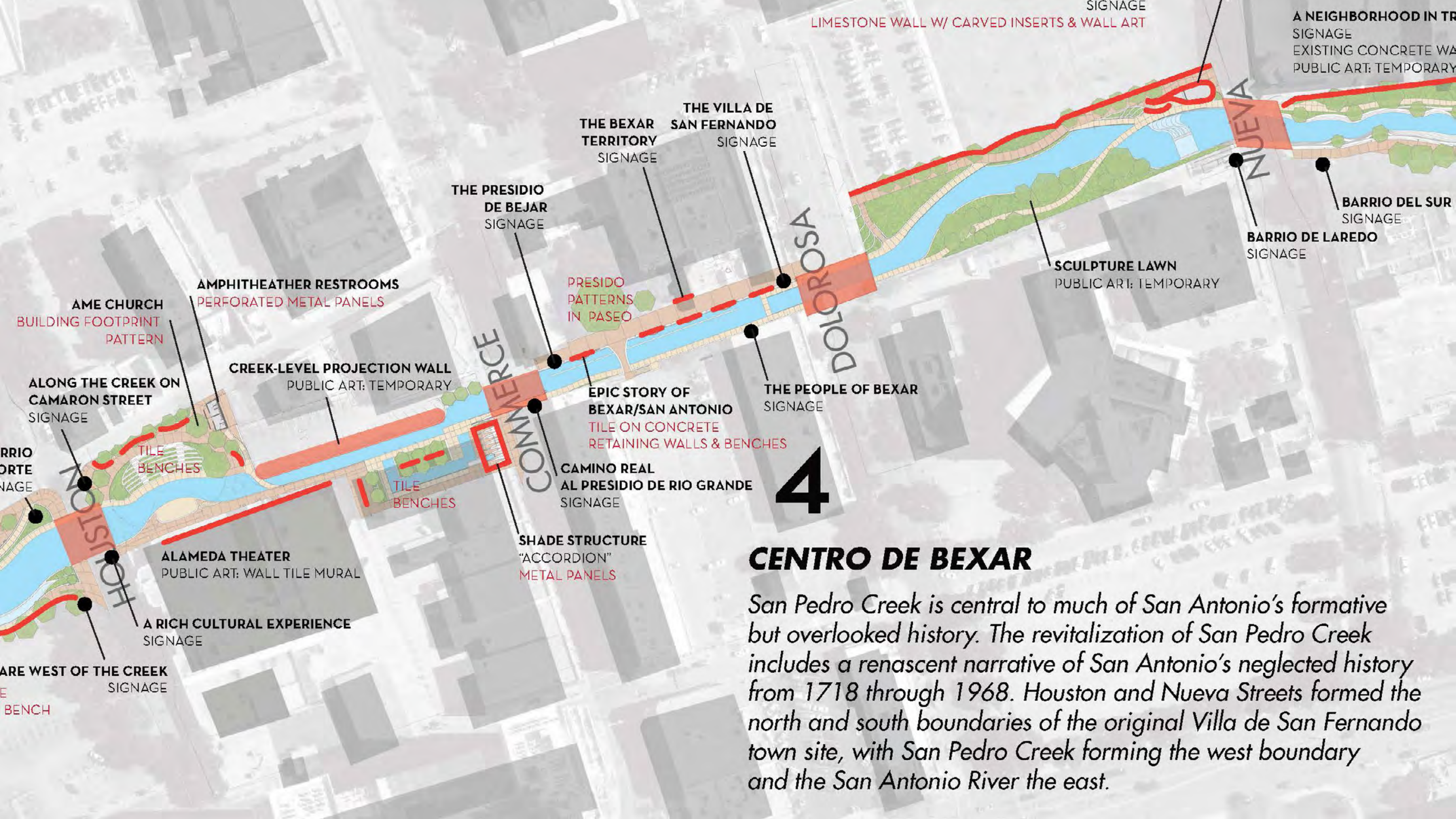
A 25. BOARDWALK: PUBLIC ART

HIGHLINE, NYC ART PLINTH



A 29. BRIDGE ABUTMENT



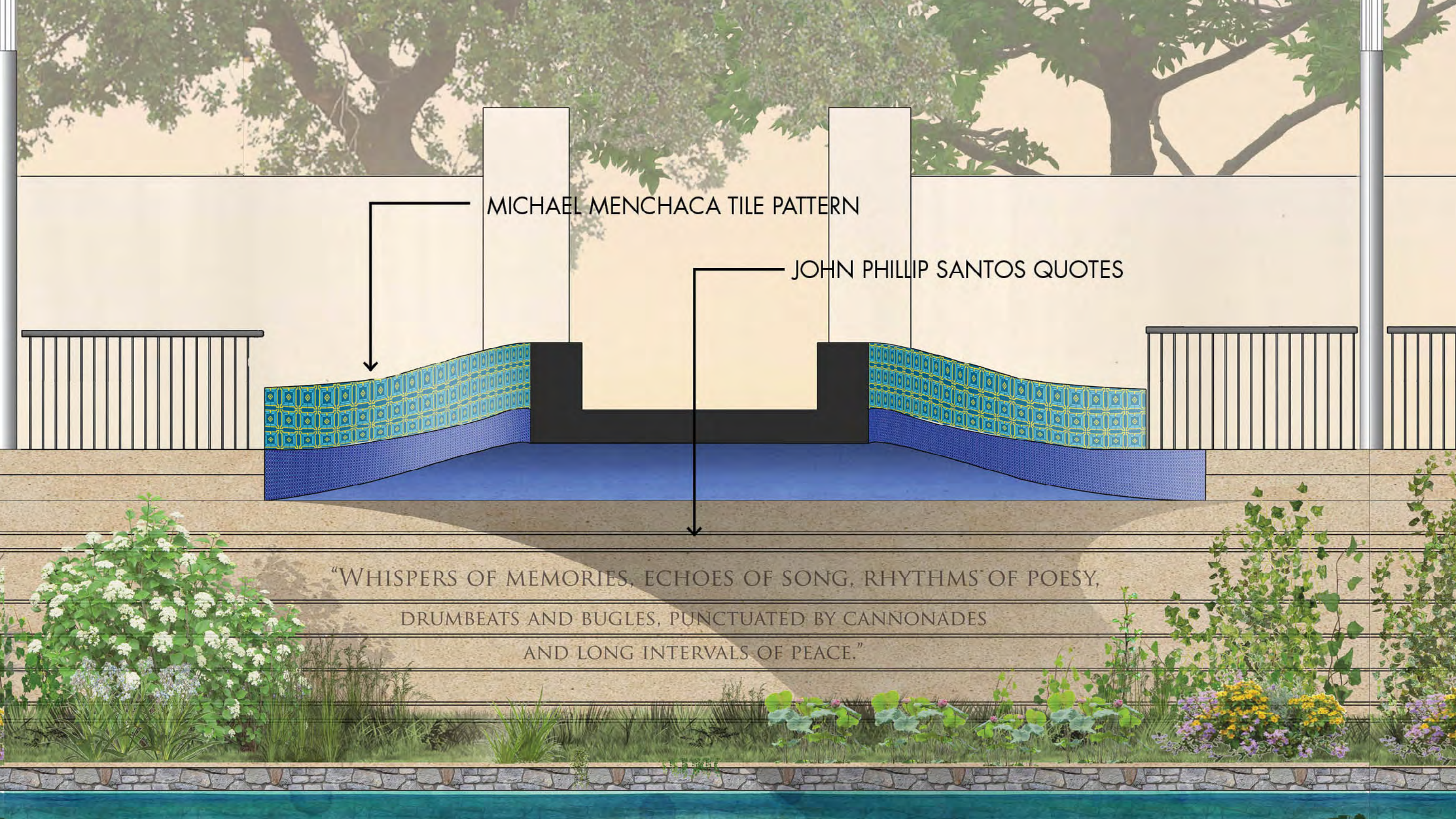


CENTRO DE BEXAR

San Pedro Creek is central to much of San Antonio's formative but overlooked history. The revitalization of San Pedro Creek includes a nascent narrative of San Antonio's neglected history from 1718 through 1968. Houston and Nueva Streets formed the north and south boundaries of the original Villa de San Fernando town site, with San Pedro Creek forming the west boundary and the San Antonio River the east.



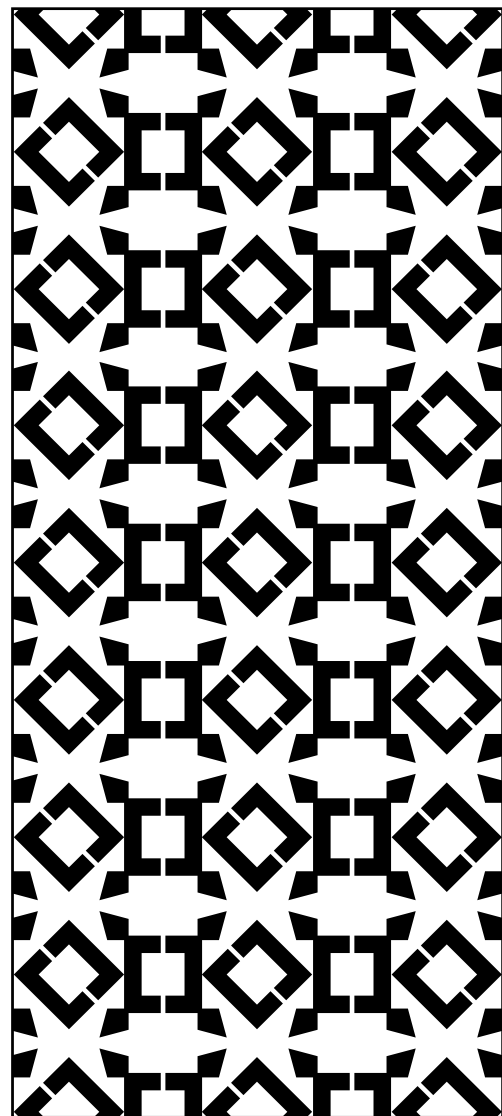
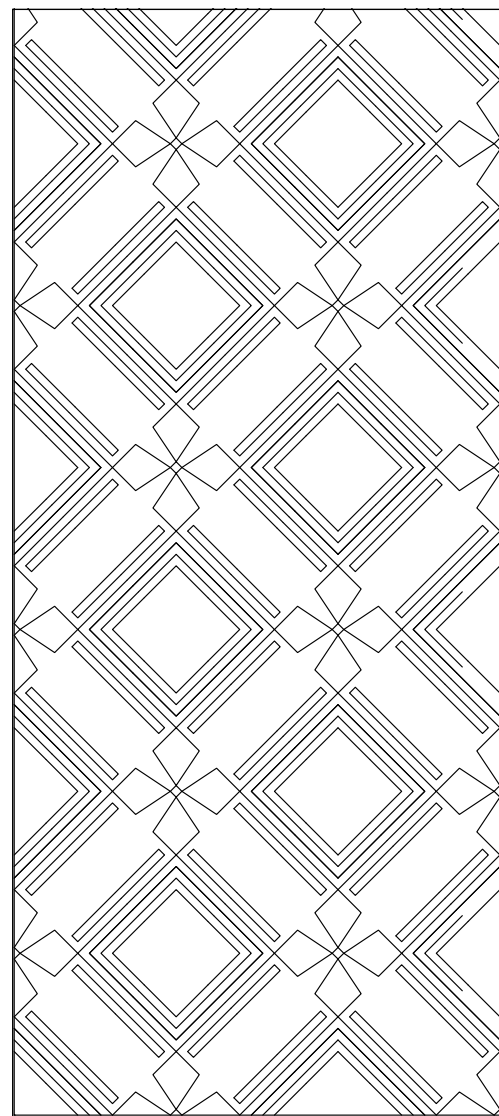
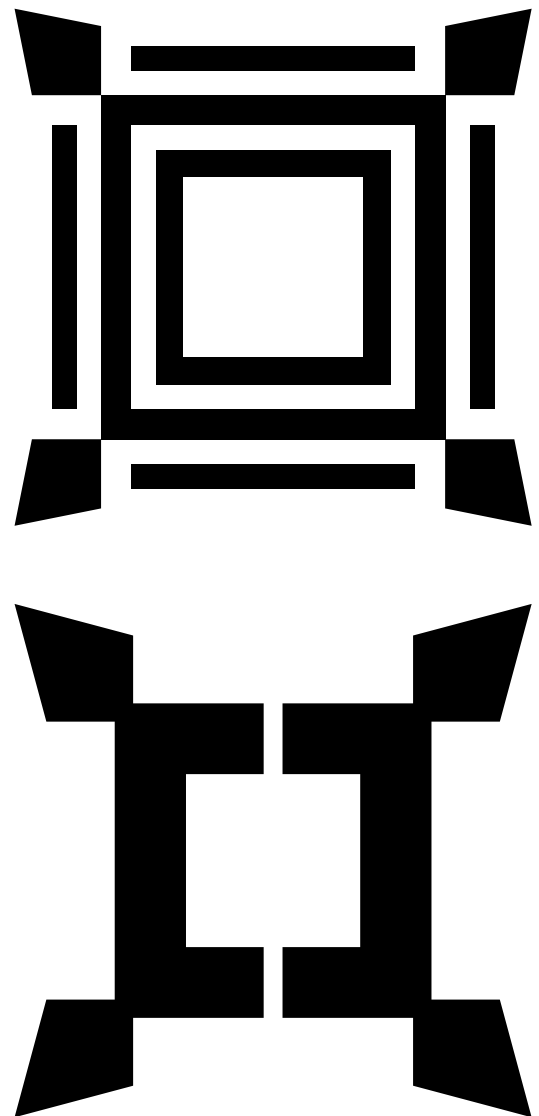
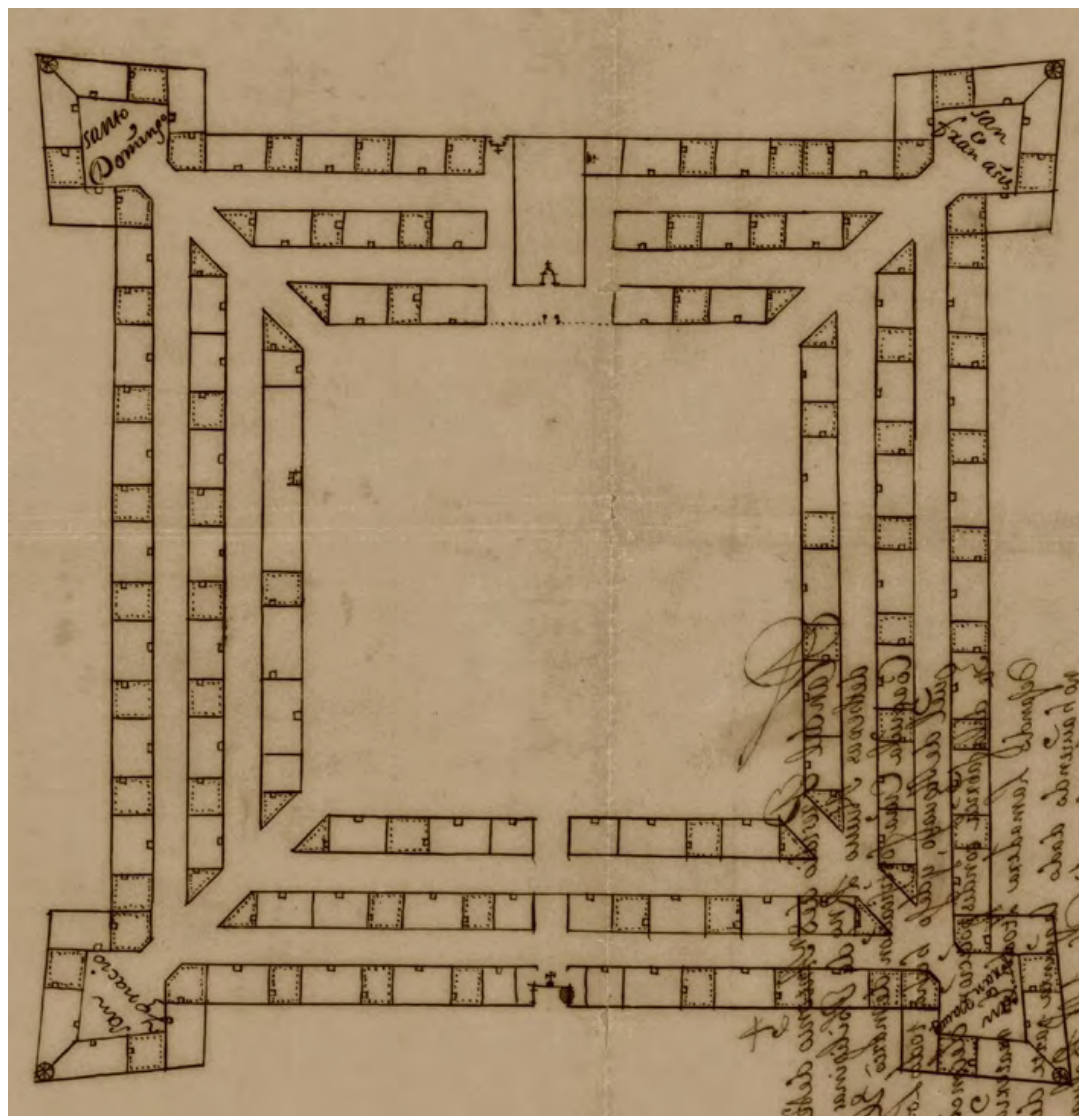
CULTURE WALLS PROJECT
EAST BANK ELEVATION AT SPANISH GOVERNOR'S PALACE



MICHAEL MENCHACA TILE PATTERN

JOHN PHILLIP SANTOS QUOTES

“WHISPERS OF MEMORIES, ECHOES OF SONG, RHYTHMS OF POESY,
DRUMBEATS AND BUGLES, PUNCTUATED BY CANNONADES
AND LONG INTERVALS OF PEACE.”







SAN PEDRO CREEK IMPROVEMENTS

SAN ANTONIO, TX



SAN ANTONIO
RIVER AUTHORITY
Leaders in Watershed Solutions

Initial Characterization of Sediment Quality and Water Toxicity in Westside Creeks, 2014



Presented by:
U.S. Geological Survey
in cooperation with the San Antonio River Authority
December 21, 2016

Westside Creeks

- Project Overview
- Major Findings
- Report Products



Background

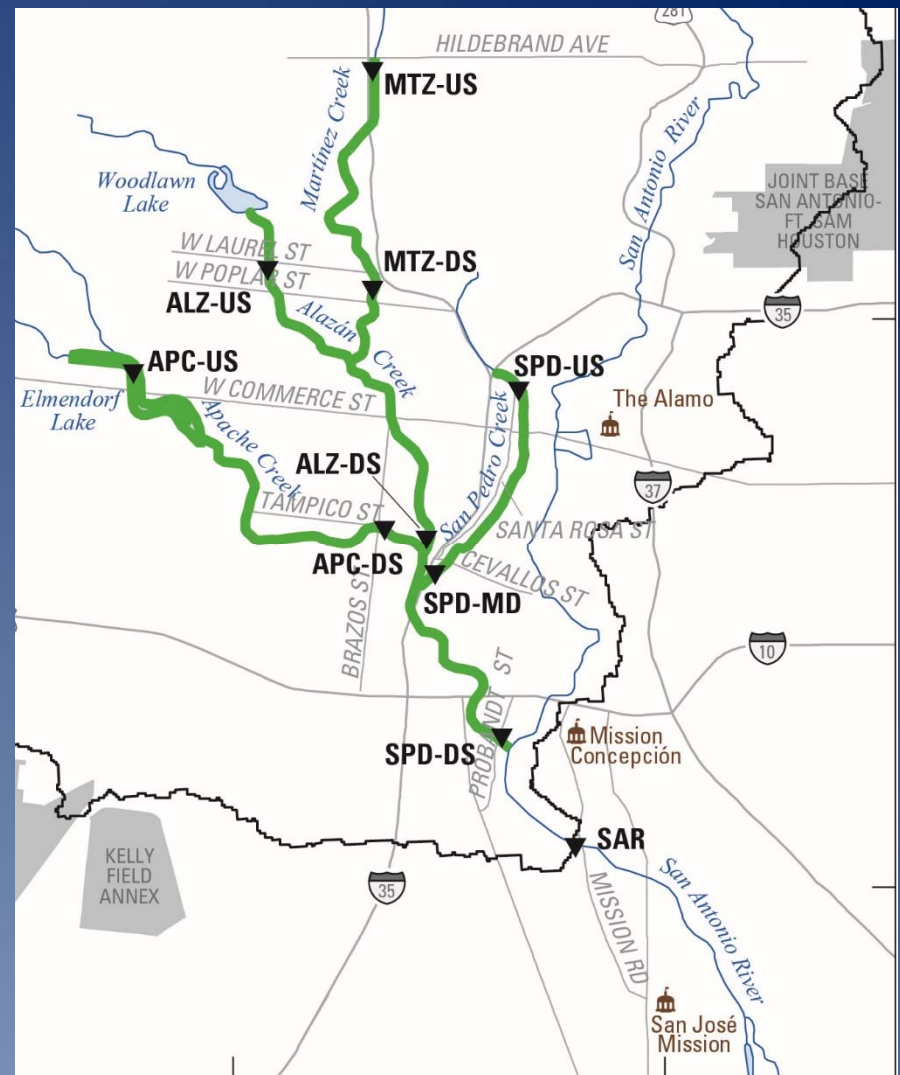
- Westside Creeks flow through historic neighborhoods
 - Urbanized for a long time
 - Potential contaminants washed off streets, yards, etc.
- Some contaminants attach to sediment rather than water
 - Hydrophobic, persistent in the environment
- Restoration efforts planned along the Westside Creeks
 - Could disturb sediment
 - Potential concern for aquatic life

QUESTION: What is in the sediment?

- Reconnaissance of sediment quality in the area
 - Snapshot of the current conditions at limited selected locations

Westside Creek Project Sampling Approach

- Sample locations: 10 sites
 - One sample at confluence with downstream creek
 - One sample farther upstream
 - Similar areas as the restoration project target areas
- Timing: sampled twice
 - Once during base flow (normal)
 - January 2014
 - Once after a storm event
 - May 2014



Westside Creeks Laboratory Analyses

- Sediment samples analyzed for:
 - Trace Elements
 - Can be naturally occurring or man made
 - Examples: lead, chromium, zinc, arsenic
 - Pesticides
 - Man made, both historical use (now banned) and current use
 - Example: DDT (historical)
 - Brominated Flame Retardants
 - Man made, now commonly occurring in the environment
 - Polychlorinated Biphenyls (PCBs)
 - Man made, used for plasticizers and hydraulic lubricants
 - Polycyclic Aromatic Hydrocarbons (PAHs)
 - Can be naturally occurring or man made
 - Sources include coal-tar-based sealcoats, auto exhaust, wood fires
- Water samples analyzed for:
 - Fish Toxicity - *Pimephales promelas* (fathead minnow)

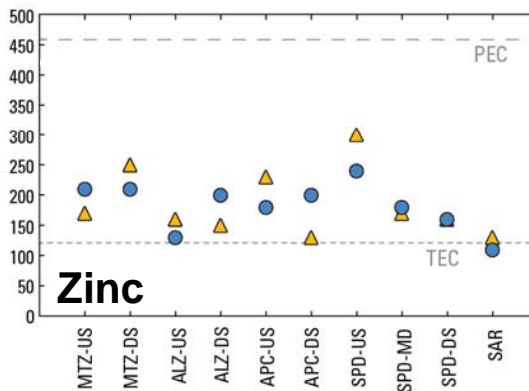
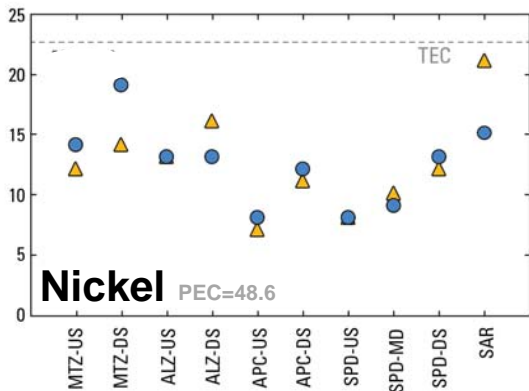
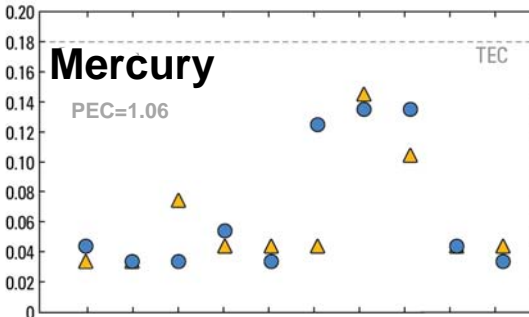
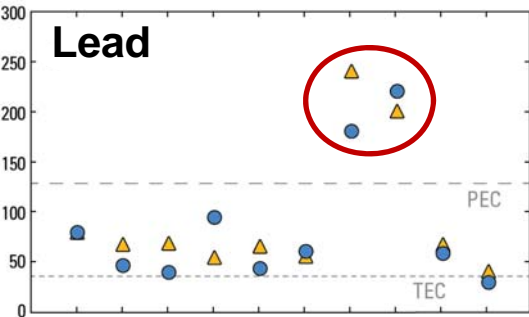
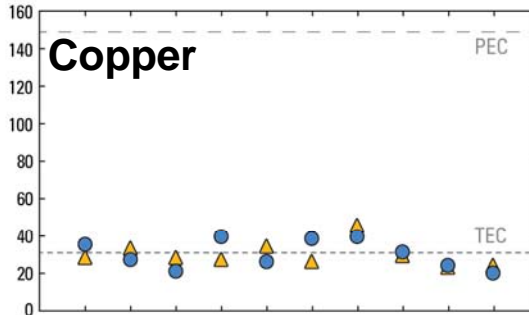
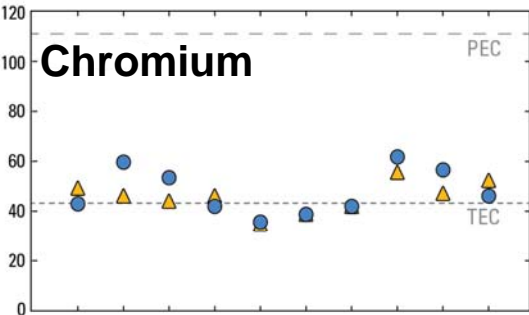
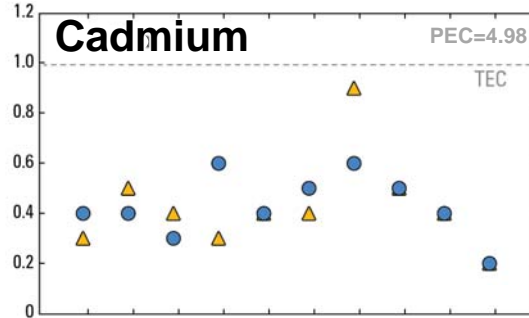
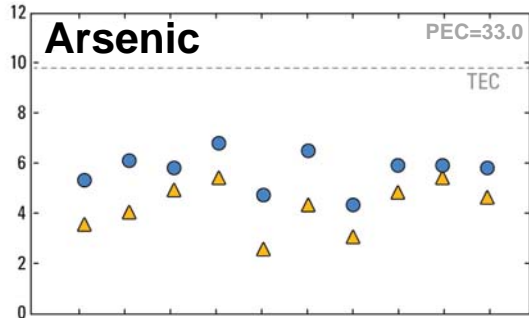


Sediment Quality Guidelines

- Data were compared to sediment quality guidelines
 - Non-enforceable
 - Science-based
 - Useful for water resource managers to make informed decisions
- Trace elements, Pesticides, PCBs, and PAHs
 - Paired guidelines
 - Threshold Effect Concentration (TEC)
 - Probable Effect Concentration (PEC)
- Brominated Flame Retardants
 - Canadian guidelines
 - Federal Environmental Quality Guidelines

Trace Elements

Concentration, in milligrams per kilogram



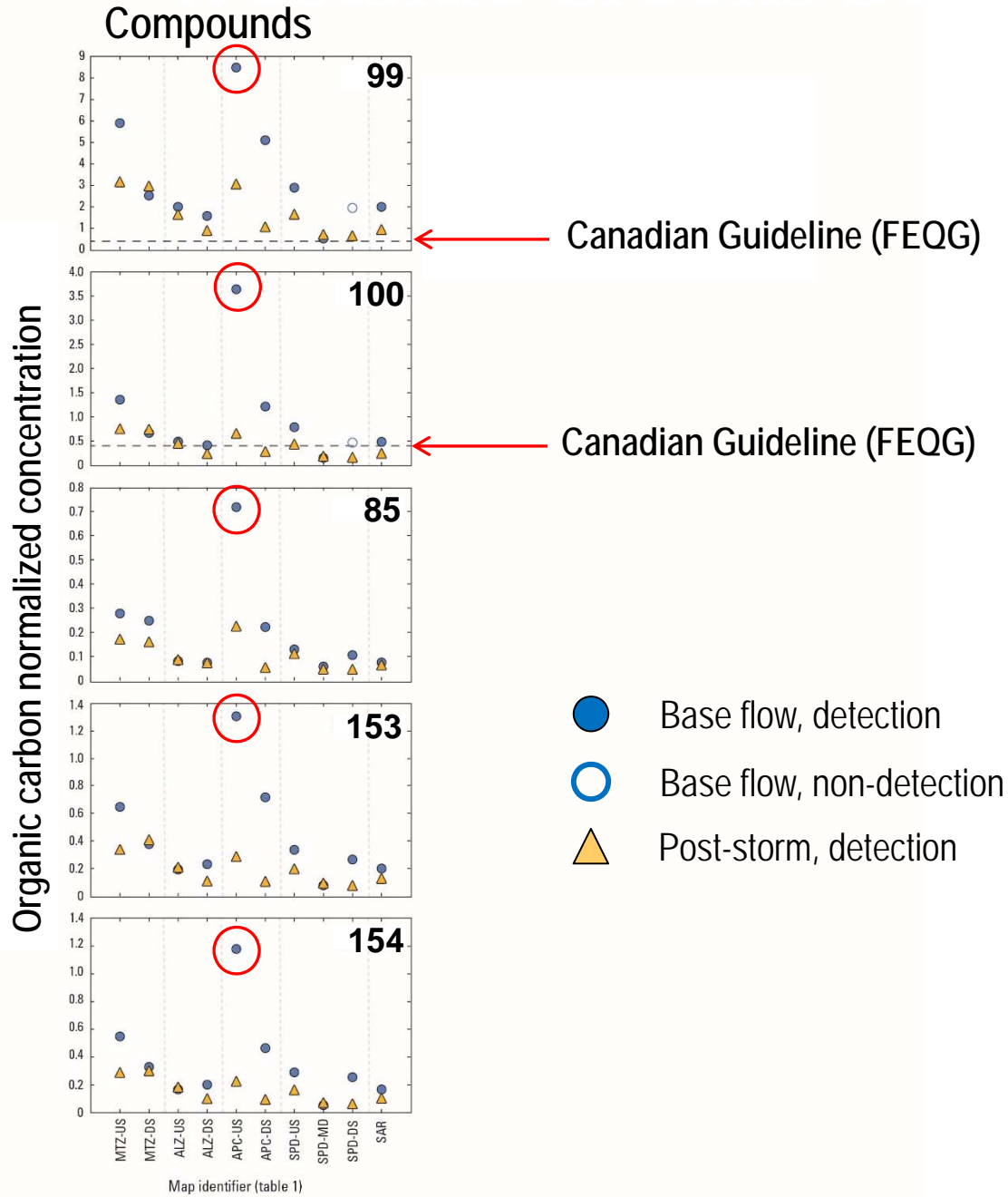
- Base flow
- ▲ Post-storm

← PEC – Probable Effect Concentration

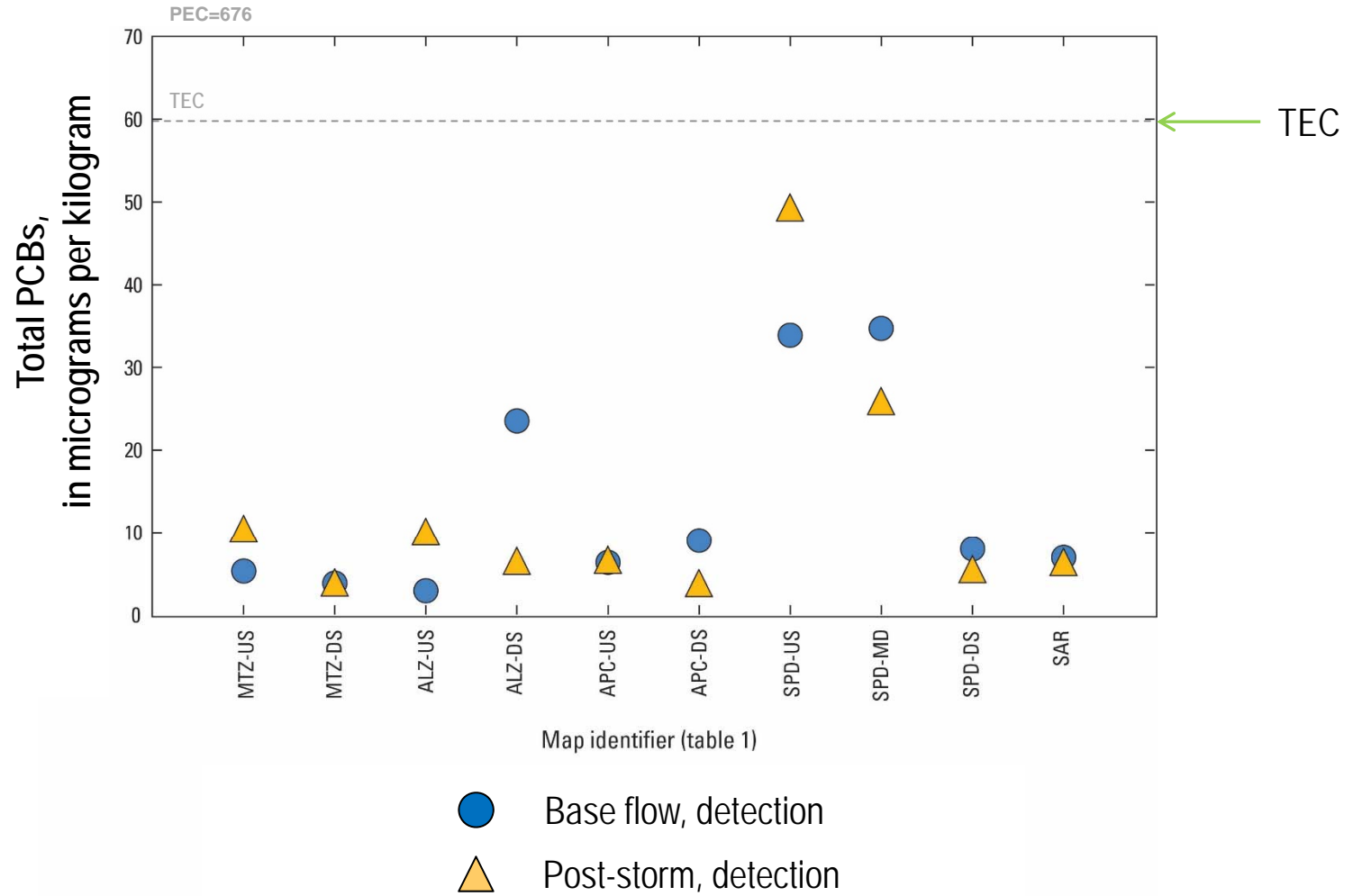
← TEC – Threshold Effect Concentration

Map ID	Short name
MTZ-US	Upstream Martínez
MTZ-DS	Downstream Martínez
ALZ-US	Upstream Alazán
ALZ-DS	Downstream Alazán
APC-US	Upstream Apache
APC-DS	Downstream Apache
SPD-US	Upstream San Pedro
SPD-MD	Middle San Pedro
SPD-DS	Downstream San Pedro
SAR	San Antonio River

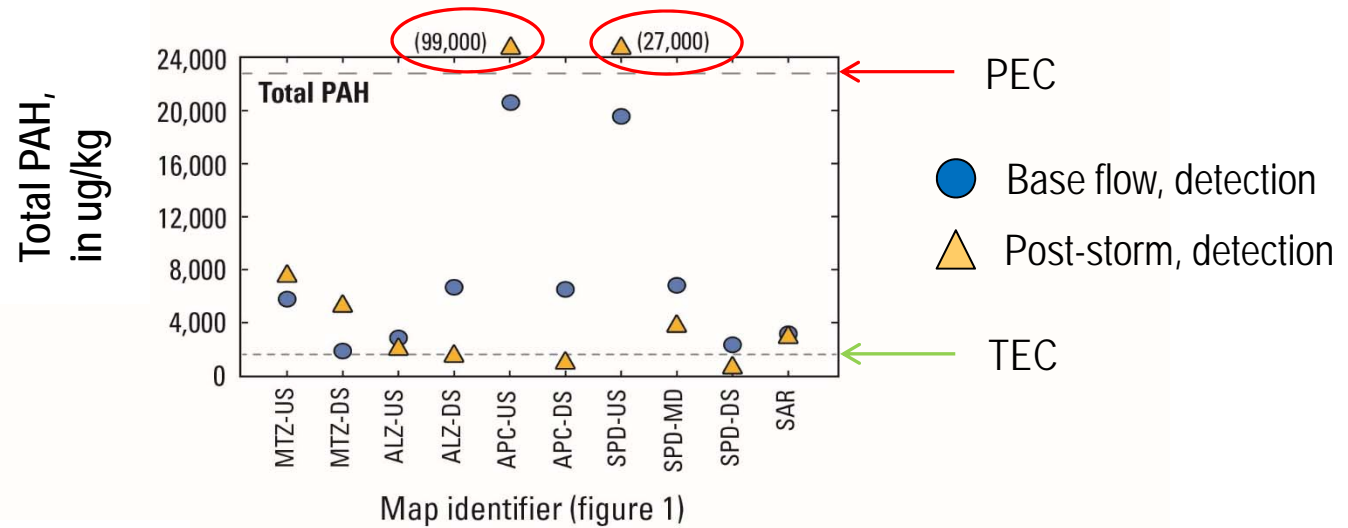
Brominated Flame Retardants



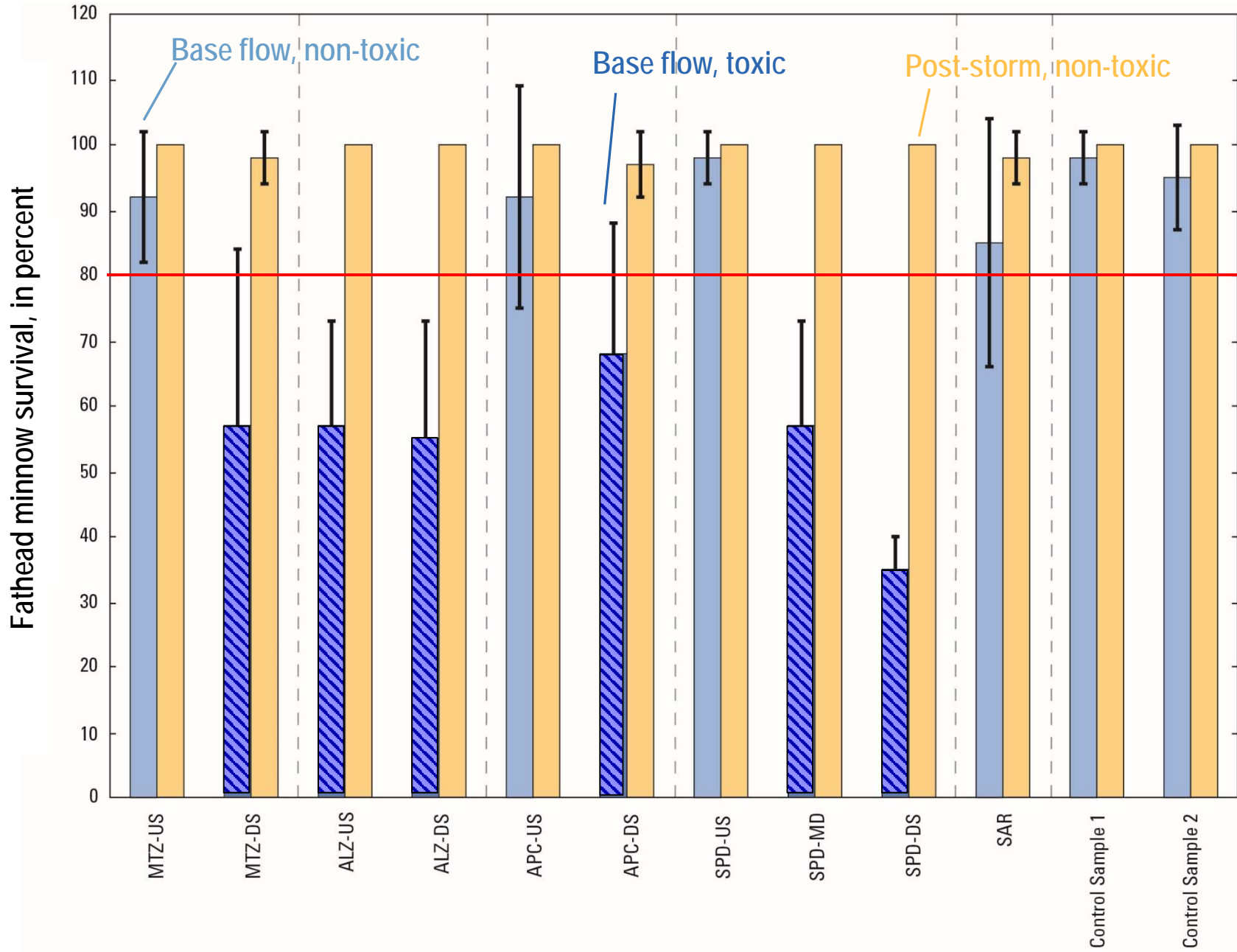
Total PCBs



Polycyclic Aromatic Hydrocarbons (PAHs)



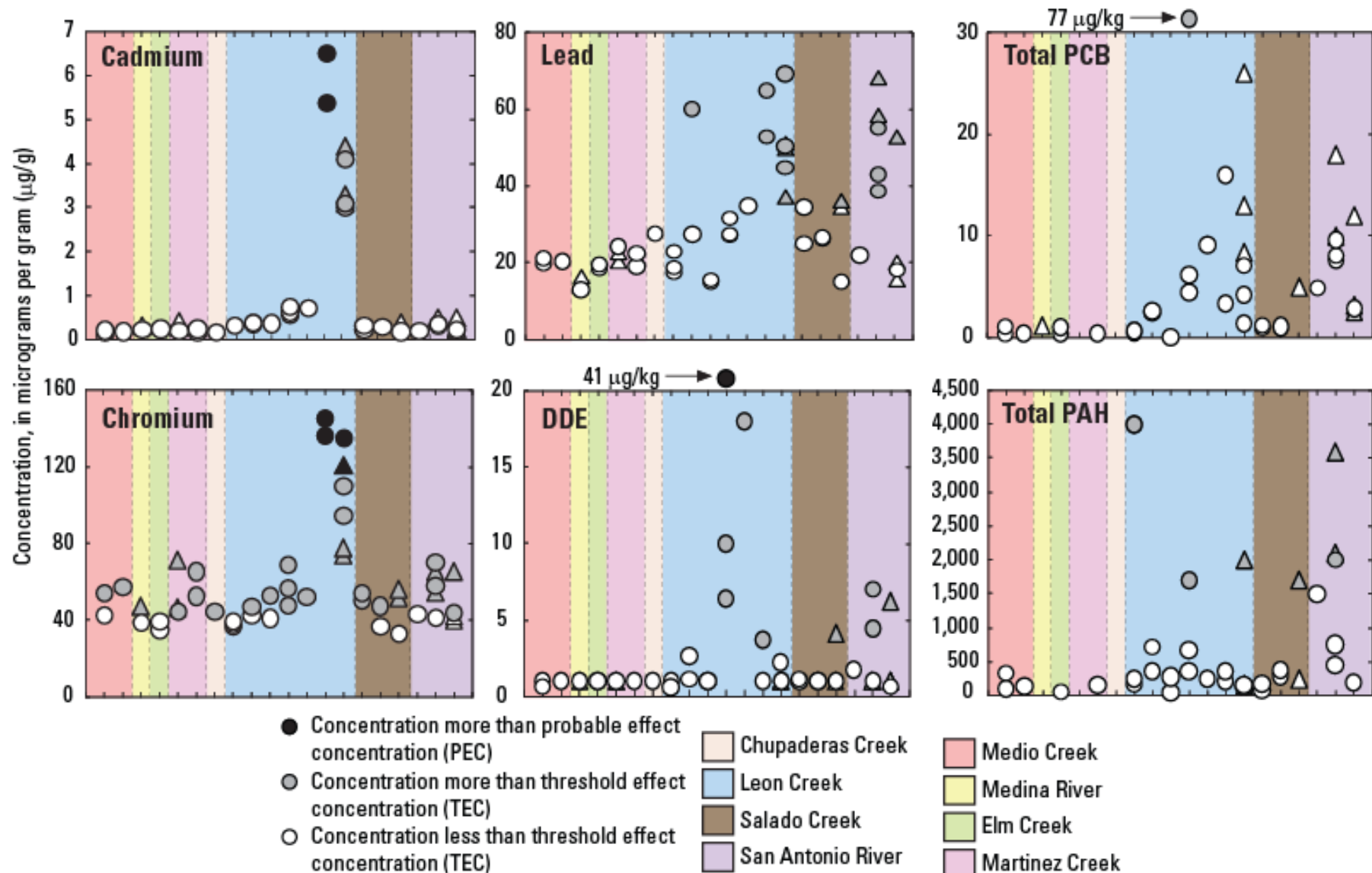
Fish Toxicity



Summary Conclusions

- Trace elements
 - Lead greater than PEC at Upstream and Middle San Pedro Creek sites
 - All the other trace elements (7) at the other sites (8 out of 10) were less than PEC
- Pesticides
 - Historical
 - Less than PECs at most sites
 - Greater than PECs at Upstream and Middle San Pedro Creek sites
- Brominated Flame Retardants
 - Elevated levels in all base-flow samples and most post-storm samples
 - Highest in base-flow samples from upstream Apache Creek site
- PCBs
 - Detected in all samples, but at levels less than the TECs
- PAHS
 - Most sites less than PECs
 - Upstream Apache Creek and Upstream San Pedro Creek greater than PECs post-storm
- Fish Toxicity
 - Six base-flow samples were toxic to fathead minnows
 - Did not evaluate possible causes

Bexar County Sediment Quality Study 2007–2009



Source: Wilson, 2011

Where to get the report

Scientific Investigations Report

- Download free online at
<http://dx.doi.org/10.3133/sir20165136>
- Data release at
<https://dx.doi.org/10.5066/F71R6NN5>
- Print versions available soon

Fact Sheets

- English & Spanish Versions
- Download free online at
<https://doi.org/10.3133/fs20163096>

Prepared in cooperation with the San Antonio River Authority

Occurrence and Concentrations of Selected Trace Elements, Halogenated Organic Compounds, and Polycyclic Aromatic Hydrocarbons in Streambed Sediment and Results of Water-Toxicity Testing in Westside Creeks and the San Antonio River, San Antonio, Texas, 2014



Scientific Investigations Report 2016–5136

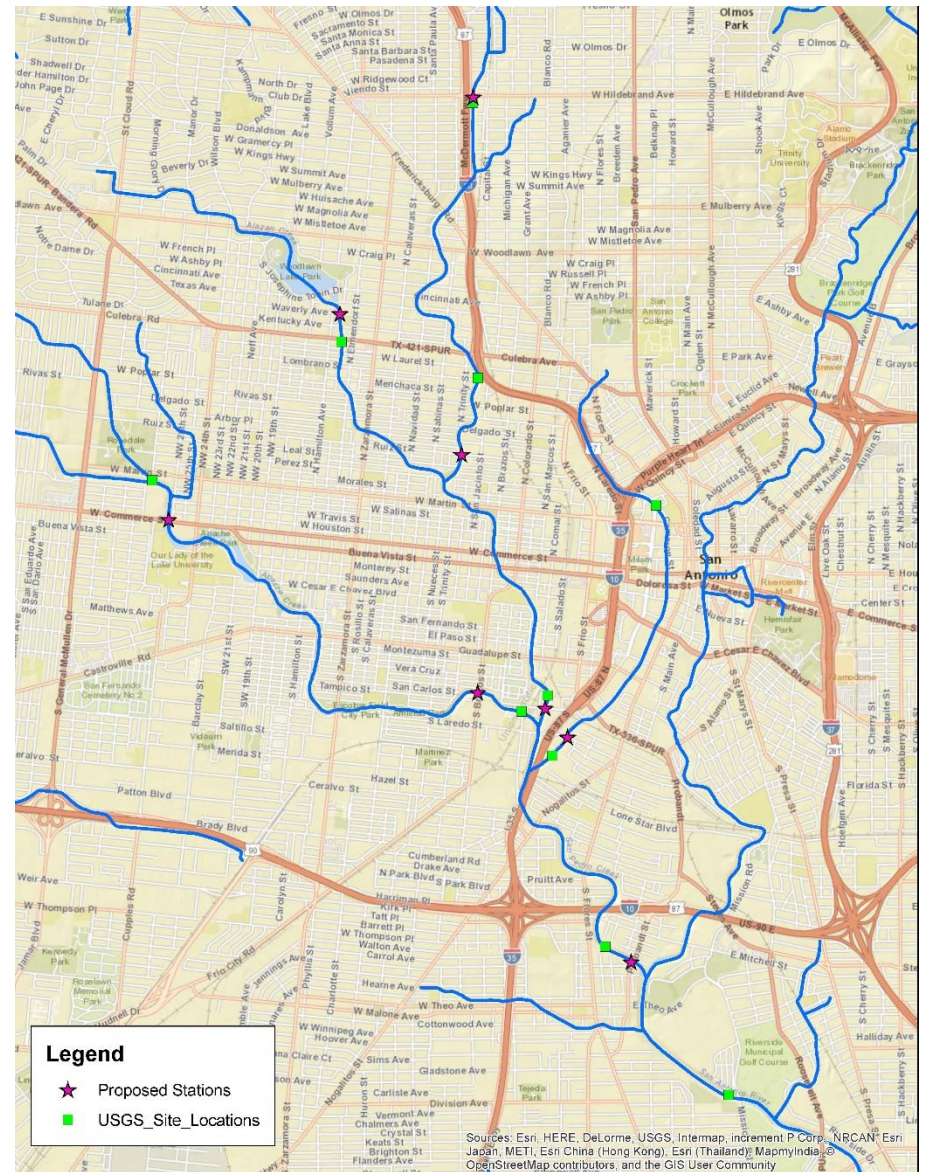
What we learned...

- There are questions moving forward that need to be looked into including elevated levels of metals, pesticides and polycyclic aromatic hydrocarbons (PAHs) and brominated flame retardants in the streambed sediment.

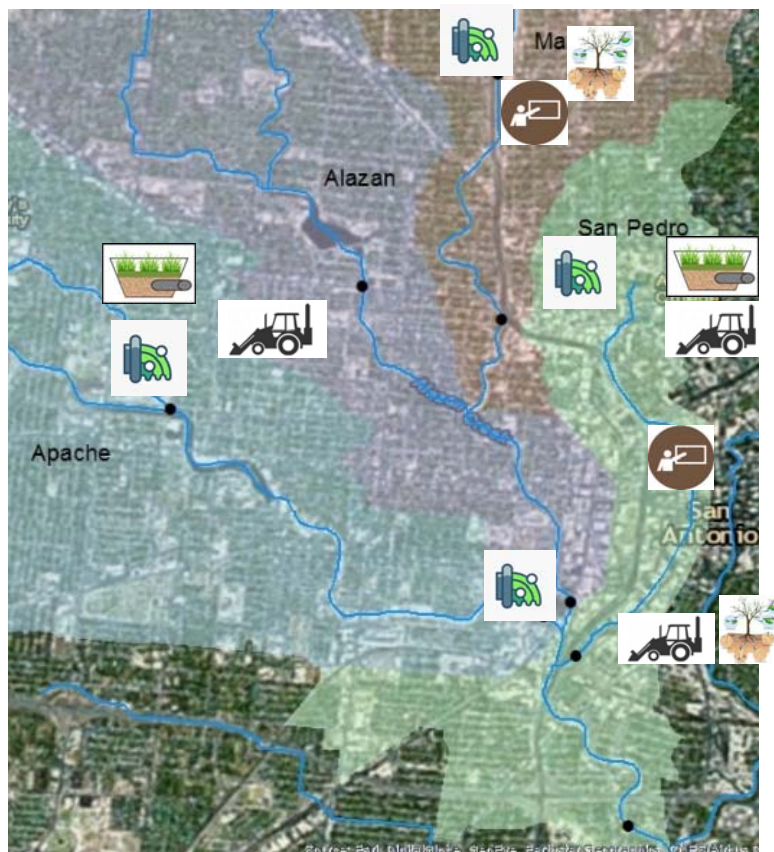



Proposed Future Sampling


- Select sample locations near USGS sample sites
- Water quality, sediment and fish tissue sampling for Pesticides, PAH monitoring will be proposed during the next budget cycle




Future considerations to have future projects be successful




 Construction
Remediation

 Stormwater BMPs

 Phytoremediation

 Source Controls

 Outreach



Future considerations to have future projects be successful



Construction
Remediation



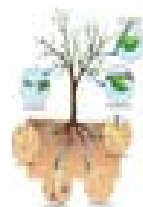
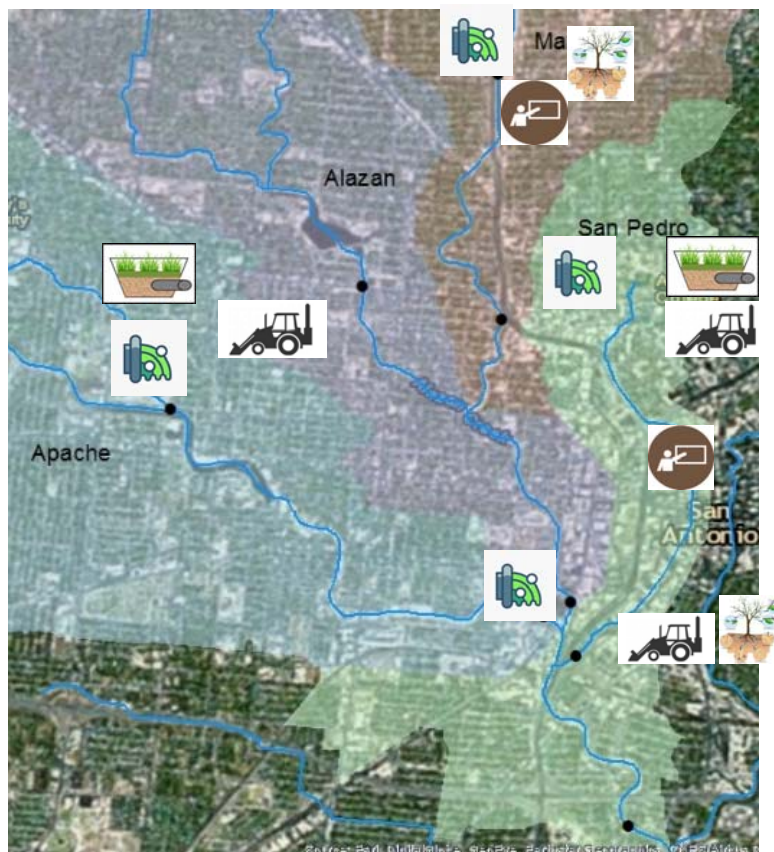
Future considerations to have future projects be successful



Stormwater
BMPs



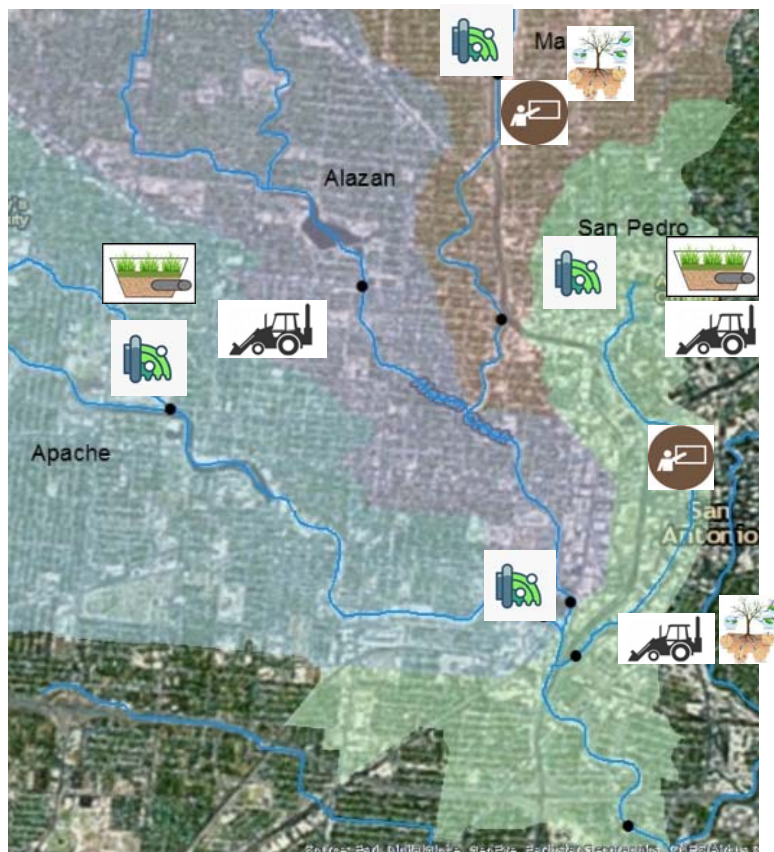
Future considerations to have future projects be successful



Phytoremediation



Future considerations to have future projects be successful



Future considerations to have future projects be successful

 Outreach



Questions?



USGS Texas Water Science Center

Lynne Fahlquist

Public Information Officer

gs-w-txpublicinfo@usgs.gov

(512) 927-3500

Authors:

Cassi Crow

ccrow@usgs.gov

Jennifer Wilson

jenwilso@usgs.gov

San Antonio River Authority

Patricia M. Carvajal

pmcarvajal@sara-tx.org

(210) 227-1373